Appendix G
Response to Comments

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Appendix G: Response to Comments

Comment letters received during the 45-day public comment period (April 30, 2010 through June 26, 2010) for the Eldorado–Ivanpah Transmission Project are labeled 0012 through 0027 and are located at the end of this chapter. (Comment letters received during scoping, 0001 through 0011, are included in Appendix E.)

List of Commenters

0012 – Nevada Department of Wildlife: D. Bradford Hardenbrook

0013 – California Department of Toxic Substances Control: Greg Holmes

0014 – Mojave Desert Air Quality Management District: Alan J. De Salvio

0015 – California Department of Transportation: Daniel Kopulsky

0016 – BrightSource Energy, Inc: Arthur L. Haubenstock

0017 – United States Environmental Protection Agency Region IX: Kathleen M. Goforth

0018 – Clark County Department of Aviation (CCDOA): Teresa R. Motley

0019; 0020 – Southern California Edison Company: Jack Horne

0021 – Western Watersheds Project: Michael J. Connor

0022 – California State Lands Commission: Cy R. Oggins

0023 – Center for Biological Diversity: Lisa T. Belenky

0024 – Powers Engineering (on behalf of Center of Biological Diversity): Bill Powers

0025 – Sierra Club (San Gorgonio Chapter): Sidney Silliman

0026 – Desert Conservation Program: Marci Henson

0027 – California Department of Fish and Game: Tonya Moore

Comment Responses

0012 Comment Responses: Nevada Department of Wildlife

0012-1 Biological Resources

This was already addressed in the DEIR/DEIS in the following sections:

Section 3.4.3.4 Applicant Proposed Measures

APM BIO-12 (Desert Bighorn Sheep Measures) addresses the necessity to avoid helicopter use within the McCullough Pass during lambing season and during the summer when water resources may be limited. The APM contains the following text: Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the proposed route in the McCullough Mountains (June through September).

Section 3.4.4 Mitigation Measures

MM BIO-13 (Desert Bighorn Sheep Impacts Reduction Measures) contains the following text: Avoid all construction activities (with the exception of vehicle use of access roads during emergencies) in lambing areas from January to May in the North McCullough Pass area (approximately MP 9 to MP 12) during the duration of construction and all maintenance events.

0012-2 Recreation

MM REC-2 has been added to Section 3.12, "Recreation," to ensure that the McCullough Pass's southern right-of-way road remains open for public access during construction. MM REC-2 also requires the applicant to notify NDOW of road closures during the hunting season.

0012-3 Biological Resources

Text has been added to the Final EIR/EIS to discuss impacts of lattice design poles versus monopole design. This discussion has been incorporated into the assessment of the potential impacts to wildlife species resulting from the construction/operation of the EITP.

0012-4 Biological Resources

SCE has included the following raven controls measures as part of the desert tortoise mitigation measures outlined in the Biological Assessment:

1) An annual survey to identify raven nests on towers and any tortoise remains at tower locations; this information would be relayed to the BLM so that the ravens and/or their nests in these towers could be targeted for removal.

(2) SCE making an annual or one time contribution to an overall raven reduction program in the California or Nevada desert, with an emphasis on raven removal in the vicinity of this project.

These two measures are incorporated into the Final EIR/EIS. In addition, a bullet has been added to MM BIO-12 to state that SCE will produce a Raven Management Plan that is acceptable to the BLM and the CPUC. Details in the plan will include information on procedures, frequency, and recommended season for conducting raven nest surveys, procedures and responsibilities for raven nest removal, USFWS/NDOW/CDFG authorization and/or permitting requirements for conducting raven control, and compensation measures for raven reduction programs in California and Nevada. The plan will be submitted to BLM and the CPUC at least 60 days prior to construction for review and approval.

0012-5 Biological Resources

This was already addressed in the Draft EIR/EIS in the following section:

Section 3.4.4.3 Applicant Proposed Measures
APM BIO-14 (Gila Monster and Chuckwalla Measures) outlines the text of the NDOW 2005 Construction Protocol for Gila monster, which contains the same text/requirements as the 2007 Gila monster Protocol for observations. The reference in the APM has been changed from the 2005 protocol to the 2007 protocol.

0013 Comment Responses: California Department of Toxic Substances Control

0013-1 Hazards and Safety

Several sites have been added to Table 3.7-2, and the text has been clarified in Section 3.7.3.3, "Methodology," to verify that each database was searched.

0013-2 Hazards and Safety

APM HAZ-3 Soil Management Plan provides the notification numbers if suspected soil contamination is discovered during project construction.

MM HAZ-3 has been added to ensure coordination with the appropriate regulatory authority before a site investigation or remediation is initiated.

0013-3 Hazards and Safety

MM HAZ-3 has been added to address these concerns.

0013-4 Hazards and Safety

Section 2.4.9, Hazardous Materials and Waste Management, discusses hazardous waste that may be present during the removal of the existing line. The applicant would develop a Hazardous Materials Business Plan to ensure proper disposal of any hazardous substances identified. Impact HAZ-2 discusses waste handling procedures. In addition, MM HAZ-4 has been added to address the sampling of demolition material before it is disposed of to ensure proper disposal.

0013-5 Hazards and Safety

At this time, there is no known soil contamination along the proposed route. A Phase I Site Assessment (APM HAZ-1) would be conducted for each new or expanded substation location and along newly acquired transmission or subtransmission line ROWs; therefore, soil contamination could be identified. Section 3.7.3.4 in the Hazards, Health, and Safety Section includes APM HAZ-3 in which the applicant would develop and implement a Soil Management Plan to ensure that if potential soil contamination was discovered during construction, soils would be tested and stockpiled. In California, the Certified Unified Program Agency (CUPA) would determine whether further assessment

is warranted. In Nevada, the NDEP BCA Spill Hotline (888-331- 6337) would be contacted if the quantity of impacted material is greater than 3 cubic yards.

MM HAZ-4 has been added to ensure that debris generated during demolition is properly disposed of. Additionally, MM HAZ-5 has been added to ensure that imported backfill would be sampled to ensure that it is contaminant-free, and MM HAZ-6 requires that the applicant obtain an EPA Identification Number and received authorization from the local CUPA if it is determined that they would be handling or storing hazardous materials.

0013-6 Hazards and Safety

The NEPA Summary in Section 3.7.3.5 discusses APMs that would be implemented by the applicant to protect sensitive receptors from health risks. Additionally, MM HAZ-1, MM HAZ-3, MM HAZ-4, MM HAZ-5, and MM HAZ-6 would reduce the potential to impact sensitive receptors to less than significant.

0013-7 Hazards and Safety

APM HAZ-2: Hazardous Materials and Waste Handling Management stipulates that all hazardous materials and all hazardous wastes generated during construction and operations will be disposed of according to all legal requirements. In addition, MM HAZ-1, MM HAZ-3, MM HAZ-4, MM HAZ-5, and MM HAZ-6 would ensure that all regulations are followed, that workers have adequate training, that potentially hazardous materials are properly identified, and that the proper authorities are notified during disposal.

0013-8 Hazards and Safety

As discussed in Section 3.7.3.5 under Soil Contamination / Mobilization of Contamination / Contaminated Sites, implementation of APMs HAZ-1, HAZ-2, HAZ-3, and HAZ-5 would ensure that soil and/or groundwater suspected of contamination would be properly handled and disposed of. MM HAZ-1 provides for worker health and safety training.

0013-9 Hazards and Safety

The proposed project does not cross agricultural land.

0014 Comment Responses: Mojave Desert Air Quality Management District

0014-1 Air Quality

Thank you for your comment. Your comment has become part of the official record.

0015 Comment Responses: California Department of Transportation

0015-1 Transportation and Traffic

Thank you for your comment. Your comment has become part of the official record.

0016 Comment Responses: BrightSource Energy

0016-1 Project Description

As described in Section 1.1.1.2, the BLM has determined that the ISEGS project constitutes a cumulative action for the EITP. Statements related to cumulative action under NEPA in both Chapter 1 and 2 of the EITP Draft EIR/EIS were revised consistent with recent BLM instructions on this topic.

0016-2 Project Description

Per BLM's review, this paragraph was removed from the Project Description (Section 2.2.2.1, Additional Renewable Energy Projects).

0016-3 Project Description

Comment noted. Information from the CEC FSA Addendum and Final Decision, and BLM FEIS and Record of Decision (ROD) were considered to update the EITP Project Description.

0016-4 Project Description

The updated EITP Project Description recognizes the BLM decision of selecting the ISEGS Mitigated Ivanpah 3 Alternative as "preferred alternative" under NEPA, and the CEC's Final Decision that it is appropriate to approve the ISEGS project—as modified per Mitigated Ivanpah 3 Alternative—despite its remaining significant impacts. The Whole of the Action / Cumulative Action description was updated in response to these agency decisions.

0017 Comment Responses: U.S. Environmental Protection Agency

0017-1 General

Thank you for your comment. Your comment has been entered into the official record for this project. Additionally, the EIR/EIS has been updated.

0017-2 Biological Resources

The Final EIR/EIS discusses and demonstrates compliance with 40 CFR 230 Guidelines in the analysis of impacts to jurisdictional waters. This includes measures to avoid and minimize impacts from the project on Waters of the US and Waters of the State of California.

0017-3 Biological Resources

The Final EIR/EIS was finalized prior to the jurisdictional determination being issued by USACE; however, construction will not be allowed to begin until the USACE has permitted the project (see MM BIO-5). The Final EIR/EIS contains potential jurisdictional status determined by a combination of field surveys, review of NRCS digital hydrologic unit boundary layer data set, recent Jurisdictional Determinations issued by USACE for nearby projects,

consultation with USACE staff, and review of high resolution aerial imagery. The Final EIR/EIS was updated to contain the results of the *Delineation of Waters of the United States and Department of Fish and Game Jurisdictional Habitats for the Eldorado-Ivanpah Transmission Project San Bernardino County, California and Clark County, Nevada,* which was conducted during the spring 2010. This report identified all of the potential jurisdictional waters located within the proposed project. Based on this report, the Final EIR/EIS lists the acres of impact to jurisdictional water resulting from the proposed project.

0017-4 Alternatives

The Final EIR/EIS discusses and demonstrates compliance with 40 CFR 230 Guidelines in the analysis of impacts to jurisdictional waters from the proposed project and its alternatives. The transmission routing alternatives C, D, and E have been designed to avoid and minimize impacts from the project on the Ivanpah Dry Lake. Furthermore, potential impacts to Waters of the U.S. and Waters of the State of California from the proposed project and a range of seven alternatives carried forward (routing and telecommunication alternatives) are discussed in Sections 3.4.3.7 through 3.4.3.11.

0017-5 Biological Resources

The Draft EIR/EIS requires a Mitigation Monitoring Plan to be produced by the applicant and submitted to the USACE if jurisdictional waters are to be impacted (MM BIO-7).

0017-6 Water Quality and Hydrology

Section 3.8.1.1 has been updated to include the number of streams along each section of the route. MM W-1 has been modified to strengthen the language of Applicant Proposed Measures (APMs) to apply to all intermittent and ephemeral streams and desert washes identified on USGS and NHD mapping, and during the applicant's field surveys.

0017-7 Water Quality and Hydrology

Figure 3.8-2 has been updated with more detailed NHD data that is consistent with the USGS website. Additionally, Table 3.8-1 has been added. This table identifies the number of mapped crossings depicted on USGS maps.

0017-8 Water Quality and Hydrology

Section 3.8.1.1 has been updated to identify areas subject to debris flows and flooding. Additionally, Figure 3.8-3 has been added to show the project facilities and data from the USGS / House study identified in this comment. The potential impacts of the project on flood flows are discussed in Section 3.8.3.5.

0017-9 Biological Resources

The Final EIR/EIS is not required to include the USFWS Biological Opinion, CDFG permit, or NDOW authorization. The Record of Decision will be issued after issuance of the Biological Opinion. Additionally, construction cannot be initiated until these permits, authorizations, or the Biological Opinion have been issued. During the process of

developing the Final EIR/EIS, the USWFS, NDOW, and CDFG have all been consulted in order to identify the mitigation measures that each agency requires the applicant to commit to for approval of the relevant permits and authorizations. Additionally, the Biological Opinion could contain additional mitigation measures for desert tortoise, and the applicant will be required to incorporate these measures prior to the commencement of construction.

0017-10 Biological Resources

The Final EIR/EIS applies the same mitigation measures to desert tortoise for both California and Nevada based on consultations to date with state and federal agencies. Any conflicts that may arise with the measures in the Final EIR/EIS and the subsequent federal Biological Opinion will be resolved by following Section 7 take process.

0017-11 Biological Resources

The invasive species mitigation plan has not yet been finalized. Construction will not be allowed to commence until the plan is approved by both California and Nevada agencies and by CPUC. Additionally, the final Plan of Development required by BLM must contain a Weed and Invasive Species Plan. Any ROW grant approved for the project would contain a provision that the holder would have to follow the POD.

Section 3.4.4 Mitigation Measures
Language has been added to MM-BIO-4 to require that any biological material brought on-site (e.g. hay bales that may be used for controlling stormwater under APM GEO-2, and native mixes for vegetation in MM BIO-2) will be certified weed-free.

0017-12 Air Quality

The Final EIR/EIS includes MM AIR-3, which recommends that the project proponent consider best management practices, as detailed in this comment, to reduce the potential for GHG emissions.

0017-13 Alternatives

The EITP would interconnect new renewable generation projects to the CAISO-controlled grid, which is an interconnected system of high-voltage transmission lines that allows power to move over multiple paths. The EITP design proposes to transmit renewable energy developed in the Ivanpah Valley Area through the applicant's (SCE) service area—located west of the proposed Ivanpah Substation, in California—and through power purchase agreements with any of the IOUs serving the state.

As a result of agency and public comments on the Draft EIR/EIS, the evaluation of system alternatives was modified to include two separate scenarios to analyze the possibility of a more direct route of getting generation closer to users: in-basin generation and demand-side alternative. These alternatives are explained and analyzed in Appendix A-1, Alternatives Screening Report. Furthermore, Appendix A-1 discusses of the role of EITP as a “high potential” transmission upgrade, as defined by the California Transmission Planning Group (CTPG) Phase 3 report, to meet multiple, targeted State land use planning efforts for reaching more than the 33% RPS goal. This discussion includes the consideration of transmission losses as part of the planning projections.

0018 Comment Responses: Clark County Department of Aviation

0018-1 Hazards and Safety

The text in Section 3.7.2.1 under "Federal Aviation Administration Regulations" has been corrected to clarify that a Hazard / No Hazard Determination is required for proposed airports.

0018-2 Hazards and Safety

SCE has filed a Form 7460 as discussed in Section 3.7.3.5 under "Safety Hazards Within 2 Miles of a Public Airport or Public Use Airport."

0018-3 Hazards and Safety

Text has been updated.

0018-4 Hazards and Safety

Section 6.2.6 has been updated to explain that the applicant has filed Form 7460s with the FAA and will implement all FAA requirements when the SNSA is constructed.

0018-5 Hazards and Safety

The SNSA's environmental review process has been placed on hold since this comment was received. Nevertheless, the applicant has filed Form 7460s and will implement all FAA requirements when the SNSA is constructed per MM HAZ-2. The text has been updated to reflect these changes.

0018-6 Land Use

APMs were provided by the applicant and cannot be updated. However, the applicant has since filed Form 7460s and MM HAZ-2 has been updated to clarify that the applicant will comply with all FAA requirements when the SNSA is constructed.

0018-7 Hazards and Safety

The applicant has filed Form 7460s with the FAA and is required by updated MM HAZ-2 to follow all FAA recommendations when the SNSA is constructed.

0018-8 Aesthetics

Applicant Proposed Measures (APMs) are measures proposed by the applicant as opposed to measures required by regulating agencies; therefore, the language in APM AES-8 has not been changed. SCE will comply with all FAA lighting requirements upon construction of the SNSA per MM HAZ-2.

0018-9 Aesthetics

SCE will comply with all FAA lighting requirements upon construction of the SNSA. Because the environmental analysis for the SNSA has not been completed at this time and because the SNSA has not been approved, the issue of FAA lighting requirements for the EITP is addressed in the cumulative impacts chapter.

0018-10 Land Use

Thank you for your comment. Your comment has become part of the official record.

0018-11 Land Use

Biological Resources Figure 3.4-4 is no longer required and has been deleted from the Final EIR/EIS.

0018-12 Land Use

The Overlay District has been added to Table 3.9-5.

0018-13 Land Use

Text has been updated.

0018-14 Land Use

The text has been updated throughout to clarify the land transfer agreements and EIS process for the SNSA and Overlay District. See 3.9.1.3 under "Airports" and 3.9.2.1 under " Public Laws 106–362 and 107–282 and BLM Patent 27-2004-0104 (Ivanpah Airport)."

0018-15 Cumulative Impacts

Section 5.2.2.2 describes the Southern Nevada Supplemental Airport (SNSA) and the Airport Environs Overlay and lists the acreage of each. The boundary and acreages of each are also included on Figure 5-1.

0018-16 Land Use

Figures 5-1 through 5-4 define the SNSA site per the latest information received from BLM. This project has been placed on hold.

0018-17 Hazards and Safety

Information on glare and thermal effects has been added to the Whole of the Action / Cumulative Action Section in Section 3.7.5.6, "Traffic and Transportation Hazards." The ISEGS document concluded that ISEGS CECs TRANS-3

(heliostat positioning and monitoring) and TRANS-4 (verification of power tower luminance and monitoring) would be sufficient to reduce glare.

0018-18 Hazards and Safety

The ISEGS FSA and FEIS concluded that ISEGS CECs TRANS-3 and TRANS-4 would be sufficient to reduce glare. The EITP document does not amend the ISEGS analysis. The ISEGS discussion is intended for disclosure purposes only.

0018-19 Transportation and Traffic

The EITP document does not amend the ISEGS analysis. The ISEGS discussion is intended for disclosure purposes only.

0018-20 Land Use

A discussion of the South County Land Use Plan is included in Section 3.9.2.3, "Local Plans and Policies."

0018-21 General

Text has been updated.

0018-22 General

Text has been changed globally to refer to the Town of Primm and the Town of Jean.

0018-23 Transportation and Traffic

MM TRANS-2 has been updated to state that the applicant will review their helicopter flight and safety plan with both the FAA and the CCDOA 30 days prior to construction of the SNSA.

0018-24 Cumulative

SNSA has been added to the list of foreseeable projects in this Section.

0018-25 General

Thank you for your comment. Your comment has become part of the official record.

0019 Comment Responses: Southern California Edison

0019-1 Executive Summary

Text has been updated to describe system limitations.

0019-2 Executive Summary

Text has been updated to clarify that EITP would interconnect other types of renewable energy projects.

0019-3 Executive Summary

Text has been updated to clarify that EITP would interconnect other types of renewable energy projects.

0019-4 Executive Summary

The agencies objectives refer to renewable energy sources in general, including solar.

0019-5 Executive Summary

Text has been updated to correctly describe the routing connectivity of the existing 115-kV line.

0019-6 Executive Summary

Text has been updated.

0019-7 Executive Summary

Text has been updated.

0019-8 Executive Summary

The Executive Summary provides a brief description of the EITP main components for the purposes of public disclosure. A more detailed description of the type and number of structures is provided in Chapter 2, Description of the Proposed Project and Alternatives.

0019-9 Executive Summary

The description of the proposed 33-kV system (distribution lines and associated circuitry) was updated. For the purposes of this EIR/EIS, the BLM and CPUC approved to describe the project components as power lines (transmission, subtransmission, and distribution lines), substations, and telecommunications.

0019-10 Executive Summary

Text has been updated to clarify that the Ivanpah Substation would interconnect renewable energy projects, including solar.

0019-11 Executive Summary

A detailed description of the roles of the CPUC and BLM in the EITP environmental review process is provided in Chapter 1, "Introduction."

0019-12 Executive Summary

Language contained within APM BIO-12 has not been changed per NDOW requirements. The date of bighorn lambing season has been amended per MM BIO-13 to be January to May. For more information, refer to Response to Comment 0019-195.

0019-13 Executive Summary

Comment noted. Text has been updated.

0019-14 Executive Summary

BLM Visual Resource specialists did not concur with the visual resources contrast rating forms prepared by the applicant. Based on the photo locations and the visual simulation prepared by SCE, the proposed project would result in a strong change in foreground and middleground views to the line of the existing structures, contributing to an overall moderate change in the KOP 1 viewshed. A portion of this view is located within a view of a VRM Class II area; therefore, the proposed project would be inconsistent with the visual resource management goals. The Contrast Rating Form in Appendix C has been changed to reflect the analysis of BLM Visual Resource specialists.

0019-15 Executive Summary

Refer to response to comment 0019-14.

0019-16 Executive Summary

Refer to response to comment 0019-14.

0019-17 Executive Summary

Refer to response to comment 0019-14.

0019-18 Executive Summary

Refer to response to comment 0019-14.

0019-19 Executive Summary

Refer to response to comment 0019-14.

0019-20 Executive Summary

Thank you for your comment. Your comment has become part of the official record.

0019-21 Executive Summary

Thank you for your comment.

0019-22 Executive Summary

Thank you for your comment. The text has been updated.

0019-23 Executive Summary

Thank you for your comment. The text has been updated.

0019-24 Executive Summary

The Executive Summary has been updated for the Final EIR/EIS.

0019-25 Executive Summary

The Executive Summary has been updated for the Final EIR/EIS.

0019-26 Executive Summary

The text has been revised in Section 3.4.2.4 to clarify the fee structure of the MSHCP and the implementation of mitigation measures for a project that impacts non-federal lands protected under the MSHCP. Refer to the previous response which addresses this comment.

0019-27 Executive Summary

The Executive Summary has been updated for the Final EIR/EIS.

0019-28 Purpose and Need

Text has been updated.

0019-29 Purpose and Need

Text has been updated.

0019-30 Purpose and Need

Text has been updated.

0019-31 Purpose and Need

Text has been updated.

0019-32 Purpose and Need

Thank you for your comment. Your comment has become part of the official record.

0019-33 Purpose and Need

Text has been updated.

0019-34 Project Description

For the purposes of this EIR/EIS, the BLM and the CPUC describe the project components as power lines (transmission, subtransmission, and distribution lines), substations, and telecommunications. Although the use of a 33-kV line extension instead of a 12-kV line extension in Nipton differs from the description provided in the PEA, this change was inserted and noted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5). This change was inserted considering that this information does not introduce significant environmental impacts from the project.

0019-35 Project Description

Comment noted. "Nevada Power" was replaced by "NV Energy in figures and text.

0019-36 Project Description

Text has been updated. The term "welded" was replaced by "slip-jointed", as suggested.

0019-37 Project Description

Comment about single or double circuits below or above 200-kV has been noted and inserted. Publications were reviewed to support the statement of potential reduction of noise and radio interference by using double circuit configurations. A reference has been incorporated in the Final EIR/EIS.

0019-38 Project Description

A clarification note stating that this remaining portion is not part of EITP was added in the Final EIR/EIS.

0019-39 Project Description

Comment noted. Language and naming conventions were corrected to describe routing connectivity of the existing 115-kV line.

0019-40 Project Description

Comment noted. Language and naming conventions were corrected to describe routing connectivity of the existing 115-kV line.

0019-41 Project Description

Comment noted. Language about the purpose of the 115-kV subtransmission line was updated in the Final EIR/EIS.

0019-42 Project Description

The purpose of this section is to briefly describe the project components. More detail about the number of H-frame lattice structures is provided in Section 2.2.1.3, “Components of the Proposed Project.”

0019-43 Project Description

Although this change differs from the description provided in the PEA, denomination of the 12-kV line was replaced by 33-kV in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5).

0019-44 Project Description

Although the use of a 33-kV line extension instead of a 12-kV line extension in Nipton differs from the description provided in the PEA, this change was inserted and noted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5). This change was inserted considering that this information do not introduce significant environmental impacts from the project.

0019-45 Project Description

This change was inserted considering that this information do not introduce significant environmental impacts from the project.

0019-46 Project Description

Miles of underground cable were updated in the Final EIR/EIS.

0019-47 Project Description

The Nipton Microwave Communication is described as part of the Telecommunication Path 2, Section 3; however, this component was also added to Table 2-1, as suggested.

0019-48 Project Description

Comment noted. Language about the purpose of the 115-kV subtransmission line was updated in the Final EIR/EIS.

0019-49 Project Description

The proposed changes were inserted and noted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5) Miles of underground construction were compared with information provided in the PEA EITP Road Story Rev. 3 for consistency and updated in the Final EIR/EIS accordingly.

0019-50 Project Description

The description of the Nipton Microwave Communication Site was inserted in Table 2-1.

0019-51 Project Description

Comment noted. Text was changed accordingly in the Final EIR/EIS.

0019-52 Project Description

Comment noted. The name and rating of the line was verified and updated in the Final EIR/EIS.

0019-53 Project Description

Language was updated in the Final EIR/EIS. A footnote clarifying this change was also added in the text.

0019-54 Project Description

Comment noted. Information was verified using major crossing maps and the EITP Road Story Rev. 3.

0019-55 Project Description

Comment noted. Names, ratings and ownership information used for the transmission lines crossings were updated in the Final EIR/EIS.

0019-56 Project Description

Comment noted. Ownership of the Mead-Victorville 287-kV transmission line was updated in the Final EIR/EIS.

0019-57 Project Description

This information was checked and corrected accordingly.

0019-58 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-59 Project Description

Maps were updated to show Highway "15."

0019-60 Project Description

Map legend was updated.

0019-61 Project Description

Figure 2-6 was produced according to information provided in the Applicant's EITP Road Story Rev. 3. Labeling provided in Map No. 69 of the EITP Road Story establishes yellow-shaded areas for tension sites and red-shaded areas for pull sites. As proposed by the applicant in this comment, the three rectangles located southwest of the substation site were changed from yellow to red. The proposed changes were compared and updated accordingly in the Final EIR/EIS.

0019-62 Project Description

This figure was included as submitted by the applicant in the Proponent's Environmental Assessment. Changes on technical specifications were inserted in the Final EIR/EIS.

0019-63 Project Description

For the purposes of public disclosure, the description of specific project components was simplified.

0019-64 Project Description

Information about underground and aboveground line components was updated in the Final EIR/EIS. However, text describing the purpose and characteristic of this project component was kept as simple as possible for public understanding.

0019-65 Project Description

Although this change differs from the description provided in the PEA, denomination of the 12-kV line was replaced by 33-kV in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5).

0019-66 Project Description

This change was inserted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5).

0019-67 Project Description

Comment noted. Text was removed accordingly.

0019-68 Project Description

Comment noted. Text was inserted as clarification.

0019-69 Project Description

Comment noted. Text changes per current CAISO recommendations were inserted in the Final EIR/EIS.

0019-70 Project Description

Comment noted. Text was removed accordingly.

0019-71 Project Description

Comment noted. Text was modified accordingly with a note clarifying that final location of the MEER and microwave tower will not be defined until final engineering.

0019-72 Project Description

Although this change differs from the description provided in the PEA, denomination of the 12-kV line was replaced by 33-kV in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5). This change was inserted considering that this information does not introduce significant environmental impacts from the project.

0019-73 Project Description

Figure 2-9 was developed as a simplified version of the "Ivanpah Substation Plot Plan" provided by the Applicant as Data Gap Response to Question 2.14, dated 07/17/2009. This simplified version was produced for public understanding.

0019-74 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-75 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-76 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-77 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-78 Project Description

Text was modified to state that a 230-kV single circuit line would only provide capacity for interconnecting a maximum of 1,150 MW.

0019-79 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-80 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-81 Project Description

For the purposes of public disclosure, naming conventions used in the Final EIR/EIS use the term "helicopter staging area" instead of "helicopter landing sites" or “helicopter fly yards.”

0019-82 Project Description

See Response to Comment 0019-81.

0019-83 Project Description

Land disturbance acreage was updated as requested. This change was inserted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5).

0019-84 Project Description

See Response to Comment 0019-81.

0019-85 Project Description

See Response to Comment 0019-81.

0019-86 Project Description

Comment noted. Text was removed accordingly.

0019-87 Project Description

Changes in road length and land disturbance were updated and verified for the Final EIR/EIS. These changes were inserted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR" (CEQA Guidelines Section 15088.5).

0019-88 Project Description

See Response to Comment 0019-87.

0019-89 Project Description

For the purposes of public disclosure and in accordance with the EITP Final EIR/EIS style guide, "would" is used instead of "may."

0019-90 Project Description

For the purposes of public disclosure, "rope line" was inserted as equivalent term of "pulling cable". In accordance with the EITP Final EIR/EIS style guide, "would" is used instead of "may."

0019-91 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-92 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-93 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-94 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-95 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-96 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-97 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-98 Project Description

Comment noted. Proposed text was inserted as clarification.

0019-99 Project Description

The text referring to damage to existing roads not only refers to effects from water truck use. Language was corrected in the Final EIR/EIS for clarifications.

0019-100 Project Description

Changes in underground and overhead construction segments and associated land disturbance were updated and verified for the Final EIR/EIS. These changes were inserted in the Final EIR/EIS as "new information added to the EIR that merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." (CEQA Guidelines Section 15088.5).

0019-101 Project Description

Comment noted. Changes are being inserted in the Final EIR/EIS.

0019-102 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-103 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-104 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-105 Project Description

Language regarding EITP's stormwater pollution prevention plan was cited from the Proponent's Environmental Assessment. Text has been revised based in accordance with the SWPPP regulatory requirements. SWPPP requirements in CA and NV call for use of Best Management Practices (BMPs). While siltation basins are a type of BMP, they are not required by either state.

0019-106 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS. For the purposes of public disclosure, the Final EIR/EIS includes the term "helicopter staging area" instead of "helicopter landing sites" or “helicopter fly yards.” Acreage provided for new access and spur roads disturbance in this comment were compared with the information provided in Page 3 of Appendix A of SCE Comments & Suggested Revisions. Table 2-11 in the Project Description was updated using Appendix A since the proposed new roads would be built during construction and remain as permanent disturbance.

0019-107 Project Description

Changes were inserted in the Final EIR/EIS consistently with the information provided in Page 3 of Appendix A of SCE Comments & Suggested Revisions. Acreage has been rounded to the first decimal.

0019-108 Project Description

The suggested disturbance numbers (439 acres during construction and 42 acres as permanent disturbance) corresponds to the 230-kV only. The Final EIR/EIS provides the total acreage of temporary and permanent disturbance from other project components (sub transmission, distribution, and telecommunication lines) in addition to the 230-kV line information. This update was made according to additional revisions provided by SCE in this comment letter, resulting in a total of 480 acres during construction and 54 acres as total permanent disturbance.

0019-109 Project Description

As suggested, text has been revised but changes in data were done consistently with the information provided in Page 5 of Appendix A of SCE Comments & Suggested Revisions. Length of the underground trench/duct for conduit has been set as 5,280 feet, as revised in footnote No. 1 of Table 2-13 in Appendix A of SCE Comments.

0019-110 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-111 Project Description

Changes were inserted in the Final EIR/EIS; however, revisions to Table 2-15 were not provided in Appendix A of SCE Comments & Suggested Revisions.

0019-112 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-113 Project Description

Information about maximum number of crews working at distinct locations is required for the environmental analysis. This information was provided by the applicant's environmental department. Language was updated for clarification.

0019-114 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-115 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-116 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-117 Project Description

Comment noted. Changes were inserted in the Final EIR/EIS.

0019-118 Aesthetics

BLM Visual Resource specialists did not concur with the visual resources contrast rating forms prepared by the Applicant. Based on the photo locations and the visual simulation prepared by SCE, the proposed project would result in a strong change in foreground and middleground views to the line of the existing structures, contributing to an overall moderate change in the viewshed. A portion of this view is located within a view of a VRM Class II area; therefore, the proposed project would be inconsistent with the visual resource management goals. The Contrast Rating Form in Appendix C has been changed to reflect the analysis of BLM Visual Resource specialists.

0019-119 Aesthetics

See response 0019-119.

0019-120 Aesthetics

See response 0019-119.

0019-121 Aesthetics

See response 0019-119.

0019-122 Aesthetics

MM AES-2 has not been removed. Although grading activities for the construction of the EITP substation would be completed by ISEGS as described in Section 2.4.4 of the EIR/EIS, grading is required for construction of the proposed project and, therefore, the applicant will be held responsible for mitigation of the impacts associated with grading activities, including visual impacts.

0019-123 Air Quality

The current comparison of daily construction emissions to MDAQMD significance thresholds in this section is consistent with MDAQMD CEQA guidelines. The text and table has not been revised.

0019-124 Air Quality

Table 3.3-7 and the related text have been revised to account for the amortization of construction emissions over a 30-year period for comparison to the GHG emission significance threshold.

0019-125 Air Quality

The text of this part of the mitigation measure has been revised to indicate that any planting of vegetative ground cover for dust control should be consistent with the Reclamation Plan.

0019-126 Biological Resources

The Final EIR/EIS text was updated to incorporate the San Bernardino County reference.

0019-127 Biological Resources

The suggested change has been incorporated into the Final EIR/EIS text.

0019-128 Biological Resources

The text has been updated to incorporate the change from McCullough Mountains to McCullogh Range and the updated description of the telecommunication line.

0019-129 Biological Resources

The text in Section 3.4.1.1 has been updated to indicate the applicant and their biological consultants conducted the surveys.

0019-130 Biological Resources

The text in Section 3.4.1.1 has been updated to incorporate the survey area for the Spring 2010 desert tortoise surveys.

0019-131 Biological Resources

The text in Section 3.4.1.1 has been updated to include a description of the project area and alternatives surveyed during the 2008, 2009, 2010 field surveys.

0019-132 Biological Resources

The text has been updated to incorporate the Spring 2010 desert tortoise surveys.

0019-133 Biological Resources

The text in Section 3.4.1.1 reflects that the January 2010 SCE Eldorado-Ivanpah Transmission Line Project Desert Tortoise Surveys Report indicates that a 200-foot ROW corridor was surveyed.

0019-134 Biological Resources

The text in Section 3.4.1.1 has been updated to incorporate the Spring 2010 desert tortoise report.

0019-135 Biological Resources

The text in Section 3.4.1.1 has been update to include the specific timing of the rare plant surveys for 2008 and 2009.

0019-136 Biological Resources

The text in Section 3.4.1.1 has been revised per comment.

0019-137 Biological Resources

The suggested change has been made to the Final EIR/EIS text.

0019-138 Biological Resources

The suggested change has been made to the Final EIR/EIS text.

0019-139 Biological Resources

The suggested change has been made to the Final EIR/EIS text.

0019-140 Biological Resources

The suggested change has been added to Section 3.4.1.1 of the Final EIR/EIS text.

0019-141 Biological Resources

The text within Table 3.4-1 has been updated to clarify that the McCullough Range was surveyed rather than the McCollough Pass.

0019-142 Biological Resources

The suggested change has been made to the Final EIR/EIS text.

0019-143 Biological Resources

The text within Table 3.4-1 has been updated to reflect the completed 2010 surveys and identifies the remaining to-be-completed surveys.

0019-144 Biological Resources

The text within Table 3.4-1 has been updated to reflect the completed 2010 surveys and identifies the remaining to-be-completed surveys.

0019-145 Biological Resources

Text has been changed per comment.

0019-146 Biological Resources

The text within Table 3.4-1 has been updated to reflect the completed 2010 surveys and identifies the remaining to-be-completed surveys. Jurisdictional delineation has been removed, since the surveys have been completed

0019-147 Biological Resources

The text within Table 3.4-1 has been updated to reflect the completed 2010 surveys and identifies the remaining to-be-completed surveys.

0019-148 Biological Resources

Added the following text to the description of desert wash habitat in Section 3.4.1.1:
The vegetation in the majority of these smaller washes at lower elevations does not dramatically differ from the vegetation community of the adjacent interfluvial areas.

0019-149 Biological Resources

The text in Section 3.4.1.1 has been update to reflect that Pinyon-Pine Juniper Woodland only occurs along the Mountain Pass Alternative route.

0019-150 Biological Resources

The data reference, Nevada State Department of Agriculture (2005), was added to the Final EIR/EIS text in Section 3.4.1.1. Permanent damage wording was changed to state permanent impact.

0019-151 Biological Resources

The vegetation type Pinyon pine juniper woodland has been removed from the description of the vegetation communities in Section 3.4.1.1 since this vegetation type is only present along the Mountain Pass Alternative.

0019-152 Biological Resources

Information has been confirmed with the GIS analyst. Table 3.4-2 has been updated.

0019-153 Biological Resources

Section 3.4.1.1 has been updated to clarify project route locations.

0019-154 Biological Resources

Section 3.4.1.1 has been updated to clarify the description of the telecommunication route alternative.

0019-155 Biological Resources

Section 3.4.1.1 has been updated to incorporate the completion of spring 2010 jurisdictional delineation and the findings of the report.

0019-156 Biological Resources

Section 3.4.1.1 has been revised to clarify between observed species and species that have the potential to occur.

0019-157 Biological Resources

Section 3.4.1.1 has been revised to clarify between observed species and species that have the potential to occur.

0019-158 Biological Resources

Section 3.4.1.1 has been revised to clarify between observed species and species that have the potential to occur.

0019-159 Biological Resources

Section 3.4.1.1 has been updated to incorporate the 2010 jurisdictional delineation report.

0019-160 Biological Resources

Section 3.4.1.1 has been edited to clarify the transmission line type.

0019-161 Biological Resources

Table 3.4-4 was not revised as no wild burrows were observed during the 2008 reconnaissance surveys, only scat was observed.

0019-162 Biological Resources

Table 3.4-4 was updated to include the raptor observation recorded during the 2010 raptor survey.

0019-163 Biological Resources

Table 3.4-5 notes occurrence of catclaw acacia for the Nevada portion of the project.

0019-164 Biological Resources

Table 3.4-5 was not revised as no wild burrows were observed during the 2008 reconnaissance surveys; only scat was observed.

0019-165 Biological Resources

Table 3.4-5 was updated to include the raptor observation recorded during the 2010 raptor survey.

0019-166 Biological Resources

Table 3.4-5 was updated to include the raptor observation recorded during the 2010 raptor survey.

0019-167 Biological Resources

Table 3.4-5 was updated to include the raptor observation recorded during the 2010 raptor survey.

0019-168 Biological Resources

Table 3.4-5 was updated for desert tortoise occurrence as follows: Sign and individuals were observed within suitable habitat throughout the project area.

0019-169 Biological Resources

Table 3.4-4 & 3.4-5 have been updated to clarify that a species was recorded observed during the Reconnaissance Surveys and/or the Protocol-level Surveys.

0019-170 Biological Resources

Section 3.4.1.1 has been revised to include the correct number of special status plant that occur or are likely to occur in each state. Text also been revised to state a species is likely to occur rather than very likely to occur.

0019-171 Biological Resources

Section 3.4.1.1 was changed to reflect that Small-flowered androstephium was observed in California in 2008, and in Nevada in 2010 along a portion of Transmission Alternative D.

0019-172 Biological Resources

In Section 3.4.1.1, the species location for Mojave milkweed was revised to include the Ivanpah Substation in California

0019-173 Biological Resources

Text was changed to reflect that Barrel Cactus was observed in Nevada in 2010 along the transmission route near the McCullough Pass.

0019-174 Biological Resources

Section 3.4.1.1 was updated to include the occurrence of rough menodora along the Mountin Pass Alternative to the southeast of the Mountain Pass Substation.

0019-175 Biological Resources

Section 3.4.1.1 was revised to state that the polished blazing star could occur along the Mountain Pass Alternative in the Clark Mountain Range.

0019-176 Biological Resources

Section 3.4.1.1 was revised to state that the tough muhley could occur along the Mountain Pass Alternative in the Clark Mountain Range.

0019-177 Biological Resources

Section 3.4.1.1 has been revised to state that Aven Nelson's phacelia was observed along the Mountain Pass Alternative east of Mountain Pass Substation.

0019-178 Biological Resources

Section 3.4.1.1 has been revised to include occurrences of the sky-blue phacelia south of the Mountain Pass Substation and to the east of Nipton along the telecommunication route.

0019-179 Biological Resources

Section 3.4.1.1 has been updated to include the observation of catclaw acacia in desert washes within the project area in California and Nevada.

0019-180 Biological Resources

Section 3.4.1.1 has been revised to include the correct table numbers and to clarify the likelihood of occurrence.

0019-181 Biological Resources

Section 3.4.1.1 has been revised to state that tortoises will also consume cacti and the vegetation of woody plants.

0019-182 Biological Resources

Section 3.4.1.1 was not revised related to the description of the telecommunication line along Nipton Road or I-15, as this section is describing the existing environment and does not evaluate the potential impacts to any of the species as result of the proposed project or the alternatives. For a full discussion and evaluation of the impacts of desert tortoise critical habitat resulting from the proposed project refer to section 3.4.3.5 and resulting from the alternatives refer to section 3.4.3.11 and 3.4.3.12.

0019-183 Biological Resources

Section 3.4.1.1 has been updated to include the results of the 2010 desert tortoise surveys.

0019-184 Biological Resources

Section 3.4.1.1 has been revised to clarify the likelihood of occurrence for the western banded gecko.

0019-185 Biological Resources

Section 3.4.1.1 was not revised as no wild burrows were observed during the 2008 reconnaissance surveys, only scat was observed.

0019-186 Biological Resources

Section 3.4.1.1 has been revised to include the results of the 2010 raptor survey and updated to include all raptor nest observations during the 2008 surveys.

0019-187 Biological Resources

Section 3.4.1.1 has been revised to include the results of the 2010 raptor survey. All golden eagle observations have been added to the text.

0019-188 Biological Resources

Text has been revised to reflect that no burrowing owls were observed during raptor surveys (non-protocol level for the burrowing owl) in 2010.

0019-189 Biological Resources

Section 3.4.1.1 has been revised to include the results of the 2010 raptor survey. All peregrine falcon observations have been added to the text.

0019-190 Biological Resources

Section 3.4.1.1 has been revised to include the results of the 2010 raptor survey. All prairie falcon observations have been added to the text.

0019-191 Biological Resources

Section 3.4.2.1 has been revised to clarify RWQCB jurisdiction.

0019-192 Biological Resources

Section 3.4.3.3 has been revised to include the tortoise density calculations from the July 2010 Draft Biological Assessment.

0019-193 Biological Resources

The language for APM BIO-3 has been updated to clarify the potential permitting requirements.

0019-194 Biological Resources

The language for APM BIO-11: Desert Tortoise Measures has been updated to clarify the raven mitigation measures.

0019-195 Biological Resources

The language contained in MM BIO-13 was added to complement—not replace—the language contained within APM BIO-12. NDOW has specifically requested that all construction activities within the North McCullough Pass be conducted outside of the lambing season (January – May) (included in MM BIO-13) to ensure no significant impacts. Additionally, NDOW has requested that no construction requiring helicopter use be conducted during the dry season (June through September) for the McCullough Pass area (included in APM BIO-12). Further, MM BIO-13 requires a preconstruction survey and biologist present for all construction activities in bighorn sheep habitat, with the understanding that there will be no construction activities during the lambing season in the North McCullough Pass.

A footnote has been added to APM BIO-12 to explain that MM BIO-13 amends the date of the lambing season from April – October to January – May.

0019-196 Biological Resources

Section 3.4.3.5 was revised to include other ground-disturbing activities in addition to clearing and grading for the description of the type of activities that would impact the vegetation.

The suggested removal of the Ivanpah Substation from the analysis was not adhered to. The impacts to the Ivanpah Substation were determined to be a linked component of the EITP by the BLM and CPUC.

0019-197 Biological Resources

Section 3.4.3.5 was revised to clarify the timing of restoration efforts for vegetation and soils.

0019-198 Biological Resources

Section 3.4.3.5 has been revised to incorporate the findings of the March 2010 Jurisdictional Delineation Report.

0019-199 Biological Resources

Section 3.4.3.5 has been revised to incorporate the findings of the March 2010 Jurisdictional Delineation Report.

0019-200 Biological Resources

Section 3.4.3.5 has been revised to accurately describe the ground disturbing impacts for the project.

0019-201 Biological Resources

Section 3.4.3.5 has been updated to clarify the nature of impacts related to project structures.

0019-202 Biological Resources

Section 3.4.3.5 was revised to document that desert tortoise sign was observed for the proposed transmission alignment during the 2008, 2009, and 2010 surveys. The Draft EIR/EIS text had only included the 2008 surveys.

0019-203 Biological Resources

Section 3.4.3.5 was revised to incorporate the results of the 2009 and 2010 desert tortoise surveys.

0019-204 Biological Resources

Section 3.4.3.5 has been revised to refer to the updated table number for Table 3.4-4 and Table 3.4-5.

0019-205 Biological Resources

Section 3.4.3.5 has been updated to clarify the location of the telecommunication line.

0019-206 Biological Resources

We have confirmed that the permanent habitat loss is 55 acres based on SCE's most recent revised calculations. This is reflected in the Final EIR/EIS.

0019-207 Biological Resources

Section 3.4.3.5 has been revised to include the results of the 2010 raptor survey and updated to include all raptor nest observations during the 2008 surveys.

0019-208 Biological Resources

The text has been revised to reflect LU Section 3.9, which states that Alternative A and B lie within existing BLM-designated utility corridors where existing transmission lines are present. Alternative analyses were changed accordingly.

0019-209 Biological Resources

Section 3.4.3.5 has been revised to incorporate the findings of the March 2010 Jurisdictional Delineation Report.

0019-210 Biological Resources

Section 3.4.3.5 has been revised to incorporate the findings of the 2010 Raptor Survey. The specific impacts to burrowing owls have been addressed, although clarification regarding the survey methods for burrowing owls carried out during the 2010 raptor survey was not confirmed by SCE.

0019-211 Biological Resources

Section 3.4.2.10 has been revised to clarify that Alternatives D and E were suggested to minimize recreational impacts.

0019-212 Biological Resources

Section 3.4.3.11 has not been revised. The assessment made in the Draft EIR/EIS compared the impacts resulting from the Golf Course Alternative to the impacts resulting from the proposed route. Overall the Golf Course Alternative would result in a net increase in the disturbance to desert tortoise critical habitat. The assessment was made based on the proposed layout of the Golf Course Alternative, and was not an evaluation of the specific construction design. It cannot be stated that the proposed construction design would minimize impacts because there is no alternative construction design provided for the Golf Course Alternative for comparison. Additionally, placement of the underground fiber optic line in the road shoulder could still impact desert tortoise within the area, as tortoise have been known to burrow in these soft road shoulders.

0019-213 Biological Resources

Section 3.4.3.12 has not been revised. The assessment made in the Draft EIR/EIS compared the impacts resulting from the Mountain Pass Alternative to the impacts resulting from the proposed route. Overall the Mountain Pass Alternative would result in a in a net increase in the disturbance to habitat that supports special status plant species. The assessment was made based on the proposed layout of the Mountain Pass Alternative, and was not an evaluation of the specific construction design. It can not be stated that the proposed construction design would minimize impacts because there is no alternative construction design provided for the Mountain Pass Alternative for comparison.

0019-214 Biological Resources

Section 3.4.3.12 has not been revised. The assessment made in the Draft EIR/EIS compared the impacts resulting from the Mountain Pass Alternative to the impacts resulting from the proposed route. Overall the Mountain Pass Alternative would result in a in a net increase in the disturbance to habitat that supports wildlife species outlined in this paragraph. The assessment was made based on the proposed layout of the Mountain Pass Alternative, and was not an evaluation of the specific construction design. It can not be stated that the proposed construction design would minimize impacts because there is no alternative construction design provided for the Mountain Pass Alternative for comparison.

0019-215 Biological Resources

Section 3.4.3.12 has not been revised. The assessment made in the Draft EIR/EIS compared the impacts resulting from the Mountain Pass Alternative to the impacts resulting from the proposed route. Overall the Mountain Pass Alternative would result in a in a net increase in the disturbance to desert tortoise critical habitat. The assessment was made based on the proposed layout of the Mountain Pass Alternative, and was not an evaluation of the specific construction design. It can not be stated that the proposed construction design would minimize impacts because there is no alternative construction design provided for the Mountain Pass Alternative for comparison.

0019-216 Biological Resources

Section 3.4.4 of MM BIO-3: Special-Status Plant Restoration and Compensation has been revised to note that mitigation cannot begin until all construction activities have been completed at a particular site.

0019-217 Biological Resources

Section 3.4.4 has been revised to clarify that an appropriate tool may be used such as the examples provided in the text.

0019-218 Biological Resources

MM BIO-10: Biological Monitors was revised to state that biological monitors will be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. For example, no monitors are required in paved areas or within existing substation fence lines.

0019-219 Biological Resources

Section 3.4.4 was revised to state that qualified and/or authorized biologist will conduct preconstruction surveys. Desert Tortoise Council's 1999 handling protocol only requires an authorized biologist for the handling of a tortoise.

0019-220 Biological Resources

Section 3.4.4 has been revised per comment.

0019-221 Biological Resources

Section 3.4.4 has not been changed. The language contained in MM BIO-13 was added because NDOW has specifically requested that all construction activities within the North McCullough Pass be conducted outside of the lambing season (January - May). Without this mitigation the project would result in increased significant impacts to desert bighorn sheep.

0019-222 Biological Resources

No change was made to the text. The current language provides specific direction and standard industry practices that are necessary to reduce impacts to avian species.

0019-223 Biological Resources

The text for MM BIO-16 was not revised. The specific mitigation ratio is required by CDFG.

0019-224 Biological Resources

Text has been modified to reflect requested change.

0019-225 Biological Resources

Section 3.4.5.1 has been updated to reflect the completion of the spring 2010 jurisdictional delineation survey and now incorporates the results of the surveys.

0019-226 Cultural Resources

Text has been revised.

0019-227 Cultural Resources

No change has been made.

0019-228 Cultural Resources

Reference was added.

0019-229 Cultural Resources

Text has been revised.

0019-230 Cultural Resources

Text has been revised.

0019-231 Cultural Resources

Text has been corrected.

0019-232 Cultural Resources

Text has been revised and reference was added.

0019-233 Cultural Resources

Reference has been added.

0019-234 Cultural Resources

Reference has been added.

0019-235 Cultural Resources

Reference has been added.

0019-236 Cultural Resources

Reference has been added.

0019-237 Cultural Resources

Reference has been added.

0019-238 Cultural Resources

Reference has been added.

0019-239 Cultural Resources

Reference has been added.

0019-240 Cultural Resources

Section 3.5 in the Draft EIR/EIS states that BLM initiated the consultation. The consultant (E & E) sent a request (May 2009) to NAHC for a Sacred Lands file search, and the BLM was designated by CPUC (due to project being a federal undertaking) to initiate the consultation. As noted, tribal contact names for 11 tribes were given by the NAHC for project scoping letters to be sent.

0019-241 Cultural Resources

Text has been revised.

0019-242 Cultural Resources

Modifying the text from "would" to "has the potential to impact cultural resources..." doesn't consider the study that determined the EITP will impact 36-10315 as cited in Sander and Auck (2009). This study states that the construction will impact the cultural resources. Whether the proposed route or alternative routes are chosen, the Boulder Dam 115-kV-Line, which is NRHP eligible, will require treatment measures to mitigate the loss of the segment of transmission line within the project APE to a level that is less than significant, reduced by APM CR-4b requiring recordation of the resource before impacts are made.

0019-243 Cultural Resources

Text has been revised, with one change indicating that "all measures of APM CR-2 would help ensure that adverse effects/impacts would be avoided."

0019-244 Cultural Resources

Text has been revised.

0019-245 Cultural Resources

Text has been revised.

0019-246 Cultural Resources

Text has been deleted.

0019-247 Cultural Resources

Text has been deleted.

0019-248 Cultural Resources

Text has been deleted.

0019-249 Cultural Resources

Consultation with BLM has been conducted and references to 36-7694 (CA-SBR-7694)/26CK494957 have been deleted.

0019-250 Cultural Resources

See response to previous comment.

0019-251 Cultural Resources

Text has been revised.

0019-252 Cultural Resources

Text has been revised per consultation with BLM.

0019-253 Cultural Resources

Text has been revised.

0019-254 Cultural Resources

Text has been revised per consultation with BLM.

0019-255 Geologic Resources

Text updated per comment.

0019-256 Geologic Resources

Text updated per comment.

0019-257 Geologic Resources

Text updated per comment.

0019-258 Geologic Resources

Text updated per comment.

0019-259 Geologic Resources

Text updated per comment.

0019-260 Geologic Resources

Text updated per comment.

0019-261 Geologic Resources

Text updated per comment; modified sentence structure and some word usage.

0019-262 Geologic Resources

Text updated per comment.

0019-263 Geologic Resources

Text updated per comment.

0019-264 Geologic Resources

Text updated per comment.

0019-265 Geologic Resources

Text updated per comment; deleted the word "very."

0019-266 Geologic Resources

Text updated per comment.

0019-267 Geologic Resources

Text updated per comment.

0019-268 Geologic Resources

Text updated per comment; deleted the word "very."

0019-269 Geologic Resources

Text updated per comment.

0019-270 Geologic Resources

Text updated per comment.

0019-271 Geologic Resources

Text updated per comment.

0019-272 Geologic Resources

Text updated per comment.

0019-273 Geologic Resources

Text updated per comment.

0019-274 Geologic Resources

Comment noted. MM GEO-1 is modified with consideration given to the proposed language in the comment.

0019-275 Hazards and Safety

Text has been updated.

0019-276 Hazards and Safety

Text has been updated.

0019-277 Hazards and Safety

Text has been updated.

0019-278 Hazards and Safety

Text has been updated.

0019-279 Hazards and Safety

Text has been updated.

0019-280 Hazards and Safety

Text is summarized from the ISEGS FSA/DEIS. No change made.

0019-281 Hazards and Safety

TSLN-2 is a Condition of Certification for ISEGS. Information is provided in the EITP EIR/EIS for disclosure purposes only.

0019-282 Hazards and Safety

TSLN-1 through TSLN-4 are Conditions of Certification for ISEGS. Information is provided in the EITP EIR/EIS for disclosure purposes only. ISEGS mitigation is applicable to BrightSource for ISEGS project—not to SCE for EITP.

0019-283 Hazards and Safety

Thank you for your comment. Your comment has become part of the official record.

0019-284 Hazards and Safety

For more information on SF_6, please see Section 3.3, "Air Quality and Greenhouse Gases."

0019-285 Hazards and Safety

Text has been updated.

0019-286 Hazards and Safety

Text has been updated.

0019-287 Hazards and Safety

Text has been updated.

0019-288 Hazards and Safety

Text has been updated.

0019-289 Hazards and Safety

Text is summarized from ISEGS FSA/DEIS. No change made.

0019-290 Water Quality and Hydrology

Comment has been addressed throughout Section 3.8.

0019-291 Water Quality and Hydrology

Comment has been addressed in Section 3.8.1.4.

0019-292 Water Quality and Hydrology

Groundwater depths were obtained from a USGS monitoring well in Jean, Nevada. This well was active between 1990 and 2008. Data for the well can be found at http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels/?site_no=354708115212501&agency_cd=USGS. Section 3.8.1.4 and subsequent discussions have been updated to reflect the varying groundwater depth data throughout the Ivanpah Valley.

0019-293 Water Quality and Hydrology

Section 3.8.1.5 has been updated to include the yield of the Ivanpah basin within California and Nevada.

0019-294 Water Quality and Hydrology

Section 3.8.2.3 has been updated to reflect groundwater management by San Bernardino County.

0019-295 Water Quality and Hydrology

Section 3.8.2.3 has been updated to reflect groundwater management by San Bernardino County.

0019-296 Water Quality and Hydrology

Section 3.8.3.5 has been updated to reflect this comment.

0019-297 Water Quality and Hydrology

Sections 3.8.1.5, 3.8.3.5, 3.8.3.7, 3.8.3.8, 3.8.3.9, 3.8.3.10, 3.8.3.11, 3.8.3.12, and 3.8.4 have been updated with information regarding the source of water for project construction.

0019-298 Water Quality and Hydrology

MM W-6 has been updated to reflect that SCE will obtain its own DESCP and SWPPP for the Ivanpah Substation. The Erosion Control Plan will remain as MM W-1 as it applies to the entire EITP, not only the Ivanpah Substation.

0019-299 Water Quality and Hydrology

MM W-1 will remain as previously described as this mitigation measure refers to the entire EITP while MM W-6 only refers to the Ivanpah Substation.

0019-300 Water Quality and Hydrology

Section 3.8.5.3 has been updated to reflect this change.

0019-301 Noise and Vibration

Comment noted. The FTA considerations for groundborne vibration were incorporated in the Regulatory Setting, in order to support Impacts NOI-3 and NOI-4 discussion.

0019-302 Noise and Vibration

The 75 dBA threshold has been used based on Federal agency recommendations, such as the FTA, which identify vibration exceeding 75 dBA as unacceptable levels for residential uses.

0019-303 Noise and Vibration

Noise mitigation measures have been proposed in order to complement the Applicant Proposed Measures, ensure full implementation of regulatory requirements, and reduce potential adverse effects. The proposed change in language is not applicable for the purpose of MM NOI-1, since it is already incorporated in APM NOI-1. MM NOI-1 was written to ensure that construction activities will be performed during the timeframe specified in local ordinances.

0019-304 Noise and Vibration

Noise mitigation measures have been proposed in order to complement the Applicant Proposed Measures, ensure full implementation of regulatory requirements, and reduce potential adverse effects. MM NOI-3 has been proposed as a complement to APM NOI-5, in order to comply with applicable regulation and guidance regarding noise control practices during construction.

0019-305 Noise and Vibration

Noise mitigation measures have been proposed in order to complement the Applicant Proposed Measures, ensure full implementation of regulatory requirements, and reduce potential adverse effects. MM NOI-5 has been proposed as a complement to APMs NO1-1, NOI-2, NOI-3, and NOI-4, in order to ensure compliance with applicable regulations and guidance regarding noise from stationary sources during construction.

0019-306 Public Services and Utilities

Impact PUSVC-2 has been updated with new information received from SCE. Discussion has been modified to refer to, and be consistent with, Section 3.8, "Hydrology and Water Quality."

0019-307 Cumulative Impacts

The requested change has not been made. The evaluation of the impacts to a cultural resource has to be considered in reference to the entire cultural resource, not only the part of the resource that is in closest proximity to the Proposed Action.

0019-308 Cumulative Impacts

The text has been updated to state "could come into contact."

0019-309 Cumulative Impacts

The requested change has not been made. Although this cultural resources would be avoided physically; however, there could be non-physical impacts that would alter the site's setting, such as disturbing elements that contribute to its historical significance. Because the proposed project plans to span this cultural resource using H-frame towers that is why the site (36-7694) was included in IMPACT CR-1.

0019-310 Cumulative Impacts

The acronym has been corrected.

0020 Comment Responses: Southern California Edison

Requested updates have been integrated into Chapter 2, Description of the Proposed Project and Alternatives, and Section 3.8, Hydrology and Water Quality.

0021 Comment Responses: Western Watersheds Project (two letters)

0021-1 Land Use

Text has been corrected throughout Section 3.9, "Land Use," to indicate that Clark Mountain is an active grazing allotment.

0021-2 Biological Resources

The Final EIR/EIS incorporates the updated project design as well as the results of the 2009 and 2010 desert tortoise surveys into the assessment of the magnitude of the impacts to desert tortoise resulting from the proposed project

and the alternatives. In the discussion of the cumulative impacts to desert tortoise, the Final EIR/EIS incorporates the total impacts to desert tortoise Recovery Units in California and Nevada.

0021-3 Biological Resources

The discussion of the potential impacts to wild burros resulting from the EITP has been further developed in the Final EIR/EIS based on the provided comments. The Final EIR/EIS incorporates an assessment of the potential for an increase in human and burro interactions and discusses the potential for impeding the daily movements of burros.

0021-4 Alternatives

Thank you for your comment. The EITP would upgrade an existing line, providing increased capacity within an existing utility corridor. Use of existing corridors minimizes new habitat disturbance. Upgrading the capacity of an existing line would result in fewer impacts than construction of a new transmission line.

0021-5 Biological Resources

The Final EIR/EIS expands the discussion of the potential impacts to desert tortoise resulting from additional perching area associated with the new towers. However, there is already an exiting transmission line along the proposed route, so there is already the presence of unnatural perch locations within the EITP. To minimize the impacts to desert tortoise resulting from additional perching area, the applicant has incorporated APM BIO-11 that requires a Raven Management Plan. In addition, see MM BIO-12.

0021-6 Biological Resources

Suitable desert tortoise habitat is available throughout the Ivanpah Valley except for the existing lake beds, developed areas, and areas that are above 3,500 feet in elevation. Due to the prevalence of desert tortoise habitat within the Ivanpah Valley, alternative analysis is limited in the ability to avoid occupied desert tortoise habitat. Desert tortoise habitat is present even within the existing utility corridors that are present within the Ivanpah Valley. Furthermore, the proposed route is located / contained mostly within an existing utility corridor.

0021-7 Air Quality

Estimates of emissions from construction activities are summarized in Section 3.3.3.5 of the EIR/EIS. The air quality impacts associated with these emissions are also discussed in this section.

0021-8 Biological Resources

Thank you for your comment. Impacts to desert tortoise are discussed in Section 3.4.3.5 under Desert Tortoise.

0021-9 Biological Resources

Section 3.4.3.5 of the Final EIR/EIS discusses and evaluates the impacts to bird species, wildlife migration and movement corridors, and the potential for increased raven activity due to increases in perch area. Baseline data of the environmental resources has been collected during the 2008, 2009, and 2010 field surveys and has been incorporated into the assessment of impacts and is described in Section 3.4.1.1, "Existing Conditions."

0021-10 Biological Resources

Thank you for your comment.

0021-11 Biological Resources

Thank you for your comment.

0021-12 Biological Resources

US Fish and Wildlife Service will be issuing the Take permit for desert tortoise under the ESA. Prior to being allowed to commence construction, the USFWS will issue the Biological Opinion, which will outline the required monetary compensation for desert tortoise impacts as well as mitigation measures that the applicant will be required to incorporate in order to commence construction. The CDFG will also issue wildlife authorizations in the form of a separate Take Permit or a Consistency Determination with the Biological Opinion. The Final EIR/EIS contains APM BIO-11: Desert Tortoise Measures (Section 3.4.3.4) and MM BIO-12: Desert Tortoise Impacts Reduction Measures (Section 3.4.4) which outline measures that the applicant will incorporate to reduce the impacts to desert tortoise.

0021-13 Biological Resources

See response to comment 0021-3.

0021-14 Biological Resources

In Section 3.4.3.5, the Final EIR/EIS assesses the potential impacts that invasive/noxious weeds would have on the existing flora and fauna due to the construction and operation of the propose project. To minimize the potential adverse impacts of the introduction or spread of invasive/noxious weeds, the Final EIR/EIS contains the following measures:

APM BIO-1: Preconstruction Surveys (Section 3.4.3.4)
APM BIO-2: Minimal Vegetation Impacts (Section 3.4.3.4)
APM BIO-3: Best Management Practices (Section 3.4.3.4)
APM BIO-10: Invasive Plant Management (Section 3.4.3.4)
MM BIO-4: Model Invasive Plant Management Plan on the BLM Las Vegas Office DRAFT Weed Plan (Section 3.4.4)

Section 3.4.1.1 describes the existing invasive/noxious weed environment for the EITP.

0021-15 Hazards and Safety

The applicant has not proposed using any pesticides or herbicides; however, MM BIO-4 gives requirements for the applicant's Invasive Weed Management Plan. In addition, the applicant would follow all required laws and regulations, including preparation of a SWPPP as outlined in APM W-9 and MM W-6. Hazardous materials are discussed in Section 3.7, "Hazards, Health, and Safety."

0021-16 Cultural Resources

The environmental evaluation concerning the cultural resource section of the EIR has considered these issues in its analysis. Proposed APM and MMs would adequately address these issues, including cumulative impacts.

0021-17 Hazards and Safety

The applicant has not proposed using any pesticides or herbicides; however, MM BIO-4 gives requirements for the applicant's Invasive Weed Management Plan. Hazardous wastes are discussed in Section 3.7, "Hazards, Health, and Safety."

0021-18 Hazards and Safety

Fire hazards are discussed in Section 3.6.1.8, "Fire Hazards," in Section 3.7, "Hazards, Health, and Safety." Impact HAZ-6 discusses the applicant's Fire Management Plan (APM HAZ-4). Hazards due to fire would be less than significant.

0021-19 Water Quality and Hydrology

Thank you for your comment. Issues of water quality and stream disruption during construction are addressed in Section 3.8, "Hydrology and Water Quality."

0021-20 Water Quality and Hydrology

Thank you for your comment. Issues of soil erosion and water quality are addressed in sections 3.6 and 3.8, respectively.

0021-21 Air Quality

Section 3.3.3.5 summarizes the greenhouse gas (GHG) emissions from construction and operation of the proposed project. The analysis of climate change and GHGs included in the EIR/EIS are consistent with guidance outline in the Secretary of the Interior's Order Nos. 3226 and 3289. An evaluation of carbon storage and sequestration would be speculative and is beyond the scope of the EIR/EIS. Further, there is no data to suggest that the project would interfere with the current mechanisms of CO_2 (carbon) flux in the desert ecosystem.

0021-22 Cumulative Impacts

The cumulative effects analysis has considered the potential cumulative effects of past, present, and foreseeable projects within the Ivanpah and Eldorado Valleys in both Californnia and Nevada. The projects considered include the Molycorp and Colosseum Mines; the use of the Ivanpah Dry Lake Recreation Area and the Jean/Roach Dry Lake SRMA; the multiple planned solar and wind renewable energy facilities; the DesertXpress train; and others listed on Tables 5-1 and 5-2. Each project is evaluated to the extent possible given the available existing environmental information in the individual resource sections within the cumulative effects analysis.

0021-23 Biological Resources

Any required compensation resulting from impacts to desert tortoise will be outlined and mandated by the Biological Opinion issued by USFWS.

0021-24 Biological Resources

Duplicate comment.

0021-25 Biological Resources

Thank you for your comment. The restoration and rehabilitation activities for the project are discussed by the follow measures in Section 3.4.3.4:

APM BIO-3: Minimize Vegetation Impacts
APM BIO-4: Best Management Practices
APM BIO-9: Facility Siting
MM BIO-2: Reclamation Plan in Section 3.4.4.

0022 Comment Responses: California State Lands Commission

0022-1 Land Use

The BLM and the CSLC have confirmed that the EITP would not cross lands managed under the School Lands Grant.

0022-2 Air Quality

Best management practices for the reduction of GHGs have been incorporated into the Final EIR/EIS.

0023 Comment Responses: Center for Biological Diversity

The Center for Biological Diversity (CBD) submitted a comment letter on June 21, 2010. Due to the complexity of the arguments presented by the CBD and the repetitive nature of some of the specific comments, the responses are

grouped by topic area. Each response topic applies to multiple specific comments within the CBD letters; comments are marked on the letters to indicate the appropriate response. Responses to the comments included in the CBD letter were grouped into these topics, which are presented in the order they are addressed in the CBD comment letter:

- Segmentation of Environmental Review
- Purpose and Need
- Alternatives
- Biological Impacts Analysis
- Greenhouse Gas Emissions

0023-1 Segmentation of Environmental Review

As described in Chapter 1, "Purpose and Need," in addition to the project as proposed by SCE, the EIR/EIS considers the environmental impacts of the ISEGS project as a "Cumulative Action" under NEPA and as part of the "Whole of the Action" under CEQA. The environmental impacts of other projects in the vicinity of the proposed project are assessed, in conjunction with the environmental impacts of the EITP, in Chapter 5, "Cumulative Scenario and Impacts."

The rationale for considering the ISEGS project a "Cumulative Action" under NEPA, rather than a "Connected Action" or "Similar Action," is outlined in the EIR/EIS Section 1.1.2.2, "NEPA Cumulative Action." Briefly, the BLM determined that the ISEGS project and the EITP are not "connected" actions because it is not the case that each depends on the other. While the ISEGS project at full build-out would depend on the EITP because the existing transmission line (without the EITP-proposed line and substation upgrades) would provide insufficient transmission capacity for the power generated by all phases of the ISEGS project, the EITP would not depend on the ISEGS project. As shown in Table 1-1, numerous renewables projects are planned for the Ivanpah Valley area, any of which could be serviced by the EITP. The BLM also determined that the ISEGS project is not "similar" to the EITP, for several reasons. First, the EITP EIR/EIS addresses transmission and its effects, and the ISEGS EIR/EIS addresses power generation and its effects. Second, while the two projects would be close to each other geographically, their schedules, at the time of the publication of the Draft EIR/EIS, were not the same (although due to regulatory delays in permitting the ISEGS project, the schedules of EITP and ISEGS are now likely to overlap). Third, the projects, at the time of publication of the Draft EIR/EIS, were in different phases of review.

The BLM determined that the proposed ISEGS project qualifies as a "Cumulative Action" to the proposed EITP. Given the proximity in location, the fact that the projects would be in operation at the same time (and now would likely have overlapping construction schedules) and the fact that the ISEGS project would result in significant impacts, it is reasonable to assume that the EITP, when considered in combination with ISEGS, would contribute to cumulatively significant impacts. A "Cumulative Action" differs from a cumulative impact in that it is considered to be part of the scope of the action; pursuant to U.S. Council on Environmental Quality (CEQ) regulation (40 CFR 1508.25(a)(2)), the ISEGS project was discussed as part of the action within the EITP EIR/EIS.

Under the CEQA definition of "project," the ISEGS project was considered within the project scope, or part of the "Whole of the Action" (CEQA Guidelines 15378(a)); this rationale and the legal background are discussed in Section 1.1.2.1, "CEQA Whole of the Action." The determination that the ISEGS project would be considered as part of the "Whole of the Action" to be analyzed in the EIR/EIS is based on the timing and the language of the Power Purchase Agreement (PPA), which was signed by December 31, 2009, and states that the ISEGS project would connect to the EITP, and the fact that the Final Staff Assessment/Draft Environmental Impact Statement (FSA/DEIS) for the ISEGS project was available at the time of publication of the EITP Draft EIR/EIS.

The Final EIR/EIS has been updated to include the information contained in environmental review documents published subsequent to the FSA/DEIS. The documents reviewed for the update were the BLM's Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) and the CEC's FSA Addendum, Errata to the FSA Addendum, and Final Decision. Additionally, the Final EIR/EIS includes a summary of the combined impacts of the EITP and ISEGS at the end of each resource chapter based on the ISEGS documents listed above and the analysis of the impacts of the EITP contained in Chapter 3 of the Draft EIR/EIS.

Unlike the ISEGS project, the Silver State Solar Project is not considered a "Cumulative Action" under NEPA or part of the "Whole of the Action" under CEQA in the EIR/EIS. As noted above, the decision to recognize the ISEGS project as a "Cumulative Action" under NEPA and as part of the "Whole of the Action" under CEQA was in part based on the timing of the ISEGS environmental review and the signed PPA stating that the ISEGS project would connect to the EITP. Section 1.1.2, "Additional Projects Considered in this EIR/EIS," notes that while other renewable generation projects may connect to the EITP, due the lack of a PPA signed by December 31, 2009 to connect to the EITP, these projects, including the Nextlight Silver State Solar Project, are not considered "Cumulative Actions" or part of the "Whole of the Action." The environmental impacts of these projects were instead discussed in Chapter 5, "Cumulative Scenario and Impacts." Numerous high-voltage transmission lines cross the Ivanpah Valley, many of which may have the capacity to support the interconnection of planned renewable energy in the vicinity; the Silver State Solar Project, for example, has already signed a PPA to provide a portion of its generation to NV Energy. Chapter 5, "Cumulative Scenario and Impacts," has been updated to reflect the information contained in the Nextlight Silver State Solar Project EIS published on April 16, 2010.

0023-2 Purpose and Need

CBD's statement that the project objectives are too narrow lacks support in CEQA case law. Although CEQA regulations and case law caution that the stated "objective" cannot be one and the same as the proposed project, the CEQA case law on this question also suggests that in the case of a project-specific (as opposed to a "Programmatic") CEQA document, the project applicant (here, SCE) is given fairly broad discretion to articulate the "objectives" of the project. See Sierra Club v. County of Napa, 121 Cal.App.4th 1490 (2004). According to the Court in that case, the objective for a proposed project (for CEQA analysis purposes) can generally be determined by the project applicant (with the caveat that the project objective cannot be redundant with the proposed project so as to foreclose consideration of a reasonable range of alternatives).

Moreover, there is substantial evidence provided in the EIR/EIS to support the EITP project objectives, which were developed to (1) attain consistency with all applicable land use plans and (2) meet both federal and state requirements for the generation and delivery of renewable energy. EIR/EIS Section 1.2.2, "Background Information," provides legislative context for both the federal and state Purpose and Need. This section of the Final EIR/EIS has been updated and expanded to include the most up-to-date studies and plans related to renewable energy generation.

The majority of the land in the Ivanpah and Eldorado Valleys comprises public land managed by the BLM; both the proposed EITP and the ISEGS project are allowable uses under applicable BLM management plans. As stated in Section 1.2.4 of the EIR/EIS, the EITP would be consistent with both BLM land use plans applicable to the project: the California Desert Conservation Area (CDCA) Plan of 1980, as amended, and the Las Vegas Resource Management Plan (RMP) of 1998. The CDCA Plan includes an Energy Production and Utility Corridor Element, which designates a regional network of utility planning corridors. Within California, the proposed project would replace an existing ROW within established energy corridors that allow for electrical transmission of 161-kV and above. The project is in conformance with the Las Vegas RMP Record of Decision, which states that all public lands within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for

ROWs under the authority of the Federal Land Policy Management Act. Therefore, the EITP would be in conformance with all applicable land use plans.

The ISEGS project is also allowable under applicable BLM land use plans with a plan amendment, as described in Section 3.9.5 of the EIR/EIS. The ISEGS project would be located on land managed according to the CDCA Plan and designated Multiple-Use Class L (Limited Use). Solar power facilities are an allowable use on land designated Multiple-Use Class L, although the CDCA Plan requires a Plan Amendment to include the power generation facility site as a recognized element of the CDCA Plan. Within Nevada, the Silver State Solar Project would be located on land managed according to the Las Vegas RMP. The Silver State Solar Project would be constructed entirely on BLM-managed lands designated as Open Public Lands; under the Las Vegas RMP, the BLM has the authority to grant rights-of-way on land with this designation.

The EITP Objectives were also developed to meet federal and state requirements regarding renewable energy standards. Both the BLM and the CPUC are subject to policy and legislation requiring them to integrate renewable energy generation sources into the electric transmission grid and to make upgrades and improvements to the electric transmission grid to improve reliability and capacity and relieve congestion. The Energy Policy Act of 2005 (EPAct) requires the Department of the Interior (the BLM is a division of the Department of the Interior) to approve 10,000 MW of renewable energy on public lands. On the state level, the publicly traded utilities operating in California are required under Senate Bill 107 to meet the goal of 20% renewable energy generation by 2010 and under Governor Schwarzenegger's Executive Order S-14-08 to serve 33% of their load with renewable energy by 2020. Refer to Section 1.2.2 of the Final EIR/EIS for additional information on renewable energy generation goals and planning.

On a state level, the EITP would be consistent with planning efforts to facilitate delivery of renewable energy, many of which include considerations of potential environmental effects in analyzing and ranking renewable energy potential. These analyses and reports are described in Section 1.2.2 of the EIR/EIS and consider a number of factors including generation potential, permitting feasibility (e.g., environmental concerns), interconnection points into the grid (e.g., existing transmission infrastructures), and the cost of generation and transmission. The EITP would be located in the Mountain Pass Competitive Renewable Energy Zone (CREZ) and would upgrade a portion of the Mountain Pass line segment group, which provides access to renewable energy in the Mountain Pass CREZ and may improve the power transfer capability between Arizona/Nevada and California (RETI 2010). In addition, sufficient indicators exist—such as environmental reviews, recently approved projects (ISEGS and Silver State, among others), LGIAs, PPAs, ARRA funding, and DOE loan guarantees—to suggest that a number of projects are likely to be approved in the Ivanpah Valley the near future. In order to be timely and meet demand/generation interconnection requirements and contractual agreements, transmission planning must occur in anticipation of needed development. Refer to Section 1.2.2 of the Final EIR/EIS for additional information on renewable energy generation goals and planning.

The issue of addressing other alternatives to the renewable generation projects, including changes to the project footprints, alternative siting, and non-transmission or demand-side alternatives, is discussed below under Alternatives (0023-3).

0023-3 Alternatives

The EITP EIR/EIS analyzes all alternatives that were determined to meet the screening criteria set forth in the Alternatives Screening Report (ASR, Appendix A-1 of the EITP Draft EIR/EIS). Alternatives assessed in the ASR include those proposed by SCE in the Proponent's Environmental Assessment; those suggested by the BLM, the CPUC, and the California Independent Service Operator (CAISO); and those suggested by the public, including agencies and non-governmental organizations, during the scoping process. Further, per BLM policy, a NEPA alternatives analysis is not required for projects located within a designated ROW corridor provided an alternatives

analysis has already been performed in designating the ROW; a portion of the EITP would be located within a Section 368 energy corridor, as described in Section 1.2.2 of this EIR/EIS.
Alternatives, including system alternatives, routing alternatives, and technology alternatives, were assessed in accordance with NEPA and CEQA requirements; 7 of 19 alternatives were carried forward for analysis in the EITP EIR/EIS, including the No Project/No Action alternative. The alternatives screening methodology, which is described in Section 2.1 of the ASR, includes the following three steps: (1) clarify the description of each alternative to allow comparative evaluation, (2) evaluate each alternative in comparison with the proposed project, using CEQA/NEPA criteria, and (3) retain alternatives that meet the CEQA/NEPA criteria and eliminate those that do not. The CEQA and NEPA criteria are described in Section 2.2 of the ASR, consistent with CEQA Guidelines 15126.6 and NEPA Regulations (40 CFR 1502.14); criteria include feasibility and ability to meet the purpose and need. For CEQA, the ASR also considered whether the alternative would avoid or substantially lessen any significant impacts of the project. The scope of the purpose and need, which is listed in Section 1.4.2.1 of the ASR, is addressed under Purpose and Need (0023-2), above.

Two non-transmission system subalternatives are discussed in the ASR but not carried forward for analysis in the EIR/EIS. These subalternatives are discussed in Section 3.2.1 of the ASR and have been expanded in the Final EIR/EIS to clarify the generation potential of non-transmission programs. The revised ASR includes an expanded discussion of an In-Basin Generation Subalternative, which includes the development of in-basin generation, such as new solar, wind, and/or geothermal power plants, instead of developing new and upgraded transmission facilities to interconnect solar generation from the Ivanpah Dry Lake Area, and a Demand-Side Subalternative, which includes demand-side programs such as ultraclean distributed generation and energy efficiency programs as outlined in CPUC Code 1002.3. The In-Basin Generation Subalternative was eliminated because it could potentially result in transmission upgrades on the same scale as EITP; additionally, this subalternative would not meet the project objective to connect renewable resources in the Ivanpah Valley. Additionally, consideration of an in-basin generation alternative would require a programmatic-level environmental analysis that is outside the scope of the EITP EIR/EIS. The Demand-Side Subalternative was eliminated because it would not meet the project objectives of complying with California Senate Bill 1078 and California Senate Bill 107. Additionally, this alternative is considered speculative and technically infeasible.

As discussed in Section 4.4 of the EIR/EIS, the alternative that would result in the least impacts to desert tortoise (besides the No Project Alternative) is the proposed project; no alternatives that met the ASR screening criteria would result in reduced impacts to desert tortoise. As opposed to the routing variations and the telecommunication alternatives, the proposed project would result in the least land disturbance and would maximize the use of existing ROW; therefore, the impacts of the proposed project on desert tortoise would be less than for the alternatives considered in the EIR/EIS. Impacts to desert tortoise are discussed further under Biological Impacts Analysis (0023-4), below.

The EIR/EIS does not include alternatives to the ISEGS project, which is considered part of the "Whole of the Action" under CEQA and a "Cumulative Action" under NEPA. The Mitigated Ivanpah 3 Alternative was approved by the CEC and the BLM on October 5, 2010 and October 14, 2010, respectively. The Final EIR/EIS includes a description of this ISEGS alternative and the impacts of this alternative.

Alternatives to the ISEGS project CBD specifically suggests include designating the area where the ISEGS project is proposed as an ACEC or locating the project within an area of the Ivanpah Valley not occupied by desert tortoise. The area where the ISEGS project is proposed was previously considered but not accepted as an ACEC in the Northern and Eastern Mojave (NEMO) Desert Management Plan Amendment to the CDCA Plan (BLM 2002). CBD also suggests locating the ISEGS project within an area of the Ivanpah Valley not suitable as desert tortoise habitat; the only area of the Ivanpah Valley not suitable for desert tortoise is the dry lake bed, which is not suitable for renewable energy development.

The EIR/EIS does not include an analysis of other Competitive Renewable Energy Zones, such as the Westlands Water District Competitive Renewable Energy Zone, for several reasons. First, transmission and generation sited in other locations within California would not meet the purpose and need of the EITP because it would not allow SCE to connect renewable generation projects in the Ivanpah Valley to the CAISO-controlled grid. Second, the CPUC does not have jurisdiction over generation facilities and, therefore, cannot require alternative siting locations for the ISEGS project in order to assist in its role towards supporting RPS initiatives. Finally, given the California RPS goals, including the 20% by 2010 goal set forth by Senate Bill 107 consistent with the Energy Action Plan and the RPS goal of 33% renewable energy generation by 2020 established by Governor Schwarzenegger's Executive Order S-14-08, development of renewable energy generation in the Westlands Water District Competitive Renewable Energy Zone would not be considered an alternative to the EITP but may be considered in addition to the renewable energy generation proposed in the Ivanpah Valley. As stated in Section 1.2.2 of the EITP EIR/EIS, CPUC jurisdictional load-serving entities, including SCE, obtained approximately 15.4% of their 2009-delivered energy from renewable resources (CPUC 2010), and the CPUC has approved PPAs totaling over 7,000 MW of renewable energy, which would enable CPUC jurisdictional entities to achieve the 20% by 2010 RPS milestone (CAISO 2009). Of this 7,000 MW, approximately 10% is expected to connect to the EITP. Due to the ambitiousness of the RPS and the fact that investor-owned utilities are currently falling short of the RPS goals, all viable renewable generation zones are therefore considered in addition to each other rather than as alternatives to each other.

0023-4 Biological Impacts Analysis

As discussed above in response to Segmentation of Environmental Review (0023-1), the EIR/EIS analyzes the EITP in conjunction with the ISEGS project, which was considered part of the "Whole of the Action" under CEQA and as a "Cumulative Action" under NEPA. The NextLight Silver State Solar Project is not considered part of the Whole of the Action / Cumulative Action because NextLight has not signed a PPA as of December 31, 2009, to connect to the EITP. The combined impact of the Whole of the Action / Cumulative Action (i.e., the EITP and the ISEGS project) are assessed at the end of each resource section; the combined impacts to desert tortoise are assessed in Section 3.4.6 of the Final EIR/EIS. Regarding the adequacy of the analysis of cumulative impacts on desert tortoise, cumulative impacts to desert tortoise are analyzed in Section 5.3.3 of the EIR/EIS. This section included an analysis of impacts to more than 300,000 acres of critical and non-critical desert tortoise habitat and included a review of past, current, and planned projects in both the Eldorado and Ivanpah valleys, including all renewable generation projects with applications on file at the BLM Needles and Las Vegas field offices. CBD has not indicated which, if any, projects were overlooked in analyzing cumulative impacts on desert tortoise.

The CPUC and the BLM also note that some information in Chapter 3.4 of the Final EIR/EIS has been clarified and amplified since the publication of the Draft EIR/EIS. Additional information on biological resources, impacts to these resources, and mitigation measures has been incorporated into the Final EIR/EIS based on surveys completed since the publication of the Draft EIR/EIS. Additionally, clarification of mitigation measures to avoid and/or reduce impacts to bighorn sheep, rare plants, and riparian habitat has been incorporated into the Final EIR/EIS. Mitigation for impacts on biological resources was developed in consultation with BLM staff specialists, CDFG, NDOW, and USFWS.

0023-5 Greenhouse Gas Emissions

Mitigation and off-sets are not required for the proposed project because GHG emissions associated with the project would not exceed the thresholds used in the analysis. The project would cause an increase in GHG emissions estimated at 6,950 metric tonnes (MT) CO_2e during construction and 194 $MTCO_2e$ per year during operation. Although neither the State of California nor the applicable Air Quality Management District (AQMD) has officially adopted a GHG threshold of significance, the CPUC and the BLM have elected to apply a significance threshold of

10,000 $MTCO_2e$ per year, which corresponds to the lowest officially adopted GHG threshold in the State of California (from the South Coast AQMD). Because the GHG emissions associated with both construction and operation of the proposed project would be below the threshold, no mitigation or off-sets were required.

The detailed calculations of GHG emissions for both construction and operation of the project are included in Appendix D of the Draft EIR/EIS. Appendix D also includes a list of assumptions used in determining the GHG emissions associated with the EITP, including one percent annual SF_6 leakage.

Calculation of loss of desert carbon sequestration would be speculative and beyond the scope of this EIR/EIS. The capability of a desert ecosystem to store carbon has not been firmly established. Further, there are no data to suggest that the project would interfere with the current mechanisms of carbon flux in the desert ecosystem.

A lifecycle assessment of GHG emissions associated with the manufacture of transmission towers, conductors, substation components, and other building materials would be speculative and beyond the scope of this EIR/EIS. As stated in the International Organization for Standardization's (ISO's) Environmental Management-Life Cycle Assessment Principles and Framework, "There are no generally accepted methodologies for consistently and accurately associating inventory data with specific potential environmental impacts" (ISO 1997). Furthermore, CEQA guidelines do not require a life-cycle assessment for GHG emissions. In the California Governor's Office of Planning and Research's (OPR's) Final Statement of Reasons for Regulatory Action (2009) that accompanies amendments to the CEQA Guidelines, the term "lifecycle" was removed from the Guidelines because it could create confusion about what is required for such an analysis. As discussed in the Final Statement of Reasons, no existing regulatory definition of "lifecycle" exists, and interpretations of the term vary widely. Additionally, OPR states that requiring lifecycle analysis may not be consistent with CEQA because lifecycle emissions "could include those beyond those that could be considered indirect effects of a project as that term is defined in section 15358 of the State CEQA Guidelines…CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration.…Mitigation can only be required for emissions that are actually caused by the project" (OPR 2009). Therefore, a lifecycle assessment for GHG impacts is not included in the Final EIR/EIS.

Because ISEGS has already undergone environmental review with the CEC and the BLM, this EIR/EIS does not reevaluate the environmental impacts of the ISEGS project. Rather, this EIR/EIS summarizes the findings of the ISEGS environmental documents. In the interest of fully disclosing the environmental impacts of the Whole of the Action / Cumulative Action, this document assesses not only the effects of the EITP but the effects of the EITP combined with the effects of the ISEGS project. For the combined impact of the EITP and ISEGS due to GHG emissions, see Section 3.3.6 of the Final EIR/EIS.

References Cited in Comment Response 0023

California Public Utilities Commission (CPUC). 2010. California Renewable Portfolio Standard. Website: http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm. Accessed September 11, 2010.

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International Organization for Standardization (ISO). 1997. 14040:1997 Environmental Management – Lifecycle Assessment Principles and Framework.

0024 Comment Responses: Powers Engineering

0024-1 Alternatives

Thank you for your comment. Please see response 0023-3.

0025 Comment Responses: Sierra Club

In addition to those responses listed below, please refer to responses to Comment Letter 0023 (CBD) of this Appendix for responses to this comment letter.

0025-1 General

Thank you for your comment. Your comment has become part of the official record.

0025-2 Biological Resources

Please refer to the responses that were prepared to address the comments submitted by the CBD (Comment Letter 0023). The responses to the CBD comments cover the issue raised by this comment.

0025-3 Air Quality

Estimates of emissions from construction activities are summarized in Section 3.3.3.5 of the EIR/EIS. The air quality impacts associated with these emissions are also discussed in this section.

0025-4 Biological Resources

Please refer to the responses that were prepared to address the comments submitted by the CBD (Comment Letter 0023). The responses to the CBD comments cover the issue raised by this comment.

0025-5 Cumulative Impacts

The cumulative impact of the EITP and all planned projects, including renewable projects, in the Ivanpah and Eldorado Valleys are analyzed in Chapter 5 of the Draft EIR/EIS. Cumulative impacts to biological resources, including desert tortoise, are assessed in Section 5.3.3.

0025-6 General

Thank you for your comment. Your comment has become part of the official record.

0026 Comment Responses: Desert Conservation Program

0026-1 Biological Resources

Section 3.4.2.4, which describes the Clark County (Nevada) MSHCP, has been revised to omit the statement that the MSHCP regulates tree removal.

0026-2 Biological Resources

Section 3.4.2.4 has been revised to clarify to fee structure of the MSHCP and the implementation of mitigation measures for a project that impacts non-federal lands protected under the MSHCP.

0026-3 Biological Resources

Section 3.4.2.4 has been revised to clarify the description of the land within the project boundaries that is governed by the MSHCP and that are not directly governed by the MSHCP but are contained within the Clark County MSHCP conservation reserve and are therefore influenced by the MSHCP.

0026-4 Biological Resources

Section 3.4.2.4 has been revised to clarify the description of the BCCE and its relationship to the MSHCP.

0026-5 Biological Resources

Section 3.4.2.4 has been revised to clarify the governing role of the lands included within the MSHCP conservation reserve. The text also clarifies that there is a constant disturbance fee for disturbance to any of the differently managed lands included within the MSHCP conservation reserve.

0026-6 Biological Resources

The text has been revised in the appropriate places to state that the applicant is seeking compliance with the ESA for desert tortoise through the Section 7 consultation process. Therefore, the project will not be trying to achieve compliance with desert tortoise issues through the Clark County MSHCP. The following are the sections in which the text has been revised in order to clarify the consultation process.

Section 3.2.2.4 Regional and Local (under the MSHCP section)
Section 3.4.3.5 Proposed Project/Proposed Action (under the desert tortoise section and CEQA significance section)
Section 3.4.3.7 Transmission Alternative Route A
Section 3.4.3.8 Transmission Alternative Route B
Section 3.4.3.9 Transmission Alternative Route C
Section 3.4.3.10 Transmission Alternative Route D and Subalternative E
Section 3.4.4 Mitigation Measures

0026-7 Biological Resources

Thank you for providing the information regarding the ROW application process involving the City of Boulder and Clark County. Text has been added to relevant mitigation measures that includes Clark County as recipients of any consultation records.

0026-8 Biological Resources

Section 3.4.4 was revised to reference MM LU-1 and MM HAZ-1 which will ensure that project implementation, including all Applicant Proposed Measures, to be enacted within the boundary of the BCCE would be consistent with the terms and conditions outline within the BCCE agreement. These measures will ensure that biocide and/or herbicide use within the BCCE will go through compliance discussions with the City of Boulder City (i.e., will be approved by USFWS).

0026-9 Biological Resources

Section 3.4.4 was revised to reference MM LU-1 and MM HAZ-1 which will ensure that project implementation, including all Applicant Proposed Measures, to be enacted within the boundary of the BCCE would be consistent with the terms and conditions outline within the BCCE agreement. These measures will ensure that biocide and/or herbicide use within the BCCE will go thru compliance discussions with the City of Boulder City (i.e., will be approved by USFWS).

0026-10 Biological Resources

MM BIO-2 and MM BIO-3 were added to further mitigate the impacts to the existing vegetation communities beyond the proposed restoration activities outlined by the applicant.

0026-11 Biological Resources

Section 3.4.3.5 has been added to expound upon impact analysis to the BCCE, in regard to potential impacts by noxious weeds. BCCE analysis was included under “Vegetation” and “Areas Requiring Special Management Consideration.”

0026-12 Biological Resources

Section 3.4.3.5 has been added to expound upon impact analysis to the BCCE, in regard to potential impacts to wildlife species from the loss and degradation of wildlife habitats. BCCE analysis was included under “Wildlife” and "Areas Requiring Special Management Consideration.”

0026-13 Biological Resources

A footnote has been added to Table 3.4-6 to indicate that although Alternative A route has less acreage within desert tortoise critical habitat than the Proposed Route. Alternative A would be new disturbance (as opposed to the Proposed Route) as it would require a new ROW.

0026-14 Biological Resources

This statement has been revised in the Final EIR/EIS to reflect potential impacts from the project on the MSHCP and BCCE based on new analysis provided in the document and from the reviewer's comment.

0026-15 Biological Resources

As noted in the response to 0026-6, the text has been revised to state that the applicant will seek ESA compliance for desert tortoise impacts through the Federal Section 7 process and not through the MSHCP

0026-16 Land Use

Language has been amended throughout Section 3.9, "Land Use," based on the recent amendment to the BCCE agreement on August 24, 2010.

0026-17 Land Use

Language has been amended throughout Section 3.9, "Land Use," based on the recent amendment to the BCCE agreement on August 24, 2010.

0026-18 Land Use

Language has been amended throughout Section 3.9, "Land Use," based on the recent amendment to the BCCE agreement on August 24, 2010.

0026-19 Land Use

Language has been amended throughout Section 3.9, "Land Use," based on the recent amendment to the BCCE agreement on August 24, 2010. Additionally, the Worker Environmental Awareness Program training required in MM HAZ-1 has been expanded to include training for best management practice included in the BCCE agreement.

0026-20 Recreation

Language has been added to the BCCE discussion to clarify that vehicular travel is limited within the area.

0026-21 Cumulative Impacts

The BCCE and other areas funded by the DCP are not included as Special Management Areas (SMAs) because SMA refers to areas of land under management of the BLM, such as ACECs or DWMAs. However, the Draft EIR/EIS does consider impacts to the BCCE and assesses whether the project would conflict with the MSHCP. As discussed in Section 3.4, the list of special-status species in Nevada includes those species protected under the MSHCP. Additionally, as discussed in both Sections 3.4 and 3.9, SCE is required to consult with the DCP and Boulder City on appropriate fee-based compliance with the MSHCP and any other mitigation that might be required to avoid

biological impacts through conflict with the MSHCP. Because the applicant would be required to consult with both the DCP and Boulder City on this issue, there would be no impact on the MSHCP.

0026-22 Cumulative Impacts

A description of mitigation activities has been added to Section 5.2.1.2.

0026-23 Alternatives

Resolution on legal jurisdictions for the federal utility corridors within the BCCE easement has not been resolved between the BLM and Clark County. We understand this is a continuing discussion, and that the Final EIR/EIS does not reflect the final determination.

0026-24 Alternatives

Thank you for your comment. It is noted that Clark County prefers the Proposed Project route to Alternative A or B, and further would prefer Alternative A over Alternative B.

0026-25 General

All project information relating the environmental review process is located on the CPUC's website for this project: http://www.cpuc.ca.gov/Environment/info/ene/ivanpah/Ivanpah.html. The FEIR/FEIS includes additional mitigation related to the BCCE in MM HAZ-1, MM LU-1, MM BIO-12, and MM BIO-18.

0027 Comment Responses: California Department of Fish and Game

0027-1 Biological Resources

There are no barn owl roosts in the proposed project area.

Impacts on desert tortoise are assessed in Section 3.4.3.5, and mitigation specific to desert tortoise is listed under MM BIO-12. Impacts on burrowing owl are assessed in Section 3.4.3.5, and mitigation specific to burrowing owl is listed under MM BIO-16.

0027-2 Biological Resources

Thank you for your comment. Impacts on desert tortoise are assessed in Section 3.4.3.5 and mitigation specific to desert tortoise is listed under MM BIO-12.

0027-3 Biological Resources

The WEAP is included as an Applicant Proposed Measure and is considered a supplemental plan to ensure that construction workers understand and are aware of issues related special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. The Applicant would still

be subject to all the restrictions, procedures and requirements included in all biological mitigation measures, and an independent biological monitor would ensure that these measures are followed.

0027-4 Biological Resources

MM BIO-15, which supercedes the Applicant Proposed Measures including APM BIO-7, addresses activities around active raptor nest and states: "Active bird nests will not be moved during breeding season, unless the project is expressly permitted to do so by the USFWS, BLM, CDFG, or NDOW depending on the location of the nest."

0027-5 Biological Resources

The invasive species mitigation plan was not finalized by the applicant by the time the Final EIR/EIS was completed. MM BIO-4 requires the applicant to model the Invasive Plant Management Plan on the BLM Las Vegas Office Draft Weed Plan. Since the invasive species mitigation plan was not finalized before the Final EIR/EIS, construction will not be allowed to commence until the plan is approved by both California and Nevada agencies and by CPUC. Additionally, the final Plan of Development required by BLM must contain a Weed and Invasive Species Plan. Any ROW grant approved for the project would contain a provision that the holder would have to follow the POD.

0027-6 Biological Resources

MM BIO-4: Model Invasive Plant Management Plan on the BLM Las Vegas Office Draft Weed Plan already requires CDFG approval. The following is text that is included in this MM: "The plan will be submitted to both the California and the Nevada resource agencies and to the CPUC for approval prior to construction authorization."

0027-7 Biological Resources

MM BIO-12: Desert Tortoise Impacts Reduction Measures includes the following requirement: Construction monitoring will employ a designated field contact representative, authorized biologist(s), and qualified biologist(s) approved by the USFWS, NDOW, and CDFG during the construction phase of the project.

0027-8 Biological Resources

MM BIO-12: Desert Tortoise Impacts Reduction Measures includes the following text: Authorized biologists will handle desert tortoises following the most current Desert Tortoise Council handling guidelines (2009 or newer).

0027-9 Biological Resources

MM BIO-12: Desert Tortoise Impacts Reduction Measures includes the following text: Qualified and/or authorized biologists will monitor all construction activities year-round in desert tortoise habitat, regardless of the time of year or weather conditions, as tortoises are often active outside their “active” season.

0027-10 Biological Resources

MM BIO-12: Desert Tortoise Impacts Reduction Measures includes the following text: Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors. These reports will be submitted to the authorized biologist on a daily basis and to the CFR on a weekly basis (at minimum). The authorized biologist will notify the CFR within 24 hours of any action that involves harm to a desert tortoise, or involves a blatant disregard by construction personnel for the APMs or MMs designed to minimize impacts on desert tortoise or other wildlife. The authorized biologist will submit to the USFWS, NDOW, CDFG, and CPUC a summary of all desert tortoises seen, injured, killed, excavated, and handled at the end of the project or within 2 working days of when desert tortoises are harmed.

If a desert tortoise is injured as a result of project-related activities, it shall be immediately taken to a CDFG-approved wildlife rehabilitation or veterinary facility. The applicant shall identify the facility prior to the start of ground- or vegetation-disturbing activities. The applicant shall bear any costs associated with the care or treatment of such injured covered species. The applicant shall notify CDFG of the injury immediately unless the incident occurs outside of normal business hours. In that event CDFG shall be notified no later than noon on the next business day. Notification to CDFG shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident and the name of the facility where the animal was taken.

0027-11 Biological Resources

MM BIO-12 addresses the replacement of desert tortoise habitat and states: "The applicant cannot begin construction until issuance and acceptance of the USFWS Biological Opinion, the CDFG 2081 permit, and NDOW authorization. Additionally, compliance discussions with Clark County and Boulder City must occur prior to construction that resolve and outline the specific compensation fees or additional mitigation measures needed for loss of desert tortoise habitat. A copy of the USFWS Biological Opinion and documentation of any compliance discussions with Clark County and Boulder City will be provided to the CPUC.

0027-12 Biological Resources

MM BIO-13: Desert Bighorn Sheep Impacts Reduction Measures includes the following text: Conduct preconstruction survey for desert bighorn sheep within suitable bighorn sheep habitat within 1 week prior to construction activities in the McCullough Range, Clark Mountain Range, and the southern portion of the Eldorado Valley between the Highland Range and the Southern McCullough Range. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California.

Conduct biological monitoring by a qualified biologist for desert bighorn sheep during duration of construction within suitable bighorn sheep habitat. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California. If bighorn are found to be within 500 feet of construction activities, construction in that area will be stopped until the sheep vacate the project area.

0027-13 Biological Resources

APM BIO-14 already states that the NDOW 2005 protocols are applicable for the Gila monster in both the Nevada and California sections of the project, and applicable for the chuckwalla in the Nevada section of the project. A new mitigation measure has been added to state that locations of Gila found within the project area will be reported to the CDFG.

0027-14 Biological Resources

The status was updated to include FPS for Nelson's desert bighorn sheep. The exception in the protection for Nelson's bighorn sheep as outlined by CDFG Code Section 4902 was also included in the table.

0027-15 Biological Resources

The status of the burrowing owl was updated to acknowledge that the species is a CA Species of Special Concern.

0027-16 Biological Resources

The status of the Gila monster was update to acknowledge that the species is a CA Species of Special Concern.

0027-17 Biological Resources

The text was revised to state: A project applicant is responsible for consulting with the CDFG, if applicable, to preclude activities that are likely to take any CESA-listed threatened or endangered species then an Incidental Take Permit (CDFG Code Section 2081) will be required.

0027-18 Biological Resources

The text was revised to include:

Fish and Game Code §3503.5
This section prohibits the taking and possession of eggs or nest of any bird classified as a Falconiformes or Strigiformes (birds-of-prey), except as otherwise provided by this code or subsequent regulations. The administering agency is the CDFG.

0027-19 Biological Resources

This comment has already been addressed in response to comment 0027-4, which addresses activities around the sites of raptor nests.

0027-20 Biological Resources

Section 3.4.4 has been revised to include CDFG as one of the agencies that is required to review and approve the Reclamation, Restoration, and Revegetation Plan.

0027-21 Biological Resources

Section 3.4.4 has been revised to include CDFG as one of the agencies that is required to review and approve the Mitigation and Monitoring Plan.

0027-22 Biological Resources

Section 3.4.4 has been revised to require that all trenches and/or holes are monitored a minimum of three times during the summer months.

0027-23 Biological Resources

It is not clear whether this comment applies only to MM BIO-9 and desert tortoise, or to vegetation impacts in general. We will assume it is relevant to vegetation removal.

MM BIO-3: Special-Status Plants Restoration and Compensation states that the CDFG will likely require land compensation and enhancement and endowment fees for the project in addition to restoration. We will revise this statement to reflect the actual ratios requested by the commenting agency.

0027-24 Biological Resources

The statement has been removed from the text.

0027-25 Biological Resources

Section 3.4.4 has been revised to include the Clark Mountain Range as part of the proposed project area that will require preconstruction surveys. The text also states that all sighting in California will need to be reported to CDFG.

0027-26 Biological Resources

Section 3.4.4 has been revised for the American badger mitigation measures to include:

During the spring months when young may be present in burrows, burrows must be checked for young before the installation of the one-way trap door. If young are present during relocation efforts, all work will stop until the young have fledged.

0027-27 Biological Resources

The status of Nelson's bighorn sheep has been updated in Table 3.4-7 to reflect Fully Protected classification by the State of California.

0027-28 Biological Resources

The CNDDB does not show occurrences of listed fairy shrimp within the Ivanpah Dry Lake or valley vicinity in California. Listed fairy shrimp are also not shown on occurrence lists in the Nevada portion of the project area by the Nevada Heritage Program nor the USFWS. Fairy shrimp have been added to Tables 3.4- 4 and 3.4-5, and a section added into the environmental setting on potential for occurrence. However, as there are no known occurrences in the area, a further impact assessment of fairy shrimp within the project area was not added to the Final EIR/EIS.

0027-29 Water Quality and Hydrology

CDFG Code 1600-1603 has been added to Section 3.8.2.2 under "Statutes and Regulations."

0027-30 Water Quality and Hydrology

MM W-4 has been updated to state that CDFG would review the Plan.

0027-31 Water Quality and Hydrology

This comment refers to the ISEGS project summary. ISEGS information is summarized from the CEC and BLM ISEGS analyses and has been added to the EIR/EIS for disclosure purposes only.

0027-32 Cumulative Impacts

Both projects have been added to Table 5-1.

0027-33 Cumulative Impacts

The CalTrans Joint Point of Entry project has been added to Table 5-5.

0027-34 Cumulative Impacts

The introductory paragraph in 5.3.3.4 states that the environmental documentation for First Solar Development has not been published; thus, there is currently no specific quantitative data available for this project. Therefore, analysis for cumulative impacts does not include the First Solar proposed project. No changes made to the document.

0027-35 Biological Resources

Your comment has been noted.

0027-35 Biological Resources

It is noted that the CDFG concurs with the Final EIR/EIS assessment that the Whole of the Action (EITP and ISEGS) will result in major and considerable cumulative impacts to special status plants.

0027-36 Biological Resources

This statement will be added to Section 6 to include unavoidable significant impacts to special status plants.

JIM GIBBONS
Governor

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June 22, 2010

NDOW-SR # 10-312
SAI#: E2010-195

Monisha Gangopadhyay/Tom Hurshman
CPUC/BLM
Eldorado-Ivanpah Transmission Project
c/o Environment and Ecology, Inc.
130 Battery Street, 4th Floor
San Francisco, CA 94111

Re: Draft Environmental Impact Report/Environmental Impact Statement – Southern California Edison's Eldorado-Ivanpah Transmission Line Project (DEIS)

Dear Ms. Gandopadhyay and Mr. Hurshman:

The Nevada Department of Wildlife (Department) appreciates this opportunity for providing review. Overall, the Department supports the preferred alternative for the Nevada portion of the transmission upgrade. Mindful of this, certain aspects of the proposed project are deserving of additional comment.

Department biologists evaluated the proposed project's effects on desert bighorn sheep. The situation poses two biologically important considerations. The first is disruption of lambing activity at a known site in McCullough Pass to which mitigation measure MM-BIO 13 addresses. The second consideration is that of summer habitat use patterns. Summer is the most critical period for desert bighorn utilizing the McCullough Pass area as their movements become spatially restricted by their dependence on water at the wildlife water development north of the pass (35°46'42.38"N / 115° 09'24.98"W) and, at times, the natural water pocket south of the pass (35°43'21.50"N / 115° 8'3.13"W). In this case, avoiding added stress to bighorn sheep during the critical summer season assumes priority. We believe sufficiently remote, precipitous terrain is available both north and south of the McCullough Pass affording short-term alternative lambing locations. And because of the nature and duration of the proposed construction activities presented, there is little chance of long term negative impacts to lambing habitat use. The Department's request is for no helicopter work taking place in McCullough Pass during the summer season, June 1st through September 30th. 0012-1

Another aspect regarding bighorn sheep is that the hunting season will take place from November 20, 2010, through December 20, 2010. In view of the once in a lifetime opportunity for hunters, the Department requests: 0012-2

- The Pass's southern right-of-way road remain open for public access during construction; and,
- The Department is apprised in timely fashion of road closures during the hunting season, so hunt tag-holders may be notified for their trip planning needs and conflicts avoided.

Desert tortoise mitigation measures contained in the DEIS should also provide adequate protection with perhaps one outstanding consideration. To lesson indirect negative effects to the desert tortoise and other wildlife populations from artificially enhanced avian predation, the Department requests that this project and future transmission projects incorporate non-lattice tower designs. In view that the ROW already contains lattice transmission structures, installing additional such structures only broadens choices for birds to select loafing or nesting sites. Tubular structures such as a monopole, H or V tubular design is preferred when horizontal features include effective perching discouragers or deterrents. Lattice style structures provide too many perching and nesting opportunities for effective elimination. Expanded discussion may benefit the DEIS. 0012-3

Rationale for this request come from industry assertions and conservation research related to the influences of transmission structures on wildlife resources. It is widely noted that birds of prey and opportunists like the common raven have benefited from transmission structures when designs minimize or eliminate collision and electrocution potentials. The result is safe perching, roosting and nesting sites enabling opportunity for these birds to expand their distribution, especially into areas where natural structure is scarce. Additional to these physical attributes, transmission structures allow adoption of an energy saving foraging habit; avoiding the rigors of flight while searching for prey from a high-vantage point in an open landscape. The energetic economy provided by artificial structure contributes positively to an individual bird's self-maintenance and reproductive potential; albeit a consequence is increased predation pressure on local species. It is well documented that raptors and the common raven prey on young desert tortoises.

Should the benefits of tubular designs not become incorporated into project design, two mitigation actions would need to be put into effect to provide protection for desert tortoise and similarly vulnerable wildlife. 0012-4

- Raven nests would need to be removed during the nesting season to prevent production of a successful nest and brood. This action will need to be coordinated with the U.S. Fish and Wildlife Service and may require the application and use of a depredation permit.
- In order to offset structure use for roosting and perching, the project proponent would contribute annually to an existing account used by Wildlife Services to provide for raven control. Removal of ravens compensates for use of the powerline for as long as the line is present or until such time that it can be determined to no longer present a concern. Control efforts would need to occur during tortoise nesting and when young are present.

Lastly, incorporation of the Department's protocols for encounters with the Gila monster should be incorporated into worker education and project monitoring. The protocols can be found online at http://www.ndow.org/wild/conservation/reptile/07Gila_Protocol.pdf. 0012-5

Thank you again for this input opportunity. The Department looks forward to gaining further insights and engaging in additional productive discussion on the proposed gather prior to finalization of the EA. Please contact Craig Stevenson 486-5127 x3614 (e-mail: cstevenson@ndow.org) to address this review or for further assistance.

Sincerely,

D. Bradford Hardenbrook
Supervisory Habitat Biologist

SS/CS:cs

Cc: NDOW, Files
Nevada State Clearinghouse

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Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maziar Movassaghi
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Arnold Schwarzenegger
Governor

June 7, 2010

Ms. Monisha Gangopadhyay, EIR Manager
California Public Utilities Commison
Eldorado-Ivanpah Transmission Project
130 Battery Street, 4th Floor
San Francisco , California 94111

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL IMPACT STATEMENT FOR THE ELDORADO-IVANPAH PROJECT (SCH# 2009071091), SAN BERNARDINO COUNTY

Dear Ms. Gangopadhyay:

The Department of Toxic Substances Control (DTSC) has received your submitted draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS) for the above-mentioned project. The following project description is stated in your document: "Southern California Edison is proposing to develop the Eldorado-Ivanpah Transmission Project (EITP) in order to provide transmission of power generated by several solar power projects proposed for Ivanpah Valley. The Project will include replacement of the existing Eldorado-Coolwater-Dunn Sliding 115 kilo volt (kV) transmission line with a new double circuit 220 kV line between a new substation at the existing Eldorado Substation (Nevada) and another new substation, Ivanpah Substation (California) ("Proposed Route"). The Proposed Route extends for approximately 35 miles from the Eldorado Substation in Clark County, Nevada, to the proposed Ivanpah Substation in San Bernardino County, California. The EITP is located within the Eldorado and Ivanpah valleys in southern Clark County, Nevada, and in the southeastern California. The Project would cross public and private owned lands. The Project would be located primarily on lands managed by the Bureau of Land Management (BLM). The proposed Project is to interconnect and deliver up to 1,400 megawatts (MW) of solar energy".

Based on the review of the submitted document DTSC has the following comments:

1) The EIR/EIS should evaluate whether conditions within the Project Area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies: 0013-1

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
- Envirostor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

2) The EIR/EIS should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. 0013-2

3) Any environmental investigations, sampling and/or remediation for a site within the Project Area should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, 0013-3

certification or remediation approval reports by regulatory agencies should be included in the EIR.

4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. 0013-4

5) Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. 0013-5

6) Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. 0013-6

7) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. 0013-7

8) If during construction/demolition of the Project Area, the soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. 0013-8

9) If a site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project. 0013-9

10) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

If you have any questions regarding this letter, please contact me at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,

Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov.

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
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ADelacr1@dtsc.ca.gov

CEQA # 2908

Mojave Desert Air Quality Management District
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • fax 760.245.2699
Visit our web site: http://www.mdaqmd.ca.gov
Eldon Heaston, Executive Director

April 29, 2010

Monisha Gangopadhyay / Tom Hurshman
CPUC/BLM
c/o Ecology and Environment, Inc.
130 Battery Street, 4th Floor
San Francisco, CA 94111

Project: Draft Environmental Impact Report/Environmental Impact Statement, Eldorado-Ivanpah Transmission Project

To whom it may concern:

The Mojave Desert Air Quality Management District (District) has received the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS), Eldorado-Ivanpah Transmission Project (EITP). The project would upgrade approximately 35 miles of existing single-circuit 115-kV subtransmission line to double-circuit 230-kV transmission line between the Ivanpah Dry Lake area and the existing Eldorado Substation, construct a new substation (Ivanpah Substation), install upgrades within the existing Eldorado Substation, and install a redundant telecommunications path between the Ivanpah and Eldorado Substations. The redundant telecommunications path would be strung along the existing 500-kV Eldorado-Lugo transmission line for approximately 25 miles before it would be installed in a new underground duct for approximately 5 miles along the northern edge of Nipton Road to a new microwave tower outside Nipton, CA. The EITP would be located in Clark County, NV and San Bernardino County, CA near Primm, NV.

The District has reviewed the DEIR/EIS, and concurs with the Mitigation Measures to control fugitive dust emissions developed for the proposed project discussed in the Air Quality Analysis. 0014-1

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

Alan J. De Salvio
Supervising Air Quality Engineer

TW/AJD Eldorado-Ivanpah Transmission DEIR-EIS.doc

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STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING AND LOCAL ASSISTANCE (MS 722)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4557
FAX (909) 383-5936
TTY (909) 383-6300

Flex your power!
Be energy efficient!

June 14, 2010

Mr. Tom Hurshman
Ecology and Environment, Inc.
130 Battery Street, 4th Floor
San Francisco, CA 94111

Dear Mr. Hurshman:

Eldorado-Ivanpah Transmission Project
SCH: 2009071091
08-SBD-15-PM 181.396

The California Department of Transportation (Caltrans) has reviewed the Environmental Analysis Topic 3.14, Traffic and Transportation, found within the Draft Environmental Impact Report/Environmental impact Statement (EIR/EIS) for the proposed Eldorado-Ivanpah Transmission Project.

At this point, we do not have any comments pertinent to the materials provide for our review. If this proposal is later revised in any way, please forward appropriate project information to this Office so that updated recommendations for impact mitigation may be provided. 0015-1

We appreciate the opportunity to offer our comments concerning this project. If you have any questions regarding this letter, please contact David Lee at 909-383-6908 or me at 909-383-4557.

Sincerely,

DANIEL KOPULSKY
Office Chief
Community Planning/Local Development Review
Division of Planning

cc: Theresa Sasis, Operations C, Caltrans District 08
Monisha Gangopadhyay, CPUC/BLM, 505 Van Ness, San Francisco, CA, 94102
Jennifer Bouda, Ecology and Environment, Inc., 130Battery Street, 4th Flr, San Francisco, CA 94111

BrightSourceEnergy™

June 21, 2010

Monisha Gangopadhyay, Project Manager
California Public Utilities Commission

Tom Hurshman, Project Manager
U.S. Bureau of Land Management

c/o Ecology and Environment, Inc.
130 Battery Street, Suite 400
San Francisco, CA 94111

Re: Comments on the Draft Environmental Impact Report/Environmental Impact Statement for the Eldorado-Ivanpah Transmission Project

Dear Ms. Gangopadhyay & Mr. Hurshman,

On behalf of Solar Partners I, LLC, Solar Partners II, LLC and Solar Partners VIII, LLC, wholly-owned subsidiaries of BrightSource Energy, Inc. (hereinafter collectively "BrightSource"), we offer the following comments on the Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) for the Eldorado-Ivanpah Transmission Project (EITP). As you know, BrightSource is the Applicant for a right-of-way needed for the Ivanpah Solar Energy Generating System (ISEGS) project currently under review by the U.S. Bureau of Land Management (BLM). BrightSource wishes to express its support for the EITP, and urges the Bureau and the California Public Utilities Commission to promptly complete their review and approval of the project. BrightSource also appreciates this opportunity to comment on the Draft EIR/EIS, and provides comments below on two issues raised in that document that relate to the ISEGS project: the connected action analysis and the description of the ISEGS project utilized as part of the EITP "cumulative action" analysis.

Connected Action

BrightSource has consistently demonstrated throughout the development of the ISEGS DEIS and SDEIS that the ISEGS project and the EITP project are not connected actions for the purposes of NEPA. BrightSource has consistently stated that the ISEGS project would proceed with or without the EITP. However, certain statements made in the EITP Draft EIR/EIS fail to properly characterize this issue. 0016-1

The EITP Draft EIR/EIS states on page 2-36 that the ISEGS project "at full build-out would be dependent on the EITP because the existing transmission line without the EITP proposed line and substation upgrades would provide insufficient transmission capacity for the power generated by all phases of the ISEGS project… ." While it is true that the existing Southern California Edison Company (SCE) line 0016-2

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Email: AHaubenstock@brightsourceenergy.com • Website: www.brightsourceenergy.com

would not provide sufficient capacity by itself for all phases of the ISEGS project, other transmission options exist for the project, as BrightSource has consistently stated, and as discussed further below. The Draft EIR/EIS does goes on to state that the EITP project is not a "connected action" to the ISEGS project because EITP can operate without and does not need ISEGS in order to be a viable project. The implication of these statements, taken together, is that while EITP does not need to consider ISEGS as a connected action, the ISEGS project should consider the EITP as a connected action. However, since the conclusion that ISEGS at full power is dependent upon the transmission line and substation upgrades contemplated by the EITP is incorrect, this implication is also incorrect.

As noted in our comments filed on the ISEGS Supplemental DEIS, dated June 1, 2010, the ISEGS project is not dependent upon the EITP project in order to operate at full power. In those comments, BrightSource stated as follows:

> The Applicant [BrightSource] has been very clear in stating that full implementation of its project [ISEGS] does not depend upon this transmission line upgrade, as other options, including the utilization of existing transmission located to the north of the ISEGS, exist. (June 1, 2010, Comment at 10)

Our comment further expressed disagreement with the statements in the EITP Draft EIR/EIS that indicate that ISEGS is dependent upon the EITP upgrades. The June 1, 2010, comment continues as follows:

> The Applicant [BrightSource] disagrees with the statements in the EITP DEIS that the full utilization of power from the ISEGS requires the EITP upgrades. While the transmission line upgrades proposed by the EITP are needed for Southern California Edison to accommodate power generated by all the possible and planned renewable energy production facilities in the southern California desert area, the upgrades are not necessarily required to implement the ISEGS project, and in any event, for the ISEGS project to become operational, transmission line upgrades at the scale proposed by the EITP are not needed. (June 1, 2010, Comment at 11)

The Final EIR/EIS issued for the EITP should correctly note that ISEGS does not depend upon construction of the EITP in order to operate at full capacity. 0016-3

ISEGS Project Description

Throughout the EITP Draft EIR/EIS, the ISEGS is treated as a "cumulative action." While BrightSource has asserted in the June 1, 2010, comments on the ISEGS SDEIS that the ISEGS and EITP projects need not be treated as cumulative actions, we acknowledged that the ISEGS Final EIS could reference or incorporate directly an analysis of the cumulative impacts analysis of the EITP that was made part of the proceedings before the California Energy Commission (CEC) relating to the ISEGS project, and which were provided to the public as part of the joint DEIS/ Final Staff Assessment for the ISEGS project.

BrightSource recommends that the cumulative actions analysis contained in the EITP Final EIR/EIS reflect impacts of the Mitigation Ivanpah 3 Alternative, which was addressed in the Ivanpah SDEIS. The Mitigated Ivanpah 3 Alternative has been recommended for approval by the CEC staff, and has the full support of BrightSource. As demonstrated in our June 1, 2010, comments on the Ivanpah SDEIS, the Mitigated Ivanpah 3 Alternative would: 0016-4

- Reduce the footprint of the third Ivanpah plant by 23 percent, avoiding the area identified by environmental groups during the CEC proceedings and the DEIS public comment period as posing the greatest concern.
- Reduce the footprint of the overall Ivanpah project by about 12 percent.
- Reduce expected desert tortoise relocations by approximately 15 percent (based on previous protocol surveys of the project site; the actual number will depend on where tortoises are at the time they are relocated).
- Avoid the area identified as having the highest rare plant density.
- Reduce the number of towers at the third Ivanpah plant from five to one; reduce overall number of towers at the Ivanpah project from seven to three.
- Reduce the potential maximum number of heliostats by about 40,000.
- Avoid the area that would have required the most grading and large rock removal in the solar fields.
- Leave the largest natural stormwater features (washes) in the northern portion of the site intact.

0016-4
Continued

Clearly, to the extent that the EITP Draft EIR/EIS considers the ISEGS a "cumulative action," the BLM should take care to ensure that the description of the likely impacts from the ISEGS project reflect the Alternative that now represents the ISEGS Applicant's preferred project. A full description of the Mitigated Ivanpah 3 Alternative can be found in the ISEGS SDEIS at pages 8-21. A full analysis of the reasonably foreseeable impacts of the Mitigated Ivanpah 3 Alternative can be found in the ISEGS SDEIS at pages 24 – 103. BrightSource urges BLM to adopt the Mitigated Ivanpah 3 Alternative as the "cumulative action" considered in the EITP Final EIR/EIS.

BrightSource appreciates this opportunity to provide its comments on the Draft EIR/EIS. The EITP would provide a beneficial contribution to a robust transmission system, increasing the capability to deliver renewable energy and contributing to federal and state clean energy goals. We support the EITP, and again urge its prompt approval by the Bureau and the California Public Utilities Commission.

Sincerely,

/s

Arthur L. Haubenstock

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

6/21/2010

Tom Hurshman
Bureau of Land Management
c/o Ecology and Environment, Inc.
130 Battery Street, Suite 400
San Francisco, CA 94111

Subject: Draft Environmental Impact Statement (DEIS) / Environmental Impact Report, Southern California Edison's Eldorado-Ivanpah Transmission Line Project, San Bernardino County California and Clark County Nevada, April 2010 (CEQ# 20100164)

Dear Mr. Hurshman:

The U.S. Environmental Protection Agency (EPA) has reviewed the above project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as solar power can help the nation meet its energy requirements while minimizing the generation of greenhouse gases. While we acknowledge the need for transmission of renewable energy from in and around the Ivanpah Valley, we are concerned about the project's compliance with Section 404 of the Clean Water Act. We have enclosed our detailed comments, which also describe our concerns about water resources, biological resources and alternatives. Based on our review, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions." 0017-1

We appreciate the opportunity to review this DEIS and look forward to continued coordination with the Corps and the Port. When the FEIS is published, please send a copy to the address above (Mail Code: CED-2). If you have any questions, please contact Tom Kelly, the lead reviewer for this project, at (415) 972-3856 or kelly.thomasp@epa.gov, or me at (415) 972-3521.

Sincerely,

Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating System
EPA's Detailed Comments

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SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

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US EPA DETAILED COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT SOUTHERN CALIFORNIA EDISON'S ELDORADO-IVANPAH TRANSMISSION LINE PROJECT

Clean Water Act Section 404

Section 404(b)(1) Guidelines

The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of waters of the United States (WUS, or jurisdictional waters). These goals are achieved, in part, by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. Pursuant to Section 404 of the CWA, discharge of dredged or fill material to WUS requires a permit issued by the Corps. If a permit is required, EPA will review the project for compliance with the *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230) (Guidelines), promulgated pursuant to Section 404(b)(1) of the CWA. The burden to demonstrate compliance with the Guidelines rests with the permit applicant. 0017-2

> **Recommendation:**
> Discuss and demonstrate compliance with the Guidelines in the Final Environmental Impact Statement (FEIS).

Geographic Extent of Waters of the United States

EPA is concerned about the potential adverse impact to aquatic resources that could result from the proposed project. The DEIS states, in Table 1-2, that a Clean Water Act 404 Permit may be necessary for the discharge of dredged or fill material into jurisdictional waters. Since the proposed project impacts Ivanpah Dry Lake, which is a WUS, it would appear to require a 404 permit. A formal jurisdictional delineation of the full extent of WUS on the project site has not yet been completed, or verified by the U.S. Army Corps of Engineers (Corps). 0017-3

> **Recommendation:**
> EPA strongly encourages BLM to include the results of a jurisdictional determination in the FEIS. A jurisdictional determination must be performed by the Corps. Additionally, the FEIS should list the acres of jurisdictional waters impacted by each alternative.

Analysis of Alternatives – 40 CFR 230.10(a)

In order to comply with the Guidelines, the applicant must comprehensively evaluate a range of alternatives to ensure that the *"preferred"* alternative is the *Least Environmentally Damaging Practicable Alternative* (LEDPA). Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, indirect, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. Only when this analysis has been performed can the applicant and the permitting authority be assured that the selected alternative is the LEDPA (40 CFR 230.10(a)). 0017-4

EPA was pleased to see consideration of an alternative that avoids the known WUS, Ivanpah Dry Lake; however, it cannot be determined whether that alternative is the LEDPA without a Corps' delineation of the geographic extent of jurisdictional waters. 0017-4 Cont.

Recommendation:
The FEIS should consider sufficient analyses of the alternatives to identify the LEDPA. These analyses should consider changes to the preferred alternative or application of mitigation measure that could reduce the environmental impacts. The DEIS should also contain sufficient detail to allow for meaningful comparison between alternatives.

Mitigation of Potential Adverse Impacts

Pursuant to the Guidelines, mitigation of project impacts begins with the avoidance and minimization of direct, indirect, and cumulative impacts to the aquatic ecosystem, followed by compensatory measures if a loss of aquatic functions and/or acreage is unavoidable. Compensatory mitigation is, therefore, intended only for unavoidable impacts to jurisdictional waters after the LEDPA has been determined. For this reason, it would be premature to examine in detail any mitigation proposal before compliance with 40 CFR 230.10(a) is established. 0017-5

Recommendations:
Include in the FEIS a mitigation plan for unavoidable impacts to waters of the United States, as required by Corps and EPA regulations.

Water Resources

Impacts to Ephemeral Streams

Ephemeral streams or natural washes perform diverse hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapt to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems: adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species.

The DEIS uses the term intermittent stream in describing hydrology, which is consistent with Figure 3.8-1. However, the DEIS uses different terms (ie. flowing stream channels and active drainage channels) to discuss applicant proposed mitigation measures #1, 3 and 5. The relationship between these terms, and the extent of the intended mitigation are unclear. 0017-6

Recommendation:
The FEIS should commit to avoiding, if possible, or minimizing direct and indirect impacts to ephemeral streams (such as erosion, migration of channels, and local scour).

The FEIS should quantify the likely impacts to ephemeral streams from the proposed project, project alternatives, and the proposed ISEGS substation.
Demonstrate that downstream flows will not be disrupted due to proposed changes, including from the ISEGS substation, to any natural washes.

Location of Ephemeral Streams

EPA is concerned about the quality of information provided on ephemeral streams. The DEIS states on page 3.8-1, "[i]n Ivanpah Valley, the proposed project crosses Ivanpah Dry Lake and is relatively close to Roach Dry Lake, Jean Dry Lake, and at least 15 dry washes (see Figure 3.8-2)." This estimate appears consistent with Figure 3.8-2, but inconsistent with the USGS website at http://viewer.nationalmap.gov/viewer/. In comparison, Figure 3.8-1 shows two ephemeral streams entering Roach (Dry) Lake from the south side, near the power line. The USGS website appears to show 10 ephemeral streams entering the lake. 0017-7

Recommendation:
The FEIS should contain the most current USGS information on intermittent streams in the project area.

Flooding and Debris Flow

The DEIS discusses the potential for flooding and debris flows on alluvial fans and includes mitigation measure W-5, hydrological model of alluvial fan. The purpose of the model is to "determine the active and inactive portions of the alluvial fans in the site area relative to surface water, sediment transport, and flash flooding." To the extent feasible, tower locations will avoid the active areas. A USGS map[1] classifies several miles of the power line route as "very high" relative flood hazard. Even if the project's towers avoid intermittent streams, the towers are unlikely to avoid these areas near Roach Dry Lake and the valley between the Sheep and Lucy Gray mountains. These areas are likely to correspond to active areas of the alluvial fan. 0017-8

Recommendation:
The FEIS should identify areas subject to flash floods where structures are likely to be placed and discuss the impacts of the project on flood flows.

Biological Resources

Threatened and Endangered Species

The project will impact 72 acres of critical desert tortoise habitat and more than 300 acres of non-critical habitat (page 5-48). The EIS states the impacts to desert tortoises may be "adverse, moderate, both short term and long term, and localized," or "could be considered major and extensive" (page 3.4-83). Mitigation Measure Bio-12 clarifies that the applicant cannot begin construction until issuance of: a biological opinion from the U.S. Fish and Wildlife Service (USFWS); permit 2081 from the California Department of Fish and Game (CDFG); and an authorization from the Nevada Department of Wildlife (NDOW). These approvals could significantly change elements of the project and, therefore, should be included in the FEIS to better inform regulators and the public about the proposed action and necessary mitigation measures. 0017-9

Recommendation:
The FEIS should include the USFWS biological opinion, CDFG permit, and NDOW authorization.

[1] Geologic Assessment of Piedmont and Playa Flood Hazards in the Ivanpah Valley Area, Clark County, Nevada (http://www.nbmg.unr.edu/dox/m158.pdf)

Consistency of Mitigation Measures

Mitigation Measure BIO-12 contains four provisions only applicable in California. One of these specifies a process for rehydrating a desert tortoise that has voided its bladder as a result of being handled. Elsewhere in the DEIS, page 3.4-75 and 76, the DEIS states, "[b]ladder voiding would cause tortoises to lose potentially critical water reserves and in some cases might lead to death." The FEIS should include a plan to rehydrate any desert tortoise that has voided its bladder due to handling during project implementation. The applicant should commit to this practice in both states affected by the project: Nevada as well as California. 0017-10

Recommendation:
The FEIS should apply the same mitigation measures in California and Nevada, unless requirements or relevant guidance from different state agencies conflict. In the case of conflicting requirements or guidance by states, the FEIS should specifically discuss the differences.

Invasive Plant Management

The DEIS includes an applicant proposed measure BIO-10 (page 3.4-68) to develop an invasive species mitigation plan. Mitigation measure (MM-BIO 4) requires the applicant to model the invasive species plan on the BLM Las Vegas DRAFT Weed Plan (page 3.4-92). The content of the plan will include preventative measures, treatment methods, agency-specific requirements, monitoring requirements, and herbicide treatment protocols, but the DEIS provides no details on these measures. 0017-11

Recommendation:
The FEIS should summarize the preventative measures, treatment methods, agency specific requirements, monitoring requirements and herbicide treatment protocols that would be included in the plan. To the extent feasible, the use of herbicides should be minimized.

The FEIS should include a requirement that any biologic material brought on-site (e.g. hay bails that may be used for controlling stormwater under APM GEO-3, and native seed mixes for revegetation in MM BIO-2) will be "weed-free."

Greenhouse Gas Emissions

EPA is pleased that the DEIS includes greenhouse gas (GHG) emissions (Table 3.3-7). The dominant component of GHG emissions is sulfur hexafluoride (or SF_6). We note that one pound of SF_6 has the same global warming potential as 11 tons of CO_2, due to its long atmospheric life and high global warming potential, which is 23,000 times higher than CO_2. 0017-12

Recommendation:
The project proponent should consider joining EPA's SF_6 Emission Reduction Partnership for Electric Power Systems (http://www.epa.gov/highgwp/electricpower-sf6/basic.html), and, at a minimum, consider:

- Annual inspection and estimation of SF_6 emissions using an emissions inventory protocol;

- For equipment that will contain SF_6, purchase only new equipment that meets International Council on Large Electric Systems (CIGRE) standards for leak rates;
- Implement SF_6 recovery and recycling; and
- Ensure that only knowledgeable personnel handle SF_6.

0017-12 Cont.

Alternatives

The applicant's objectives include reliable interconnection of new solar generation resources in the Ivanpah Valley (page 1-8). The project would transmit power 35 miles east. Since the project is also expected to help the utilities meet California's Renewable Portfolio Standard in an expedited manner, we presume the power will eventually be transmitted westward. The DEIS does not discuss any trade-offs (e.g. line losses) of the circuitous route to California's power users, and whether renewable energy projects in the Ivanpah area could connect to existing power lines at a closer location.

0017-13

Recommendation:
The FEIS should discuss any trade-offs of the proposed route, and the possibility of a more direct route to power users to the west.

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June 18, 2010

Monisha Gangopadhyay / Tom Hurschman
CPUC / BLM
c/o Ecology and Environment, Inc.
130 Battery Street, Suite 400
San Francisco, CA 94111

RE: CCDOA Comments on SCE Eldorado Ivanpah Transmission Project

Dear Ms. Gangopadhyay and Mr. Hurschman:

The Clark County Department of Aviation (CCDOA) submits these comments on the Draft Environmental Impact Report / Environmental Impact Statement (DEIS) for Southern California Edison's (SCE) Eldorado-Ivanpah Transmission Line Project (EITP).

As you know, CCDOA is planning to construct and operate a new commercial service airport in the Ivanpah Valley (the Southern Nevada Supplemental Airport or SNSA). While CCDOA neither supports nor opposes the EITP, CCDOA is committed to ensuring that any new infrastructure in southern Clark County is compatible with the siting, construction, and operation of the proposed SNSA. To that end, CCDOA has the following comments on the EITP DEIS.

A. AVIATION SAFETY

Because of the proximity of the EITP to a planned commercial service airport, SCE has legal obligations under Federal Aviation Regulations at 14 C.F.R. Part 77 (Part 77). Specifically, Part 77 requires that any party planning to construct an object or structure near a proposed public-use airport is required to notify the Federal Aviation Administration (FAA) before construction begins. FAA then examines whether the structure or structures would result in an obstruction of the navigable airspace or would interfere with air navigation facilities and equipment.

Given the proximity of the EITP to the planned SNSA and the potential for aviation safety concerns, CCDOA has the following comments on the Draft EIS:

1. First and foremost, while the EITP DEIS recognizes the existence of Part 77, it wholly misstates the law in paragraph three of page 3.7-19 and in the last paragraph of page 3.9-15. To be clear: 0018-1

    - No part of Part 77 was amended in 1993. Indeed, the last time that Section 77.13 was amended was 1972.

    - Federal courts have clearly held that Part 77 (including the notice provisions in Part 77.13) applies to ***planned*** airports on file with FAA – ***whether or not construction has yet begun***. *See, e.g., Clark County v. FAA*, 522 F.3d 437 (D.C. Cir 2008) (vacating FAA's Part 77 determinations for wind farms on the grounds that they may impact the proposed Ivanpah Airport); *Greater Orlando Aviation Authority v. FAA*, 939 F.2d 954 (11th Cir. 1991) (holding that Part 77 regulations must be interpreted to require FAA to consider the effect on planned airports of which FAA has actual notice); 49 U.S.C. § 44718 (b)(3) (requiring FAA to implement regulations that ensure FAA reviews potential hazards to "planned public-use airports").

2. The language used in the EITP DEIS regarding the Part 77 process is also misleading in several regards. For example, the Draft incorrectly states that SCE has an obligation to simply "consult" with FAA regarding "whether or not" a hazard/no hazard determination would be required. *See, e.g.,* (DEIS at p. 2-12 lines 11-12; p. 3.7-28; p. 3.7-30; p. 5-66; p. 5-77; p. 6-5). The law is clear that if any of SCE's proposed structures are over 200 feet tall and/or within 20,000 feet of the planned SNSA, SCE is ***obligated*** to ***file FAA Form 7460s*** (Notices of Proposed Construction or Alteration) for the relevant structures. In turn, FAA ***will*** issue a Hazard/No Hazard Determination. 0018-2

    Similarly, BLM improperly concludes that it is "not possible" to conclude whether the EITP would impact the future SNSA until the airport project is approved. (*See, e.g.*, p. ES-35 at IMPACT HAZ-4 & p. 5-66; *see also* p. 5-77). This is also an incorrect statement of the law. The Part 77 process applies to a proposed airport ***as soon as there are plans on file with FAA***. Clark County already has filed an airport layout plan for the SNSA with FAA. Therefore, the Part 77 process and FAA's determinations are in no way dependent on the SNSA project receiving final environmental approvals. By way of background, FAA's hazard analysis is based entirely on the runway coordinates of the airport layout plan on file. Therefore, the project applicant can, at any point now, file FAA Form 7460s. In turn, FAA can issue determinations of hazard/no hazard before the environmental review of the SNSA is complete. In fact, FAA has already 0018-3

issued determinations for proposed structures near the planned Ivanpah Airport. *Compare*, *Clark County v. FAA*, 522 F.3d 437 (D.C. Cir 2008) (reviewing FAA's determinations of potential hazards to the planned Ivanpah Airport of a proposed wind farm). 0018-3 Continued

In addition, BLM cannot conclude, as it does in the Draft EIS, that "[o]nce this [FAA] determination is made, land use impacts on the Ivanpah Airport Environs Overlay [District] would be reduced." *See* p. 6-5 at lines 37-38. BLM has no way of knowing what FAA's determinations will be. For example, FAA may conclude that certain structures would be hazards; alternatively it may conclude that the structures are not hazards but only if lighted in a particular manner. That lighting may or may not have implications for land use impacts. The act of issuing determinations therefore cannot be dispositive. BLM must wait to see the content of the determinations before it can conclude what implications FAA's actions will have for land use impacts. 0018-4

CCDOA recommends that the EIS includes language clarifying the precise Part 77 requirements, for example: *"The SNSA is currently under environmental review; however, in compliance with Part 77 regulations, any structure taller than 200 feet in height or within 20,000 feet of an existing or proposed runway must be evaluated by FAA to determine whether it would pose a hazard to air navigation (Compare, Section 3.7, 'Hazards, Health and Safety')."* In addition, the EIS should address, not avoid, the potential for aviation hazards. Because there is no need to wait for the SNSA to be constructed or approved, BLM should ensure that the project applicant files its Form 7460s and receives determinations from FAA. Only then can BLM know the degree to which the towers may be hazards or may require lighting, and the degree to which FAA requirements will impact different alternatives. For example, if FAA issues a determination of hazard for one or more alternatives, BLM may need to revisit some of its analysis in the EIS. 0018-5

3. DOA recommends that APM LU-1 be revised as follows to specifically identify the Part 77 requirements: *"The applicant will file FAA Form 7460, Notice of Proposed Construction or Alteration, and provide BLM with a copy of the resulting FAA determination, before constructing any structures over 200 feet or within 20,000 feet of an existing or proposed runway."* (*See, e.g.,* DEIS at pp. 2-106 and 3.7-25). 0018-6

4. FAA has identified recommended distances between power lines and navigational equipment. To that end, the EIS should recognize this issue and should require the project applicant to coordinate with FAA to confirm that the new transmission line would not interfere with existing and proposed navigational facilities. 0018-7

B. LIGHTING

1. In discussing substation lighting control (*e.g.*, APM AES-8), the EIS should note that sections of the EITP near the SNSA may need to be lighted in response to FAA's determinations of hazard/no hazard required under 14 CFR Part 77. The EIS should also include a description of how any lighting required by FAA will be coordinated and implemented in the construction plan. (*See e.g.*, pp. ES-10; ES-25 Table ES-4; 2-63). 0018-8

2. BLM's impact analysis does not include any potential lighting requirements required by FAA. Absent this information, BLM cannot conclude affirmatively that the proposed project would result in a less than significant impact. *See, e.g.*, IMPACT AES-3 on p. 3.2-56; VISUAL RESOURCES discussion in Table 4-1 at p. 4-9. 0018-9

C. LAND USE

1. The 6,000-acre SNSA Site and the 17,000-acre Airport Environs Overlay District should be displayed and identified in the legend on relevant figures. *See, e.g.*, Figure 1-1; Figure 1-2; and Figure 3.4-4 (depicting the SNSA site, but not the Overlay District). *See also* Figure 3.9-2 (legend includes the SNSA Site but the Site is not depicted on the figure). 0018-10

2. The SNSA Site is owned by Clark County, not by Clark County Department of Aviation. *See, e.g.*, Figure 3.4-4. 0018-11

3. The table of Designated Areas Adjacent to the Project should include the Airport Environs Overlay District. *See* Table 3.9-5 at p. 3.9-6. 0018-12

4. Please specify that the conditions of the Ivanpah Valley Airport Public Lands Act of 2000 have been met and BLM patented the land to Clark County. *See* p. 3.9-15 at lines 23-27. *Compare*, BLM Patent 27-2004-0104. 0018-13

5. There are several misstatements in the paragraph at the top of page 3.14.2. Please note the following clarifications: 0018-14

    - (Lines 5-7). The Airport Site *is* within the Overlay District, but it was established solely by the 2000 Ivanpah Valley Airport Public Lands Act of 2000. The Overlay District was established solely by the 2002 Clark County Conservation of Public Land and Natural Resources Act.

- (Lines 7-9). The establishment of the Airport Site is *not* contingent on completion of the EIS (not EIR). As noted above, the Site has already been patented to Clark County. Furthermore, the designation of the Overlay District is also not contingent on completion of the EIS. The boundaries of the Overlay District were identified in the 2002 Act. It is only the potential future transfer of the Overlay District to Clark County that is contingent upon completion of the EIS process. 0018-14 Continued

- (Lines 8-9). The SNSA EIS is required to fully comply with NEPA. It is not limited to "ensuring compatible land use within airport accident hazard and noise exposure areas by providing for a range of appropriate uses and by prohibiting development or inappropriate or incompatible uses." However, if Clark County acquires title to the Overlay District, it will be required to manage those lands in accordance with section 47504 of Title 49 of the U.S. Code.

6. BLM should consistently refer to the Airport Environs Overlay District, not to an undefined "sphere of influence." *See, e.g.*, Table 5-2 at p. 5-6. Also, in Table 5-2, the relevant foreseeable project is the SNSA itself, not the Overlay District. The project is properly defined as including the 6,000-acre SNSA Site, the additional 17,000-acre Overlay District (for a total of 23,000 acres), as well as additional "off-site" lands for necessary transportation, flood control, and utility infrastructure. 0018-15

7. The southern boundary of the SNSA site is not correctly defined in Figures 5-1 through 5-4. For example, the site boundary, as depicted, improperly includes the NV Energy Higgins Power Generating Station. 0018-16

D. ISEGS REFERENCES

1. The current Draft EIS discusses the pending Ivanpah Solar Electric Generation System (ISEGS) project and recites conclusions from the ISEGS Draft EIS. CCDOA wishes to state, for the record, that it disagrees with some of the conclusions made in the ISEGS Draft EIS. Specifically, CCDOA filed comments on the ISEGS Draft EIS noting that height is not the only potential threat to aviation from renewable energy projects. Glare and thermal effects from solar projects can also create hazards. While this is not an issue for the EITP project, it is a legitimate issue for the ISEGS project. Therefore, CCDOA disagrees with the conclusions made in the ISEGS Draft EIS that no aviation impacts are anticipated for the ISEGS. *See, e.g.,* p. 3.7-38. 0018-17

2. Similarly, CCDOA strongly disagrees with the proposed mitigation measures in the ISEGS Draft EIS. Specifically, the ISEGS Draft EIS mitigation measures related to glare will ensure only that pilots will not suffer retinal injury; they will not ensure that glare will not impair pilots' vision, or that glare will not increase risks to aviation safety. *See* p. 3.11-6. 0018-18

3. For these reasons, CCDOA also strongly disagrees with the conclusion in the ISEGS Draft EIS that glare and/or thermal effects to aviators would be "less than significant with mitigation measures." *See* p. 3.14-14. 0018-19

E. GENERAL COMMENTS

1. While BLM correctly cites the Clark County Comprehensive Plan (2006) when discussing land use measures, it should also reference the South County Land Use Plan Update (August 2008), which is both more recent and more specific with regard to land uses in the South County. (*See* http://www.accessclarkcounty.com/depts/comprehensive_planning/landuse/Pages/southcounty.aspx.) 0018-20

2. The Department of Air Quality and Environmental Management is a Clark County agency, not a Nevada agency. *See, e.g.,* p. 3.8-1 at line 31. 0018-21

3. On several maps in the Draft EIS, Primm is identified as a "city" and Jean as a "small town." Legally, both are unincorporated towns within Clark County. (*See, e.g.*, Tables 3.10-4 & -5; pages 3.10-8 & -9). 0018-22

4. CCDOA recommends amending the language in paragraphs 3 and 6 of page 3.14-9; the second and last paragraphs on page 3.14-10; and MM TRANS-2 on p. 3.14-12 to include a reference to necessary coordination with CCDOA (in addition to FAA) regarding the proposed Helicopter Flight Plan. This will be consistent with the language at the first paragraph of p. 2-92. 0018-23

5. The discussion of reasonably foreseeable projects in Section 5.3.6.3 (at p. 5-62) should include the SNSA. This will be consistent with the earlier mention of the Airport Project as a foreseeable project in Table 5-2. Of note, while the SNSA project has been delayed due to the economic downturn and the EIS is no longer anticipated to be complete in 2012 (*compare* pp. 3.7-6 line 17, 3.9-15, 3.9-17 line 6, 5-66 & 6-5), this delay does not affect BLM's obligation to include the SNSA as a reasonably foreseeable project. 0018-24

6. The terms "North Dry Lakes" and "South Dry Lakes" may be confusing, as there are only three dry lakes proximal to the EITP alignment: two dry lakes in the Ivanpah Valley (the Ivanpah Dry Lake in California and the Roach Dry Lake in Nevada) and the Eldorado Dry Lake in the Eldorado Valley. 0018-25

* * *

Please feel free to contact Mark Silverstein on my staff at (702) 261-5709 or marksi@mccarran.com with any questions or inquiries.

Sincerely,

TERESA R. MOTLEY, AICP
Airport Planning Manager

cc: Randall Walker
Rosemary Vassiliadis
Mark Silverstein
Philip Rhinehart

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EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Executive Summary

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-1	1.	Executive Summary	ES-2 Lines 6-9	The applicant's purpose for the proposed project is to interconnect and deliver up to 1,400 megawatts (MW) of solar energy that is expected to be developed in the Ivanpah Valley area. SCE's ~~The~~ existing facilities at Eldorado Substation and existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV ~~regional transmission~~ line~~s~~ cannot accommodate the additional power that would be generated by the anticipated solar projects in the Ivanpah Valley.	Please update the language to correctly describe system limitations that require the need for construction of the Eldorado-Ivanpah Transmission Project.
0019-2	2.	Executive Summary	ES-2 Lines 6-7	The applicant's purpose for the proposed project is to interconnect and deliver up to 1,400 megawatts (MW) of solar renewable energy that is expected to be developed in the Ivanpah Valley area. The existing Eldorado Substation and regional transmission lines cannot accommodate the additional power that would be generated by the anticipated ~~solar~~ renewable projects in the Ivanpah Valley. The applicant has proposed to construct the EITP to connect planned renewable energy sources to the CAISO-controlled transmission grid.	Consider clarifying that other types of renewable energy may interconnect to the Eldorado-Ivanpah Transmission Project.
0019-3	3.	Executive Summary	ES-2 Lines 18-20	Reliably interconnect new ~~solar~~ renewable generation resources (including but not limited new solar generation), in the Ivanpah Valley area and help the applicant and other California utilities comply with the California Renewables Portfolio Standard (RPS) in an expedited manner;	Consider clarifying that other types of renewable energy may interconnect to the Eldorado-Ivanpah Transmission Project.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-4	4.	Executive Summary	ES-2 Lines 45-47	To connect renewable energy sources in the Ivanpah Valley area, including but not limited to solar generation, in compliance with Executive Order 13212, the Energy Policy Act of 2005, the Federal Power Act, California Senate Bill 1078, and California Senate Bill 107;	Consider clarifying that other types of renewable energy may interconnect to the Eldorado-Ivanpah Transmission Project.
0019-5	5.	Executive Summary	ES-3 Lines 9-14	**Eldorado–Ivanpah Transmission Line –** A new double-circuit 230-kilovolt (kV) transmission line, approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada and the proposed Ivanpah Substation in California. It would replace ~~a~~ the portion of the existing 115-kV transmission line that runs from Eldorado through Mountain Pass, Baker, ~~Cool Water,~~ and Dunn Siding to Cool Water. ~~Mountain Pass.~~	Please update the language to correctly describe routing connectivity of the existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115 kV line.
0019-6	6.	Executive Summary	ES-3 Lines 15-18	**Subtransmission Line –** A proposed 600- to 800-foot-long ~~addition to an existing~~ 115-kV subtransmission line would be required to terminate the remaining portion of ~~from a connection point on~~ the existing Eldorado -Baker-Cool Water-Dunn Siding- Mountain Pass 115 kV line ~~would connect~~ to the proposed Ivanpah Substation ~~to the existing 115-kV subtransmission system~~.	Please update the language to correctly define the purpose of the 600- to 800-foot-long 115 kV line.
0019-7	7.	Executive Summary	ES-3 Lines 9-14	**Eldorado–Ivanpah Transmission Line –** A new double-circuit 230-kV transmission line, approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada and the proposed Ivanpah Substation in California. It would replace a portion of the existing 115-kV transmission line that runs from Eldorado through Baker, Cool Water, and Dunn Siding to Mountain Pass. ~~The existing 115-kV transmission line that runs west of the proposed Ivanpah Substation to Mountain Pass Substation would remain unchanged.~~	Please revise as noted to clarify subtransmission line elements.
0019-8	8.	Executive Summary	ES-3 Lines 9-14	**Subtransmission Line –** A proposed 600- to 800-foot-long addition to an existing 115-kV subtransmission line from a connection point on the existing Eldorado–Baker–Cool Water–Dunn Siding–	Please revise as noted to clarify subtransmission line elements.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-8 Continued				Mountain Pass 115-kV line would connect the proposed Ivanpah Substation to the existing 115-kV subtransmission system. Seven existing H-frame lattice structures would be removed and replaced with one TSP and six lightweight steel (LWS) H-frames. Six additional LWS H-frames would be installed between these structures.	
0019-9	9.	Executive Summary	ES-3 Lines 19-22	- ~~**Distribution Lines** – A 1-mile extension of the existing Nipton 33-kV distribution line would be constructed with underground circuitry to provide light and auxiliary power to the proposed Ivanpah Substation. In addition, a new 4,300-foot segment from the existing Nipton 12-kV distribution line would be built to provide power to a proposed microwave telecommunications site.~~ - **Nipton 33 kV distribution circuit –** Close the loop by installing approximately 4800 of new underground facilities and approximately 1600 feet of new overhead facilities. Install approximately 400 feet of new underground facilities for Ivanpah Station Light and Power. Install approximately 4300 feet of new overhead facilities and provide an underground service to a proposed microwave telecommunications site.	Please add the revised description of distribution lines to better describe the 33kV system. Please delete references to the 12kV system. This provides a more precise breakdown of overhead vs. underground and distance.
0019-10	10.	Executive Summary	ES-3 Lines24-26	**Ivanpah Substation –** The proposed substation would be located in California near Primm, Nevada, and would serve as a connector hub for ~~solar energy generated~~ new generation in the Ivanpah Valley area, the vast majority of which will be renewable. The substation would include a mechanical and electrical equipment room (MEER) and microwave tower.	Consider clarifying that other types of renewable energy may interconnect to the Eldorado-Ivanpah Transmission Project.
0019-11	11.	Executive Summary	ES-8 Line 44-50	This EIR/EIS, therefore, analyzes the EITP (including the transmission upgrade, the substation, and the telecommunication system and alternatives) but includes a summary of the ISEGS project's design	Please clarify that the California Public Utility Commission is the California agency charged with regulatory authority over SCE, an independently owned utility. Therefore, California Energy Commission does not have jurisdiction to impose

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-11 Continued				and environmental impacts, as disclosed in the November 2009 ISEGS FSA/DEIS. Within Chapter 2, "Project Description," and within each resource section in Chapter 3, "Environmental Analysis / Environmental Effects," the summary of ISEGS' environmental impacts is intended for both disclosure and to assist agency decision-makers. The Whole of the Action / Cumulative Action sections do not include a new analysis of impacts but rather a synopsis of the CEC's and the BLM's determinations.	mitigation on SCE.
0019-12	12.	Executive Summary Table ES-3 APM BIO-12	ES-14	The applicant would consult with the BLM, USFWS, and NDOW regarding conservation measures to avoid impacts on desert bighorn sheep during construction. Project areas with the potential to impact bighorn sheep include the proposed transmission line route through the McCullough Mountains and the telecommunication route segment in the southern Eldorado Valley between the Highland Range and the Southern McCullough Mountains. Avoidance and minimization measures could include such elements as preconstruction surveys, biological monitoring, and timing construction activities to avoid bighorn sheep active seasons. ~~Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the propose route in the McCullough Mountains (June through September).~~	Please consider striking sentence per comment #16.
0019-13	13.	Executive Summary Table ES-3 APM BIO-14	ES-15	Injuries to Gila monsters may occur during excavation, ~~blasting~~, road grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of	Please clarify as no blasting would occur for the EITP.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-13 Continued				appropriate treatment. Rehabilitation or euthanasia expenses would not be covered by NDOW. However, NDOW would be immediately notified during normal business hours. If an animal is killed or found dead, the carcass would be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, habitat, and mapped location.	
0019-14	14.	Executive Summary Table ES-4	ES-25	Impact AES-1: NEPA Summary Of the eight KOP's evaluated, ~~seved~~ all would conform with the established VRM or VRI classes ~~and one would not conform~~	Please revise as shown. The analysis in the Aesthetics chapter makes an erroneous finding of a significant impact in the VRM II area visible from KOP 1. This finding is not supported by the analysis summarized on the BLM rating form for KOP 1 presented in Appendix C, which indicates that the visual contrast of the Project in the VRM II portion of the view would be "weak" and would thus be consistent with the VRM II objectives.
0019-15	15.	Executive Summary Table ES-4	ES-25	Impact AES-2: Summary of Impact The proposed project would not conflict with VRM or VRI objectives for one any of the eight Key Observation Points (KOPs).	As noted above, the attribution of an inconsistency of the Project with the VRM II area visible in the view from KOP 1 is erroneous.
0019-16	16.	Executive Summary Table ES-4	ES-25	Impact AES-2: CEQA Summary of Impact Less than significant without mitigation.	Because there are no impacts that are significant for the reasons noted above, no mitigation is required.
0019-17	17.	Executive Summary Table ES-4	ES-25	**Table ES-4, Impact AES-1, NEPA Summary, (O&M)** Of the eight KOP's evaluated, ~~seved~~ all would conform with the established VRM or VRI classes ~~and one would not conform~~	Please revise this statement to reflect corrected analysis. This summary statement needs to be changed. It is based on the conclusion stated in the text of the Aesthetics chapter that the Project would have a significant impact on the portion of the view seen from KOP 1 that has a VRM II classification. The conclusions summarized in the text of this chapter are based on the analyses of project impact conducted using the Bureau of Land Management visual impact assessment system that are documented on the BLM

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-17 Continued					rating forms that appear in Appendix C. Close review of the BLM rating form for KOP in Appendix C reveals that the finding of a significant impact indicated in the text diverges from the analysis results reached through application of the BLM impact assessment system and documented on the BLM rating form. The analysis on the rating form indicates that the Project's contrast with the VRM II portion of the view seen from KOP 1 would be "weak", which is a contrast level that, according to BLM standards, is consistent with the VRM II objectives. It is easy to understand how an error would have been made in transferring the findings from the BLM rating forms to the text. Each of the rating forms has a page at the end on which the proposed project's contrast with the form, line, color, and texture of the setting is evaluated. The form for KOP 1 is different from the forms for the other KOPs in that because the KOP 1 view contains areas that lie within two different VRM classes, it has an extra page on which the project's contrast with the second VRM class (in this case, VRM II) is evaluated. It appears that at the time the impact text related to KOP 1 was developed, the second page was overlooked, and the determination was made that the contrast rating for the VRM II area was "Moderate", which is the rating that appears on the first of the form's two pages providing contrast ratings, but which pertains to the VRM III portion of the view.
0019-18	18.	Executive Summary Table ES-4	ES-25	**Impact AES-2: Summary of Impact** The proposed project would <u>not</u> conflict with VRM or VRI objectives for ~~one~~ <u>any</u> of the eight Key Observation Points (KOPs).	As noted above, the attribution of an inconsistency of the Project with the VRM II area visible in the view from KOP 1 reflects an oversight in which the analysis on the BLM contrast rating form related to the contrast for the VRM III area was applied rather than the contrast rating for the VRM II area that was presented on the page that followed.
0019-19	19.	Executive Summary	ES-25	**Impact AES-2: CEQA Summary of Impact**	Because there are no impacts that are significant for

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-19 Continued		Table ES-4		Less than significant without mitigation.	the reasons noted above, no mitigation is required.
0019-20	20.	Exec Summary Table ES-4	ES-31	**IMPACT CR-1:** Impacts to Cultural Resources 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H/26CK4957~~	The LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.
0019-21 0019-22	21.	Exec Summary Table ES-4	ES-31	**Construction:** Direct, adverse, and permanent impact to Cultural Resources 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H)/26CK4957.~~	The LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.
	22.	Executive Summary Table ES-4	ES-34	APM HAZ-2: Hazardous Materials and Waste Handling Management Plan	Please revise as suggested.
0019-23	23.	Executive Summary Table ES-4	ES-35	APM HAZ-2: Hazardous Materials and Waste Handling Management Plan	Please revise as suggested.
0019-24	24.	Executive Summary	ES-43	**APM TRA-1:** Obtain Permits	IMPACT TRANS-1 "Summary of Impact" identifies APM TRA-1 to be implemented to reduce impacts associated with construction traffic. Thus, APM TRA-1 should be identified in the "Applicant Proposed Measures" column of the Table ES-4.
0019-25	25.	Executive Summary	ES-43	**MM TRANS-2:** Helicopter Flight Plan and Safety Plan	IMPACT TRANS-1 "Summary of Impact" identifies MM TRANS-1 to be implemented to reduce impacts associated with construction traffic. Thus, MM TRANS-1 should be identified in the "Mitigation Measures" column of Table ES-4.
0019-26	26.	Executive Summary	ES-43	**MM HAZ-2:** Consultation with FAA Regarding Final Project Design and Possible Hazard/No Hazard Determination	IMPACT TRANS-1 "Summary of Impact" identifies MM HAZ-2 to be implemented to reduce impacts associated with potential air traffic conflicts. Thus, MM HAZ-2 should be identified in the "Mitigation Measures" column of Table ES-4.

No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-27	27.	Executive Summary	ES-43	**APM TRA-1:** Obtain Permits **APM TRA-2:** Traffic Management and Control Plans **APM TRA-3:** Minimize Street Use	IMPACT TRANS-3 "Summary of Impact" indentifies APMs TRA-1, TRA-2, and TRA-3 to be implemented to reduce emergency access impacts. Thus, these APMs should also be indentified in the "Applicant Proposed Measures" column of the Table ES-4.

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 1: Introduction

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-28	1.	1.1.2 Table 1-1	1-5	~~CAISO Queue #126 Wind 1,500 MW Eldorado~~	Please remove CAISO Queue #126 from Table 1-1. CAISO Queue #126 requested interconnection to the Eldorado Substation but a different Method of Service for this project has been developed given the project size and geographical location. Consequently, the project does not rely on facilities being constructed as part of EITP.
0019-29	2.	1.1.2 Table 1-1	1-5	**CAISO Queue Position Type Size MW Area of Interconnection** CAISO Queue #131 Solar-Thermal 114 Ivanpah 115-kV Substation CAISO Queue #162 Solar-Thermal 100 Ivanpah 115-kV Substation CAISO Queue #233 Solar-Thermal 200 Ivanpah 230 115-kV Substation **Total Continuing Under LGIP Serial Approach: 1,700 414 MW**	Please update Table 1-1 to reflect appropriate projects continuing forward under the LGIP "Serial Approach". Note that these three projects collectively make up the ISEGS Project (Docket 07-AFC-05).
0019-30	3.	1.1.2 Table 1-1	1-5	**CAISO Queue Position Type Size MW Area of Interconnection** CAISO Queue #163 Solar Photovoltaic 300 Ivanpah 230-kV Substation CAISO Queue #205 Solar-Photovoltaic Thermal 300 Eldorado 220-kV Switchyard CAISO Queue #467 Solar-Photovoltaic Thermal 230 Eldorado-Ivanpah 230-kV Line	Please update Table 1-1 to reflect appropriate projects and technology continuing under the Transitional Queue Cluster.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-30 Continued				**Total Continuing Under Transitional Queue Cluster Approach: 2,418 <u>530 MW</u>**	
0019-31	4.	1.1.2 Table 1-1	1-5	**CAISO Queue Position** **Type** **Size MW** **Area of Interconnection** CAISO Queue #488 Solar-PhotovoltaicThermal 92 Eldorado 220-kV Switchyard CAISO Queue #497 Solar-Thermal 6 Ivanpah 115-kV Substation CAISO Queue #498 Solar-Thermal 20 Ivanpah 115-kV Substation CAISO Queue #499 Solar-Thermal 40 Ivanpah 115-kV Substation CAISO Queue #500 Solar-Thermal 960 Eldorado 500-kV Substation CAISO Queue #502 Solar-Photovoltaic 270 Eldorado-Ivanpah 230-kV Line CAISO Queue #503 Solar-Photovoltaic 500 Eldorado-Ivanpah 230-kV Bus **<u>Total Continuing Under New Queue Cluster Approach: 336 MW</u>**	Please update Table 1-1 to create a third section, New Queue Cluster Approach.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-32	5.	1.1.2.1	1-6	The BLM has determined that the ISEGS project and the EITP are not "connected" actions because it is not the case that each depends on the other. As contemplated in Section 2.3.5 ("No Project/No Action Alternative") and Section 6.3.2 ("Provisions for Additional Electric Power"), ISEGS at full build out could develop an alternative method to interconnect to the grid with other utilities in the area. ~~While the ISEGS project at full build-out would depend on the EITP because the existing transmission line (without the EITP proposed line and substation upgrades) would provide insufficient transmission capacity for the power generated by all phases of the ISEGS project,~~ In addition, t~~T~~he EITP would not depend on the ISEGS project. BLM has received a number of applications for additional power generation projects in both California and Nevada that could tie into the EITP, including those listed in Table 1-1, below. Therefore, ~~the EITP is needed for planned~~ there is sufficient potential renewable development in the Ivanpah Valley area to support the need for EITP even if the ISEGS project is not constructed.	Consider revising to reflect that ISEGS at full build out has other options for interconnecting to the grid in the event that EITP is not constructed as contemplated in Section 2.3.5 and Section 6.3.2. *See* EITP Draft EIR/EIS at Section 2.3.5 at p. 2-60 (explaining that if EITP "is not developed but the planned renewable generation facilities are developed, an alternative method for connecting renewable generation facilities in the Ivanpah Valley area would need to be developed. It is possible that other electrical utilities with transmission facilities in the area, such as LADWP, might purchase some of the power from the developers and integrate the electricity into its system. Another possibility is the development of a private transmission line, which would connect renewable generation projects to the grid."); Section 6.3.2 at p. 6-9 (stating that "if the EITP is not constructed, it is assumed that the proposed renewable power generation projects that the EITP would be intended to serve would still proceed. These renewable power projects would need alternate means to connect to electrical transmission systems. SCE or other electrical transmission companies that currently serve the Ivanpah Valley region would be likely candidates for providing electrical transmission projects if the EITP was not constructed.").
0019-33	6.	1.2.1	1-8 Lines 9-11	SCE's ~~The~~ existing facilities at Eldorado Substation and existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV regional transmission lines cannot accommodate the additional power that would be generated by the anticipated ~~solar~~ renewable projects in the Ivanpah Valley.	Please update the language to correctly describe system limitations. Please note that other types of generation may also interconnect to EITP in addition to solar projects.

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 2: Description of Project and Alternatives

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-34 0019-35	1.	All Sections		Identify "33-kV Distribution Line & Microwave Site", instead of "~~12 kV~~ Distribution Line & Microwave Site."	Please make global correction to all applicable figures/maps.
	2.	All Sections/Maps		See item #3 above Global change "~~Nevada Power~~" should be "NV Energy"	Nevada Power has merged and is now named "NV Energy."
0019-36	3.	2.1.1.2	2-5 Line 13	Tubular Steel Poles (TSPs), which are hollow steel poles consisting of ~~one or~~ two or more ~~pieces~~ sections ~~welded~~ slip-jointed together.	Please modify as suggested. Depending on the height of the structure, there can be more than two pieces. Sections are slip-jointed together instead of welded together.
0019-37	4.	2.1.1.2	2-5 Line 44	Transmission structures can be designed to support either single circuits or double circuits. Single-circuit structures support one circuit containing three phases ~~are typically used for voltages up to 200 kV and can help reduce unwanted side effects such as noise and radio interference~~ (Figures 2-5 and 2-8). Double-circuit structures support two circuits, each circuit consisting of three phases. Each phase ~~typically~~ may consist~~s~~ of two or more conductors, to increase the line's capacity ~~for voltages over 200 kV~~ (Figure 2-4).	Please modify as suggested. There is no data to support reduction of noise and radio interference. Please note that single or double circuits can be below or above 200-kV.
0019-38	5.	2.2.1.1	2-6 Lines 19-24	**Eldorado–Ivanpah Transmission Line –** A new double-circuit 230-kV transmission line, approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada and the proposed Ivanpah Substation in California. It would replace a portion of the existing 115-kV transmission line that runs from Eldorado through Baker, Cool Water, and Dunn Siding to Mountain Pass. ~~The existing 115-kV transmission line that runs west of the proposed Ivanpah Substation to Mountain Pass Substation would remain unchanged.~~	Please revise as noted to clarify subtransmission line elements. The existing 115-kV transmission line that runs west of the proposed Ivanpah Substation to Mountain Pass Substation would remain unchanged because it is not part of the project and thus does not need to be included.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-39	6.	2.2.1.1	2-6 Line 21	It would replace ~~a~~ the portion of the existing 115-kV transmission line that runs from Eldorado through Mountain Pass, Baker, ~~Cool Water,~~ and Dunn Siding to Cool Water. ~~Mountain Pass.~~	Please update the language to correctly describe routing connectivity of the existing Eldorado-Baker-Cool Water-Dunn Siding- Mountain Pass 115-kV line.
0019-40	7.	2.2.1.1	2-6 Lines 21-22	It would replace a portion of the existing 115-kV transmission line that runs from Eldorado to Mountain Pass to Baker to Dunn Siding to Cool Water. through Baker, Cool Water, and Dunn Siding to Mountain Pass.	Please revise to reflect correct naming conventions.
0019-41	8.	2.2.1.1	2-6 Line 25	A proposed 600- to 800-foot-long ~~addition to an existing~~ 115-kV subtransmission line will be required to terminate the remaining portion of ~~from a connection point on~~ the existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV line ~~would connect~~ to the proposed Ivanpah Substation ~~to the existing 115-kV subtransmission system~~.	Please update the language to correctly define the purpose of the 600- to 800-foot-long 115-kV line.
0019-42	9.	2.2.1.1	2-6 Lines 25-28	**Subtransmission Line –** A proposed 600- to 800-foot-long addition to an existing 115-kV subtransmission line from a connection point on the existing Eldorado–Baker–Cool Water–Dunn Siding–Mountain Pass 115-kV line would connect the proposed Ivanpah Substation to the existing 115-kV subtransmission system. Seven existing H-frame lattice structures would be removed and replaced with one TSP and six lightweight steel (LWS) H-frames. Six additional LWS H-frames would be installed between these structures.	Please revise as noted to clarify subtransmission line elements.
0019-43	10.	2.2.1.1	2-6 Lines 29-32	- **Distribution Lines –** A 1-mile extension of the existing Nipton 33-kV distribution line would be constructed with underground circuitry to provide light and auxiliary power to the proposed Ivanpah Substation. In addition, a new 4,300-foot segment from the existing Nipton ~~12 kV~~ 33-kV distribution line would be built to provide power to a proposed microwave telecommunications site.	The Nipton distribution line is a 33-kV line.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-44	11.	2.2.1.1	2-6 Lines 29-32	~~- **Distribution Lines** – A 1-mile extension of the existing Nipton 33-kV distribution line would be constructed with underground circuitry to provide light and auxiliary power to the proposed Ivanpah Substation. In addition, a new 4,300-foot segment from the existing Nipton 12-kV distribution line would be built to provide power to a proposed microwave telecommunications site.~~ - **Nipton 33 kV distribution circuit –** Close the loop by installing approximately 4800 of new underground facilities and approximately 1600 feet of new overhead facilities. Install approximately 400 feet of new underground facilities for Ivanpah Station Light and Power. Install approximately 4300 feet of new overhead facilities and provide an underground service to a proposed microwave telecommunications site.	Please add the revised description of distribution lines to better describe the 33-kV system. Please delete references to the 12-kV system. This provides a more precise breakdown of overhead vs. underground and distance. Note, that is likely better to provide a 33-kV line extension instead of a 12-kV line extension from Calcadia PT.
0019-45	12.	2.2.1.1 Figure 2-3	2-7	Identify "33-kV Distribution Line & Microwave Site", instead of "~~12-kV~~ Distribution Line & Microwave Site."	Please make correction.
0019-46	13.	2.2.1.1 Table 2.1	2-9	Path 2, Section 2 (underground) California; ~~4.8~~ 3 miles; Nevada 2 miles	Path 2 Section 2 has about 2 miles underground fiber-optic cable in Nevada, and about 3 miles underground cable in California.
0019-47	14.	2.2.1.1 Table 2.1	2-9	Communication facilities: • Telecommunication facilities at Eldorado Substation • Communication Room (MEER) at Ivanpah Substation • Telecommunication facility at Nipton MW Communication site	Please include the Nipton MW Communication site to Table 2-1.
0019-48	15.	2.2.1.1 Table 2-1	2-9	"Features" Column: Single-circuit 115-kV line to terminate the remaining portion of the existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV line to ~~connecting~~ the Ivanpah Substation ~~to the existing system~~.	Please update the language to correctly define the purpose of the 600- to 800-foot-long 115-kV line.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-49	16.	2.2.1.1. Table 2-1	2-9	Revise distribution portion of the table to match the text below: Single-circuit 33-kV ~~and 12-kV~~ lines to provide power to Ivanpah Substation California; 33-kV line: ~~1 mile 12-kV line: 4,300 ft~~ approximately 5200 ft of underground and 5900 ft of overhead	Please revise text as shown.
0019-50	17.	2.2.1.1 Table 2-1	2-9	Table 2-1 Summary of EITP Components – Microwave Facility in the town of Nipton – Add Components:	Please add a description of the microwave facility.
0019-51	18.	2.2.1.1 Table 2.1	2-9	**Eldorado Substation Upgrades** Extension of the existing ~~yard~~ switchyard to install two 230-kV line positions to accommodate the new double-circuit line.	Please change to "switchyard." The interpretation of "yard" may be mistaken for an expansion of the facility beyond the existing fence.
0019-52	19.	2.2.1.2	2-10 Line 25	NV Energy ~~Nevada Power Powerline (115 kV)~~ Arden-Higgins 1&2 (230-kV)	The voltage line is 230-kV and is called the Arden-Higgins 1&2 line. Please modify as suggested. Please clarify Map Figure 2-3b also to specify the correct voltage and name.
0019-53	20.	2.2.1.2	2-10 Line 31	The applicant's studies indicate that the capacity of the existing 115-kV line is limited to a maximum ~~output~~ loading of 80 MW.	Please update the language to articulate that lines are not output limited but rather thermal limited (i.e., loading limited).
0019-54	21.	2.2.1.2	2-10 Line 42	These widened ROW areas would be mainly required for five major utility transmission line crossings below existing LADWP and NV Energy transmission lines.	Please modify as suggested. The NV Energy transmission line is also crossed.
0019-55	22.	2.2.1.3	2-12 Line 1	The line would continue southwest for approximately 13 miles (MPs 24 and 25) before new additional utility crossings, at LADWP's McCullough–Victorville No. 1 and No. 2 500-kV transmission lines, the NV Energy ~~Nevada Power 115-kV~~ Arden-Higgins 1&2 230-kV transmission line, and ~~the applicant's~~ LADWP's Mead–Victorville 287-kV transmission line.	The NV Energy line is a 230-kV transmission line and is called Arden-Higgins 1&2. The Mead-Victorville 287-kV line belongs to LADWP, not the applicant. Please modify as suggested.
0019-56	23.	2.2.1.3	2-12 Line 1	The line would continue southwest for approximately 13 miles… and ~~the applicant's~~ LADWP's Mead-Victorville 287-kV transmission line.	Please update the ownership to the Mead-Victorville 287-kV transmission line to be LADWP.
0019-57	24.	2.2.1.3	2-12	Transmission Structures and Lines The proposed EITP 230-kV transmission line would consist	Please modify as suggested. The cable diameter is approximately 1.5 inches in diameter.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-57 Continued			Line 16	of 258 galvanized transmission structures that would support a double-circuit transmission line (two arrays of conductors) at the top. Each circuit would be composed of three phases (three separate cables), each phase consisting of two conductors with a cross section of 1,590 kilo circular mils (kcmil).; ~~a~~ A ~~circular area with an~~ 1,590 kcmil conductor is approximately ~~1.26 inch~~ 1.5-inch in diameter).[1]	
0019-58	25.	2.2.1.3	2-12 Lines 21-23	In addition, the proposed transmission structures would ~~have~~ include polymer insulators and an optical ground wire ~~and suspended single polymer insulators~~ installed at the top, to provide protection and to support telecommunication.	Please revise as noted.
0019-59	26.	2.2.1.3	Figure 2-3a maps on pages 2-13, 2-15, 2-17, 2-19, 2-21	Re-label Highway "5" to "15" – main map and map insets.	The maps' highway identifier is mislabeled – designation is Hwy 15.
0019-60	27.	2.2.1.3 Figure 2-3a (map 3 of 5)	2-17	Add natural gas pipeline text and symbol to map legend.	Pipeline is presented on map but not reflected in map legend.
0019-61	28.	2.2.1.3 Figure 2-6	2-27	The wire stringing tension sites for the 115-kV conductor string are labeled incorrectly. Please change the color of the wire stringing tension sites from red to yellow. The three larger rectangles southwest of the Ivanpah Substation site are wire stringing tension sites not pull sites.	Please revise the figure as noted.
0019-62	29.	2.2.1.3	2-29	Figure 2.7: Spacing between arms should be 11' spacing between arms, not 8'	Please revise this to be consistent with SCE Transmission Overhead Design Manual.
0019-63	30.	2.2.1.3	2-30 Lines 1-2	The existing conductors would be removed and replaced with approximately 654 Aluminum Conductor Steel Reinforced (ACRS) conductor with two 4/0 ACSR 3/8-inch high-strength galvanized shield wires.	Please add clarification.
0019-64	31.	2.2.1.3	2-30 Lines 7-11	Additional 33-kV distribution circuitry would be constructed to provide auxiliary power to the Ivanpah Substation. The station light and power would be served from approximately 400 feet of new ducts and one run of	Please revise to clarify station light and power description and add the 400 feet of new duct and cables and clarification of the distribution of the approximate 1-mile segment of circuitry.

[1] A circular mil (cmil) is a standard unit used in electrical systems for referring to the area of the cross section of larger conductor sizes. A mil is 0.001 inch. One cmil is equal to the area of a circle with a 1 mil diameter (Blume 2007). One kcmil is equal to one thousand cmils.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-64 Continued				cable from the existing Nipton 33-kV circuit. Also, approximately 4,800 feet of new underground and approximately 1,600 feet of new overhead 33-kV circuitry and two new Remote Control Switches that would be installed adjacent to Densmore Drive at the California state line, near Primm, Nevada to improve the reliability of the circuitry serving the new Ivanpah Substation station light and power. ~~A 33-kV distribution line would be installed to provide reliable lighting and power service to the new Ivanpah Substation. This component would consist of approximately 1 mile of new underground 33-kV circuitry and two new Remote Control Switches that would be installed adjacent to Densmore Drive at the California state line, near Primm, Nevada.~~ One of the switches would be located south of the Ivanpah Substation and the second would be located near the Primm Valley Golf Club's Desert Course.	
0019-65	32.	2.2.1.3	2-30 Lines 7-16	A 33-kV distribution line would be installed to provide reliable lighting and power service to the new Ivanpah Substation. This component would consist of approximately 1 mile of new underground 33-kV circuitry and two new Remote Control Switches that would be installed adjacent to Densmore Drive at the California state line, near Primm, Nevada. One of the switches would be located south of the Ivanpah Substation and the second would be located next to the Primm Valley Golf Club's Desert Course. In addition, approximately 4,300 feet of a new 33~~12~~-kV overhead line would be installed between the town of Nipton and the new microwave site proposed to be located northeast of Nipton. A transformer would be installed on this overhead line connecting to the microwave site using an underground duct. The line would be installed along the side of an existing unnamed dirt road.	Please revise text as shown.
0019-66	33.	2.2.1.3	2-30 Lines 30-3 (Insert)	~~Approximately 1.2 miles of new spur roads would be required for the proposed project route, disturbing approximately 2.1 acres.~~ Approximately 1.7 miles of new permanent spur roads and	Please update the mileage as indicated. A new down-line access road was identified during a field visit.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-66 Continued				1.2 miles of new access roads would be required for the proposed project, disturbing approximately 4.9 acres.	
0019-67	34.	2.2.1.3	2-31	Installation of the two positions would require that the existing 230-kV switchyard be extended ~~165 feet~~ to the west within the existing substation fence.	Please remove the amount of extension to the west as the exact amount of extension will not be known until final engineering is performed.
0019-68	35.	2.2.1.3	2-31 Lines 4-9	**Substations** **Ivanpah Substation** The proposed 230/115-kV Ivanpah Substation would be located 6.1 miles west of the California-Nevada border. The proposed substation site (Figure 2-9) area would be approximately 1,650 by 1,015 feet (38.5 acres), located within the proposed Ivanpah Solar Generating System (ISEGS) project area (see Section 2.2.2) and would consist of a 885-by-850-foot fenced area containing the transformer banks and lines 10-foot perimeter buffer surrounding the transformer banks, and two 1,015-by-400-foot areas (9 acres each) containing cut and fill slopes, protective drainage improvements and substation access for all transmission lines ~~that~~ would flank the fenced area on the east and west.	Please revise text as shown.
0019-69	36.	2.2.1.3	2-31 Lines 13-16	The initial configuration would include ~~three~~ two 280-MVA 230/115-kV transformer banks, ~~five~~ three 230-kV and four 115-kV lines, and associated switchracks. The final-substation configuration would be designed to include up to four 280-MVA 230/115 kV transformer banks, up to eight 230-kV lines, and up to fourteen 115-kV lines.	Please revise to reflect current CAISO recommendations. Consider including flexibility for unknown future conditions.
0019-70	37.	2.2.1.3	2-31 Lines 18-20	In addition, a 24-foot-wide paved road, fencing, areas for future 115-kV and 230-kV switchrack and capacitor banks, ~~and an emergency generator~~ would be installed as part of the Ivanpah Substation facility. A 180-foot microwave tower and 65-by-55-foot MEER would also be installed in the southern central area of the substation site.	An emergency generator would not be required at Ivanpah Substation.
0019-71	38.	2.2.1.3	2-31 Lines 19-20	A 180-foot microwave tower and 65-by-55-foot MEER would also be installed within the ~~southern central area of~~ substation site.	Please consider the following. The final electrical plot plan has not been fully devised and the MEER may be located in a different part of the station. The final location for MEER and microwave tower will not be known until final engineering.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-72	39.	2.2.1.3	2-32 Lines 42-46	At the Ivanpah Substation, another microwave tower (also approximately 180 feet tall) would be built to link to the Nipton microwave tower. In addition, 4,300 linear feet of the 33~~12~~-kV overhead distribution line would be extended from the existing 33~~12~~-kV Nipton line ROW to the proposed microwave site to provide electrical service. The applicant anticipates that only one pole with conductor span would need to be replaced.	Please revise text as shown.
0019-73	40.	2.2.1.3 Figure 2-9	2-33	Figure 2-9 Substation Layout.	Due to Critical Energy Infrastructure Information (CEII) considerations, Figure 2-9 should be replaced with Figure 3.5-1 of SCE's Proponents Environmental Assessment (PEA).
0019-74	41.	2.2.2.3	2-39 Lines 19-20	The fiber cable would be installed on the existing 12-kV/33-kV distribution line poles.	The distribution line poles are both 33-kV and 12-kV
0019-75	42.	2.3.2.2	2-52 Lines 10-13	**Telecommunication Alternative (Golf Course)** The Golf Course Telecommunication Alternative route would extend from Nipton to the point on the north side of Nipton Road where it intersects with I-15. This alternative would consist of a combination of all-dielectric self-supporting fiber cable installed on existing Nipton 33-kV wooden distribution pole lines and underground fiber optic cable in new duct banks (Figure 2-13).	Please insert clarifying text.
0019-76	43.		2-52 Lines 31-33	**Telecommunication Alternative (Mountain Pass)** The Mountain Pass Telecommunication Alternative route would extend from Nipton to the point on the north side of Nipton Road where it intersects with I-15. This alternative would consist of all-dielectric self-supporting fiber cable installed on existing Nipton 33-kV wooden distribution pole lines and underground fiber optic cable in new duct banks (Figure 2-14).	Please insert clarifying text.
0019-77	44.	2.3.3	2-61	230-kV Single-Circuit Transmission Line This alternative would not meet the project purpose and need. It would only provide capacity for interconnecting a maximum amount of ~~1,500~~ 1,150 MW provided no additional system limitations result such as overload of the remaining 115-kV line portion of the existing Eldorado-Baker-Cool Water-Dunn Siding- Mountain Pass 115-kV	Please correct the maximum amount of generation that can be potentially accommodated with a single circuit 230-kV line.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
				line.	
0019-78	45.	2.3.3	2-61 Lines 40-41	This alternative would not meet the project purpose and need. It would only provide capacity for interconnecting a maximum of ~~1,500~~ 1,400 MW. It would not meet the purpose and need of providing transmission capacity of 1,400 MW.	Please revise statement as noted.
0019-79	46.	2.3.3	2-62 Lines 7-8	The use of multiple microwave towers for telecommunications would avoid the use of overhead or underground ~~wires~~ fiber optic cable, reducing the potential for visual impacts compared with the proposed project.	Please edit "wires" to "fiber optic cable".
0019-80	47.	2.4	2-63 Line 30	Pre-construction activities include surveys, clearing, grading, and other site preparation activities and access and spur road works, as well as dismantling of existing facilities such as transmission line structures, transmission hardware, conductors, overhead ground wires, and transformer banks.	Please revise as shown.
0019-81	48.	2.4.1	2-64 Line 13	• Establishing approximately seven construction yards and two helicopter staging areas	Please revise as noted to maintain consistency with line 38 (same page).
0019-82	49.	2.4.1	2-64 Line 38-41	Project construction would begin with establishment of approximately seven temporary construction yards and two helicopter ~~landing sites~~ fly yards located at strategic points along the route. Two construction yards would be in California and five in Nevada. The proposed location and current condition of each yard and landing site are listed in Table 2-9. The applicant or its contractors might use additional construction yards.	Please note that these are the main helicopter staging areas so they shouldn't be considered "landing sites". Terminology consistent with past projects.
0019-83	50.	2.4.1 Table 2-9	2-65	Table 2-9: Replace "HL1" and "HL2" with FY1 and FY2.	Please revise so that the terminology is consistent with prior comment. Please revise to reflect change to "fly yard." Revised table attached.
0019-84	51.	2.4.1	2-65	Table 2-9: Change area for HL1 from 3.6 to 5.0 acres.	Please revise table to be consistent with the information provided in the Helicopter Plan. Revised table attached.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-85	52.	2.4.1 Table 2-9	2-65	Table 2-9: Replace "HL" in footnote section with FY = Helicopter Fly Yard.	Please revise so that the terminology is consistent with prior comment. Please revise to reflect change to "fly yard." Revised table attached.
0019-86	53.	2.4.1 Table 2-9	2-65	Helicopter Fly Yard -1 (East of McCollough Pass) Helicopter Fly Yard - 2 (West of McCollough Pass)	Please revise Table 2-9 as shown. Revised table attached.
0019-87	54.	2.4.1	2-66 Line 6	• Helicopters would be mainly used during the transmission line stringing activities ~~(sock or pilot line threading)~~, as described further in this section.	Please revise as shown.
	55.	2.4.1	2-66 Lines 28-35	Approximately 35 miles of existing main roads would need to be upgraded to support the proposed 230-kV line construction and operations. In addition, approximately 1.2 miles of new ~~more~~ access roads would be required for construction and maintenance of the telecommunications facilities, as well as additional access roads for connecting the project facilities to support and logistics areas, such as the road coming from Jean to the project ROW.	Please revise.
0019-88	56.	2.4.1	2-66 Line 31	Additionally, ~~1.2~~ 1.7 miles of spur roads would be constructed to allow passage of construction vehicles to the construction sites.	Please revise number of spur road miles as shown.
0019-89	57.	2.4.1	2-67 Line 7	• Wire-pulling locations – Wire-pulling sites ~~would~~ may be located every 15,000 feet along the existing utility corridor, and would include locations at dead-end structures and turning points.	Please revise as shown.
0019-90	58.	2.4.1	2-67 Line 10	• Cable removal – A 3/8-inch pulling cable or rope line may ~~would~~ replace the old conductor as it was removed. The cable or rope would then be removed under controlled conditions to minimize ground disturbance, and all wire-pulling equipment would be removed.	Please revise as shown.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-91	59.	2.4.1	2-67 Line 14-17	• Structure Removal – For each type of structure, a crane truck or rough-terrain crane would be used to support the structure during removal; a crane pad of approximately 50 by 50 feet might be required to allow a removal crane to be set up at a distance of approximately 60 feet from the structure center line. ~~The crane rail would be located transversely from the structure locations.~~	Please revise as shown.
0019-92	60.	2.4.1	2-67 Line 39-41	To erect either the LSTs or the steel H-frame structures, a crane pad (a flat, vegetation-free area) may need to be established within the laydown area described above. Crane pads would be located approximately 60 feet from the centerline of each structure.	Please revise as shown.
0019-93	61.	2.4.1	2-68 Line 26		Please list the contact organization (in Nevada) that is similar to Underground Service Alert in California.
0019-94	62.	2.4.1	2-70 Line 7	The conductors would then be pulled through ~~the length of the span~~ a series of structures by a puller machine. Another machine called a tensioner would be located at the ~~other~~ opposite end of the ~~span~~ pull, near the reel of conductor.	Please revise as noted.
0019-95	63.	2.4.1	2-71 Line 1	• Erection of a highway net guard structure system or guard pole structures	Please revise as shown.
0019-96	64.	2.4.1	2-71 Lines 7-8	Typical guard structures are 60-to-80-foot-tall wooden poles (and are buried 6 to 8 feet into the ground.)	Please revise as shown.
0019-97	65.	2.4.1	2-72 Line 9	At a OPGW splice locations, the fiber cables are routed down a structure leg where the splicing occurs.	Please revise as noted.
0019-98	66.	2.4.1	2-72 Line 24	If this condition cannot be met with ground rods, the applicant would install special counterpoise systems at the structure footings to reduce the resistance to safe levels.	Please revise as noted.
0019-99	67.	2.4.2	2-72 Lines 36-38	~~During construction, water trucks would be used to minimize the quantity of airborne dust created by construction activities.~~ Any damage to existing roads as a result of construction would be repaired once construction was complete.	Please consider striking the first sentence. The damage to existing roads would likely be caused by numerous factors with water trucks having a minimal impact overall.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-100	68.	2.4.3	2-73 Lines 11-23	**2.4.3 Distribution Line Construction** A 33-kV distribution system would be constructed to provide auxiliary power to the Ivanpah Substation. This system would consist of approximately 4800 feet ~~1 mile~~ of new underground and approximately 1600 feet of new overhead 33-kV circuitry and two new Remote Control Switches (RCSs) that would be built to close the loop in the Nipton 33-kV circuit. The proposed work would be done next to Densmore Drive Road. One RCS would be south of Ivanpah Substation, and one would be next to the Primm Golf Course. Ivanpah Substation power would be served from approximately 400 feet of new ducts and one run of cable from the Nipton 33-kV circuit to the location of the new station light and power transformer in the Ivanpah Substation. The exact location of the transformer would be determined during final engineering. Additionally, about 4,300 feet of new 33~~12~~-kV overhead distribution line would be constructed between the town of Nipton and the new microwave site northeast of Nipton. An overhead transformer would be installed with underground service to the microwave site. The line would be installed along the side of an existing dirt road.	Please revise text as shown.
0019-101	69.	2.4.4	2-73 Line 41	Suggest adding a Hazardous Materials Business Plan to sections that reference a SPCC.	A HazMat Business Plan would be needed for this project and would be submitted to CUPA (same agency as SPCC).
0019-102	70.	2.4.1	2-74 Lines 3-43	**Step 2.** Pulling – The sock line would be used to pull in the conductor pulling cable. The conductor pulling cable would be attached to the transmission line conductor using a special swivel joint to prevent damage to the conductor and to allow the wire to rotate freely to prevent complications from twisting as the conductor unwinds off the reel. A piece of hardware known as a running board would be installed to properly feed the conductor into the roller; this device keeps the bundle conductor from wrapping during installation. The conductors would ~~then~~	Please revise as noted.

No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-102 Continued			be pulled through a series of structures ~~the length of the span~~ by a pull~~er~~ing machine. Another machine called a tensioner would be located between the pulling and tensioning sites ~~at the other end of the span~~, near the reel of conductor. The puller and tensioner are operated together during the pulling phase to ensure that the conductor complies with technical specifications, such as maintaining the proper ground clearance. Conductor pulling locations could ~~would~~ occur every 15,000 to 18,000 feet on flat terrain and would be more closely spaced in rugged terrain. Wire pull locations would be selected, where possible, based on the geometry of the line as affected by changes in routing directions, changes in the terrain, and suitability of stringing and splicing equipment setups. **Step 3.** Splicing, Sagging, and Dead-ending – Once each conductor is pulled through the length of the transmission line, all temporary pulling splices would be removed and replaced with permanent splices. Conductor splices would occur every 7,500 to 9,000 feet on flat terrain or more closely in rugged terrain. Once the splicing was completed, the conductor would be sagged to proper tension. ~~to avoid effects in the conductor length due to changes in temperature (conductors expand or contract with high or low temperatures). In addition, all phases to be installed between two towers would be sagged to the same tension.~~ After splicing and sagging, the conductors would be attached to dead-end structures and the conductors would be ~~fixed~~ attached to all the suspension towers. ~~dead-end towers.~~ **Step 4.** Clipping-in and Spacers – After the conductor~~s were fixed to~~ is dead-ended ~~towers~~, the conductors would be ~~clipped in or~~ attached to all tangent structures - a process called clipping-in. ~~This process would involve removing the existing wire rollers and replacing them with final~~	

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-102 Continued				~~insulator hardware to secure the conductors to the insulators.~~ Once this ~~was~~ is complete, spacers would be attached between the between the bundled conductors of each phase to ~~maintain~~ keep uniform separation between each conductor.	
0019-103	71.	2.4.4	2-74 Lines 38-41	**Substation equipment installation** Following the excavation and below-grade construction, installation of substation equipment and ancillary facilities, such as buses, capacitors, circuit breakers, transformers, steel structures, and the MEER would take place. The transformers would be delivered by heavy-transport vehicles and ~~off-loaded on site by large cranes with support trucks.~~ escorted by contracted traffic control. Because of their size and weight each transformer would be moved to its dedicated concrete foundation by towing it from the transport vehicle along temporary steel beams onto the foundation and lowered into place.	Please revise. These transformers are too large and heavy (~400,000 lb) to be moved by crane.
0019-104	72.	2.4.4	2-75 Lines 2-4	**Rock Surfacing** All areas within the substation perimeter that were not paved or covered with concrete foundations or trenches would be covered with a 4-inch layer of untreated, ¾-inch crushed rock. ~~This crushed rock layer would provide a safe work environment in those areas of the substation not previously insulated or electrically grounded.~~	Please revise. All areas in the substation are within the ground grid.
0019-105	73.	2.4.4	2-75 Lines 20-23	~~Erosion control during grading of the unfinished site and during subsequent construction would be in place and monitored as specified by the SWPPP. A siltation basin would be established to capture silt and other materials that might otherwise be carried from the site by rainwater surface runoff. Approximately 20 percent of the completed substation would consist of impervious materials such as concrete foundations and asphalt concrete paving.~~	Please consider striking as this is speculation as to what would be included in the SWPPP. Also, a siltation basin is not a typical requirement in a SWPPP.
0019-106	74.	2.4.6.1 Table 2-11	2-78	Table 2-11: New Access Roads s/b 1.2 miles; 2.0; 2.0; 2.0 New Spur Roads s/b 1.7 miles; 2.9; 2.9; 2.9 Add: Helicopter Fly Yard-1 (East): 1; 5.0 Acres; 5.0; 5.0; 0 Add: Helicopter Fly Yard-2 (West): 1; 5.7 Acres; 5.7; 5.7; 0	Please update miles of road as shown in Table 2-11 in Appendix A.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-107	75.	2.4.6.1 Table 2-11	2-78	New Permanent Access Roads: Quantity approximately 1.2 Miles; 2.06 acres; 0 acres; 2.06 acres. New Permanent Spur Roads: Quantity approximately 1.7 Miles; 2.88 acres; 0 acres, 2.88 acres	Please update new miles of road as shown in Table 2-11 in Appendix A.
0019-108	76.	2.4.6.1	2-78 Lines 19-20	Estimated total land disturbance from all the applicable proposed project components is approximately ~~466~~ 439 acres during construction, with a permanent disturbance of ~~51~~ 42 acres.	Please revise as noted.
0019-109	77.	2.4.6.1 Table 2-13	2-80	Please make the following changes in Table 2-13: **Underground trench/duct for conduit (Row 1):** Each Disturbed Area (Column 3): 5200 ft x 2 ft **Underground manhole installation (Row 2):** Quantity (Column 2): 4 **Work area for underground manholes pulling area (Row 3)** Quantity (Column 2): 4 **Work area pulling of ~~3/8 mile~~ 1600 ft of 1/0 ACSR pole line construction (Row 4)**	Please revise text as shown – refer to Table 2-13 in Appendix A.
0019-110	78.	2.4.6.1	2-81	Furthermore, installation of the subtransmission (115-kV) line would disturb 7.3 acres during construction and would result in a 1 acre permanent disturbance, while the proposed 33-kV distribution line segment would create a temporary disturbance of ~~0.37~~ 1.22 acres.	Please revise as shown.
0019-111	79.	2.4.6.2 Table 2-15	2-82	New Permanent Access Roads: Quantity approximately 2.3 miles; 3.9 acres; 0 acres; 3.9 acres New Spur Roads: Quantity approximately 0.5 miles; 0.85 acres; 0 acres, 0.85 acres	Please update new miles of road as indicated- refer to Table 2-15 in Appendix A.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-112	80.	2.4.6.2	2-87	Table 2-22	Please revise to show updated summary of land disturbance as shown in Appendix A to these comments.
0019-113	81.	2.4.6.2	2-87 Line 9	According to the applicant, about ~~no more than four crews would be building~~ four ~~distinct~~ transmission structures would be constructed ~~at a time~~ during a maximum period of 7 days.	Please revise as shown.
0019-114	82.	2.4.7 Table 2-23	2-88	Table 2-23: 115-kV subtransmission lines: Installing lightweight steel poles Installing overhead shield wire	Please refer to attached table and revise as noted.
0019-115	83.	2.4.9	2-90 Line 30	A list of structures ~~and line hardware~~ that would be removed from the existing 115-kV system to construct the proposed Eldorado-Ivanpah transmission line is given in Table 2-5.	Table 2-5 lists only structures. Please revise as noted.
0019-116	84.	2.5.1	2-91 Line 25	~~Routine line washing~~	Please revise as shown because polymer insulators are being proposed, and they do not typically require routine line washing.
	85.	2.7 Table 2-24	2-105	APM HAZ-2: Hazardous Materials and Waste Handling Management Plan	Please revise as suggested.

0019-117
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EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 3.2: Visual Resources

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-118	1.	3.2	3.2-49 Lines 14-17	Construction, operation, and decommissioning of the proposed transmission line in this view would result in a moderate change in the form, line, color, and texture for structures present in the foreground of the existing environment, and a ~~moderate~~ weak change to the form, line, color, and texture for structures present in the middleground of the existing environment.	Please revise in order to be consistent with the analysis summarized on the BLM rating form for KOP 1 presented in Appendix C, which indicates that the visual contrast of the Project in the VRM II portion of the view would be "weak".
0019-119	2.	3.2	3.2-49 Lines 19-21	The changes to the existing environment would be consistent with the VRM Class III assigned to the foreground ~~but would not be consisten~~ and with the VRM Class II designation in middleground views. Therefore, development of the proposed transmission line would result in a ~~major, adverse, and~~ minor adverse ~~unavoidable~~ effect at KOP 1~~.~~ and mitigation would not be required.	Please revise in order to be consistent with the analysis summarized on the BLM rating form for KOP 1 presented in Appendix C, which indicates that the visual contrast of the Project in the VRM II portion of the view would be "weak" and would thus be consistent with the VRM II objectives.
0019-120	3.	3.2 Table 3.2-1	3.2-54	**Table 3.2-1 Conformance with VRM or VRI Class** KOP 1 Conformity Determination ~~Does not conform with VRM Class II~~ Conforms	Please revise in order to be consistent with the analysis summarized on the BLM rating form for KOP 1 presented in Appendix C, which indicates that the visual contrast of the Project in the VRM II portion of the view would be "weak" and would thus be consistent with the VRM II objectives.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-121	4.	3.2	3.2-55 Lines 26-33	**Impact AES-2: Substantially Degrade Existing Character or Quality** Less than significant without mitigation ~~As discussed under the Impacts by Key Observation Point section above, the proposed project would conflict with VRM or VRI objectives for one of the eight KOPs. At KOP 1, the proposed project would introduce moderate levels of contrast with the existing structures in the viewshed by introducing linear elements of a larger scale and more prominent color. This is the only KOP that shows views of VRM Class II areas; all other KOPs show views of VRM Class III or VRI Class III areas.~~	Please revise in order to be consistent with the analysis summarized on the BLM rating form for KOP 1 presented in Appendix C, which indicates that the visual contrast of the Project in the VRM II portion of the view would be "weak" and would thus be consistent with the VRM II objectives and no mitigation would be required.
0019-122	5.	3.2.4	3.2-59-7	~~**MM AES-2: Rock Staining near the Ivanpah Substation.** For areas that are cleared and/or graded to construct the Ivanpah Substation, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.~~	Please consider deleting since SCE will not be performing any clearing or grading activities related to Ivanpah Substation.

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 3.3: Air Quality and Greenhouse Gases

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-123	1.	3.3.3.5	3.3-11 Lines 36-39	The estimated ~~average~~ maximum daily criteria pollutant emission rate for construction activities is presented in Table 3.3-6. ~~This table also includes the daily MDAQMD significance thresholds~~. The ~~average~~ maximum daily construction emission rates are based on the assumption that construction activities would occur concurrently and that equipment for each activity would be operating on the same day.	Please revise. The MDAQMD CEQA guideline (page 10) states that: "…the emission thresholds are given as a daily value and an annual value, so that multi-phased project (such as project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value." The daily threshold emission rates are exactly the same as the annual threshold emission rates (548 lbs/day is exactly 100 tons/yr), only the measurement units are different. The daily threshold is simply the annual rate expressed as an annual daily average rate. If a project meets the annual threshold then it is not considered significant under the MDAQMD guidelines. No maximum daily estimate is required under the MDAQMD guidelines. All references to exceeding daily thresholds should be deleted.
0019-124	2.	3.3.3.5 Table 3.3-7	3.3-15	The estimated total GHG emissions from all construction activities is approximately ~~6,950~~ 426 MTCO2e (see Table 3.3 7).	Construction emissions should be amortized over 30 years to compare to thresholds. Table 3.3-7 should be changed to reflect amortization.
0019-125	3.	3.3.4	3.3-19 Line 39	**MM AIR-2** • ~~·Planting of vegetative ground cover in disturbed areas within 21 days after construction activities have ceased.~~	Please consider removing as this may conflict with **MM BIO-2 Reclamation Plan.**

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 3.4: Biological Resources

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-126	1.	3.4.1	3.4-1 Lines 15-16	The EITP is located within the Eldorado and Ivanpah valleys in southern Clark County, Nevada, and in San Bernardino County in southeastern California.	Please add reference to San Bernardino County following original reference to Clark County.
0019-127	2.	3.4.1	3.4-1 Line 27	These playas are typically high in evaporated salts, and associated plant communities are usually composed of salt-tolerant species.	Please clarify which plant communities are being referred to.
0019-128	3.	3.4.1	3.4-1 Lines 32-36	At the eastern edge of the Ivanpah Valley in Nevada, the transmission line passes between Sheep Mountain to the north and the north end of the Lucy Gray Mountains, then passes through the northern McCullough ~~Mountains~~ Range. The telecommunication line alternatives pass ~~to the west of~~ between the Highland Range to the east and the South McCullough Range to the west, and, further south, between the McCullough Range and New York mountains and between the South McCullough Range and the Clark Mountains.	Please clarify mountain descriptions relative to transmission and telecommunication lines locations. Please make universal change from McCullough "Mountains" to "Range"
0019-129	4.	3.4.1.1	3.4-2 Line 6	Field surveys were conducted by the applicant and their biological consultants.	Please add text to clarify.
0019-130	5.	3.4.1.1	3.4-2 Line 7	New or previously unsurveyed access roads, ~~and~~ spur roads, helicopter staging areas, and other project areas ~~as~~ identified by the applicant ~~will be~~ were surveyed during spring 2010.	Please add description of areas surveyed in spring 2010.
0019-131	6.	3.4.1.1	3.4-2 Lines 13-19	• Transmission Line Alternative Routes A and B near the Eldorado Substation, and Alternatives C and D and Subalternative E near Primm, Nevada; • The Nipton 33-kV/Earth 12-kV line from the Mountain	Please add last two bulleted items regarding the Nipton 33kV telecom alternatives.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-131 Continued				Pass Substation south to an existing AT&T microwave site; • The proposed fiber optic route along the existing Eldorado–Lugo transmission line from the Eldorado Substation south to Nipton; ~~and~~ • The Nipton 33-kV line between Nipton and the point where the Nipton 33-kV line crosses I-15; • The Nipton 33-kV line from the point where the Nipton 33-kV line crosses I-15 east to the Mountain Pass Substation; and, • The Nipton 33-kV line from the point where the Nipton 33-kV line crosses I-15 north along I-15 to the Ivanpah Substation;	
0019-132	7.	3.4.1.1	3.4-2 Line 40	The applicant ~~plans to~~ completed additional desert tortoise surveys in spring 2010 including the main access road from Highway 95 to the Eldorado Substation, the main access roads from Jean to the existing ROW, two proposed helicopter staging areas, laydown areas, and access roads and tower sites not previously surveyed on the Eldorado-Lugo transmission line.	Please add description of areas surveyed in Spring 2010.
0019-133	8.	3.4.1.1	3.4-2 Line 41	For the proposed transmission line route and alternatives, biologists surveyed a ~~250~~ 230-foot ~~ROW~~ corridor, plus five zone-of-influence transects on each side.	Please clarify 230-foot corridor was surveyed.
0019-134	9.	3.4.1.1	3.4-2 Line 44	Results of the 2009 desert tortoise surveys are provided in the ~~DRAFT~~ 2009 Desert Tortoise Survey Report (Karl 2010), in Appendix B-2 of this document. Results of the 2010 desert tortoise surveys are provided in the 2010 Desert Tortoise Survey Report (Karl 2010), in Appendix B-x of this document.	The 2010 desert tortoise report was submitted in May 2010.
0019-135	10.	3.4.1.1	3.4-2 Line 50	Field surveys for rare plants were conducted in 2008 along the proposed route and in most project areas; however, some areas were not covered, including some alternative routes and existing substation facilities. Field surveys were conducted in 2009 for project transmission and telecommunication alternative routes not identified in 2008.	Please consider revising to include information on 2009 surveys.
0019-136	11.	3.4.1.1	3.4-3	Additionally, the Ivanpah Dry Lake playa and disturbed	Please consider revising.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-136 Continued			Lines 1-2	ground areas and paved roads and parking lots near Primm, Nevada, were not surveyed due to a lack of suitable habitat.	
0019-137	12.	3.4.1.1	3.4-3 Line 3	Additional surveys for rare plants ~~will be~~ were completed by the applicant in spring 2010 for the proposed transmission and telecommunication routes and for areas not previously surveyed.	Please clarify time and areas for plant surveys.
0019-138	13.	3.4.1.1	3.4-3 Line 3	In 2008, an invasive/noxious weed survey was performed along the proposed project route from the existing Eldorado Substation to the proposed Ivanpah Substation site, extending west along the fiber optic communications route to the Mountain Pass Substation. The 2010 botanical survey included an invasive/noxious weed survey along the proposed transmission and telecommunication lines.	Please clarify time and area of invasive/noxious weed surveys.
0019-139	14.	3.4.1.1	3.4-3 Line 7	Survey results for both reconnaissance and protocol-level surveys are provided in the Eldorado–Ivanpah Transmission Project Biological Technical Report (EPG 2009) and in the survey reports for the 2010 surveys (desert tortoise, raptors, botanical survey, and jurisdictional delineation).	Please add 2010 survey reports reference.
0019-140	15.	3.4.1.1	3.4-3 Lines 14-17	As biological resources can move into project boundaries after initial surveys have been conducted, pre-construction surveys identify the current status of biological resources within project boundaries and allow for appropriate management if any sensitive ~~organisms~~ resources are found.	Please consider using "resources" in place of "organisms."
0019-141	16.	3.4.1.1 Table 3.4-1: bighorn sheep	3.4-3	McCullough Range ~~Pass~~, Highland Pass between Highland Range and South McCullough Mountains, Mountain Pass Substation area	Please clarify: the transmission line does not go through the named "McCullough Pass", which is about a mile south of the ROW
0019-142	17.	3.4.1.1 Table 3.4-1: burrowing owl	3.4-3	Habitat assessment to be conducted ~~migratory bird~~ during 2010 raptor survey and preconstruction surveys	A raptor survey was conducted in 2010 through consultation with the BLM
0019-143	18.	3.4.1.1 Table 3.4-1: desert tortoise	3.4-3	~~May~~ April 2010 and preconstruction clearance surveys	The 2010 desert tortoise survey was conducted in April.
0019-144	19.	3.4.1.1 Table 3.4-1: jurisdictional	3.4-3	~~Jan~~ Feb 2010	The jurisdictional delineation survey was conducted in February 2010

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
		delineation			
0019-146	20.	3.4.1.1 Table 3.4-1: jurisdictional delineation	3.4-3	Project area to be surveyed for washes/other areas that ~~will~~ may require water permits	Water permit requirements have not been determined by appropriate permitting agencies.
0019-147	21.	3.4.1.1 Table 3.4-1: raptors	3.4-3	~~December 2009~~ January, April, and May 2010, and preconstruction surveys	Please clarify survey dates.
0019-148	22.	3.4.1.1	3.4-23 Lines 14-18	Vegetation present within the larger desert washes in the proposed project area includes widely scattered catclaw acacia (*Acacia greggii*) and, more commonly, ephedra, cheesebush, and sweetbush. Mesquite mistletoe (*Phoradendron californicum*) occurs in some of the catclaw acacia in wash areas. Vegetation along canyon bottoms and washes in the McCullough ~~Mountains~~ Range is shrub-dominated, with no emergent tree species. Shrubs present include catclaw acacia, wolfberry, California trixis (*Trixis californica*), Virgin River brittlebush, and California buckwheat. Vegetation in the majority of smaller washes at lower elevations is the same as the adjacent vegetation community.	Please clarify vegetation types in washes in the project area.
0019-149	23.	3.4.1.	3.4-23 Line 23	~~For the proposed project, this vegetation type occurs at the higher elevations in the Clark Mountains~~	The proposed project does not go through this habitat type; only the Mountain Pass telecommunication alternative does.
0019-150	24.	3.4.1.1	3.4-24 Lines 30-34	Noxious weeds are species of non-native plants included on the weed lists of the U.S. Department of Agriculture (USDA; USDA 2009a), the California Invasive Plant Council (CIPC; CIPC 2006), the Nevada State Department of Agriculture, and those weeds of special concern identified by the BLM. Noxious weeds are a concern due to their potential to ~~cause permanent damage~~ impact ~~to~~ natural plant communities directly via competition or indirectly through alteration of the natural fire regime. No high concentrations of noxious weeds were observed anywhere along the project ROW.	Please add data references (Nevada) to clarify impacts. Please change "permanent damage" to "impact"
0019-151	25.	3.4.1.1	3.4-25	Vegetation Type: ~~Pinion pine-juniper woodland~~	This habitat type is not found in the proposed

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-151 Continued		Table 3.4-2			project area, only on the telecommunications route alternative between Ivanpah Substation and Mountain Pass Substation
0019-152	26.	3.4.1.1 Table 3.4-2	3.4-25	UNKNOWN (Areas of temporary/permanent impacts outside applicant-provided data layer)	Please provide clarification on which areas are being referred to.
0019-153	27.	3.4.1.1	3.4-26 Lines 2-3	Ivanpah Lake ~~and Roach lakes are~~ is crossed by the proposed project and/or the alternatives; the proposed project passes within 200 feet of the eastern edge of Roach Lake, and Jean and Eldorado lakes lie ~~adjacent to~~ within the vicinity of the project.	Please clarify project route locations relative to dry lakes.
0019-154	28.	3.4.1.1	3.4-26 Lines 10-12	The proposed telecommunications line just north and east of Nipton lies within the vicinity of Big Tiger Wash, a larger drainage between the southern McCullough Range and the New York mountains.	Please clarify the description of the telecommunication route alternative.
0019-155	29.	3.4.1.1	3.4-26 Lines 14-17	The specific condition of these desert drainages was assessed during ~~has not been determined;~~ a jurisdictional delineation survey conducted in early spring 2010 by the applicant. The delineation report documents drainage characteristics (including riparian vegetation presence) and determines potential jurisdictional extents based on the U.S. Army Corps of Engineers (USACE) and the CDFG codes and regulations.	Please clarify to reflect results of jurisdictional delineation survey and report submitted May 20, 2010.
0019-156	30.	3.4.1.1	3.4-26 Lines 21-23	The mammalian fauna with potential to occur in the project area is dominated by small, mostly nocturnal species of rodents and bats. Diurnal mammals are also potentially common and include hares, rabbits, ground squirrels (*Spermophilus tereticaudus*), and ungulates. The following species were observed ~~on~~ in the project ~~site~~ area:	Please clarify difference between "potentially occurring" and "observed" during surveys.
0019-157	31.	3.4.1.1	3.4-26 Lines 29-32	Very few amphibian species have the potential to occur within the proposed project area: two in California and four in Nevada. In contrast, the potential reptilian fauna is very diverse for the project in both California and Nevada. There are potentially 15 lizard species, 18 snake species, and one tortoise species that occur within the EITP in California. The EITP in Nevada provides potential habitat for 17 lizard species, 18 snake species, and one tortoise species.	Please clarify species "potential to occur " versus "occurrence."
0019-158	32.	3.4.1.1	3.4-26	Many of these birds ~~would~~ may only winter in the area	Please clarify species "potential to occur " versus

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-158 Continued			Lines 36-39	(e.g., Northern flicker [*Colaptes auratus*], sage thrasher [*Oreoscoptes montanus*], and white-crowned sparrow [*Zonotrichia luecophyrs*]), while others, such as the red-tailed hawk (*Buteo jamaicensis*), chukar (*Alectoris chukar*), and greater roadrunner (*Goecoccyx californianus*) are potentially year-round residents.	"occurrence."
0019-159	33.	3.4.1.1	3.4-26	[2] NOTE: Lack of delineation is a significant data gap. This document is incomplete without this information from SCE as impact analysis cannot be conducted.	The jurisdictional delineation survey was conducted in February 2010 and submitted on May 20, 2010.
0019-160	34.	3.4.1.1	3.4-27 Line 8	West of Ivanpah Dry Lake, the existing ROW crosses both small and broad washes as the 115kV transmission line heads up to Mountain Pass to Ivanpah substation.	Please clarify which transmission line goes to Mountain Pass substation.
0019-161	35.	3.4.1.1 Table 3.4-4	3.4-29	Mammal: Wild Burro, Habitat: Mostly low desert environments in scrublands and woodlands. Individuals observed and scat recorded in California at west Ivanpah Lake	Please clarify that species were observed.
0019-162	36.	3.4.1.1 Table 3.4-4	3.4-29	Birds: Golden Eagle, Habitat: Recorded near Ivanpah Substation site in California and Observed in Nevada on the Eldorado-Lugo telecom route.	Please clarify that species were observed.
0019-163	37.	3.4.1.1 Table 3.4-5	3.4-31	Plant: Catclaw Acacia, Potential: ~~L~~ O	Catclaw acacia has been observed in the Nevada portion of the project.
0019-164	38.	3.4.1.1 Table 3.4-5	3.4-31	Mammal: Wild Burro, Habitat: Mostly low desert environments in scrublands and woodlands. Individuals observed and scat recorded in California at west Ivanpah Lake	Please clarify that species were observed.
0019-165	39.	3.4.1.1 Table 3.4-5	3.4-31	Birds: Golden Eagle, Habitat: Observed on Eldorado-Lugo telecom route and recorded near Ivanpah Substation site in California, Potential: ~~L~~ O	Please clarify that species were observed.
0019-166	40.	3.4.1.1 Table 3.4-5	3.4-32	Birds: Peregrine Falcon, Habitat: Nests on cliffs surrounded by large expanses of open space in a variety of habitats. Known to breed in the McCullough Range. Observed on the transmission route east of Primm., Potential: ~~L~~ O	Please clarify that species were observed.
0019-167	41.	3.4.1.1 Table 3.4-5	3.4-32	Birds: Prairie Falcon, Habitat: Nests on cliffs surrounded by large expanses of open space in a variety of habitats. Known to breed in the McCullough Range. Observed on the transmission route west of Eldorado Substation., Potential: ~~L~~ O	Please clarify that species were observed.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-168	42.	3.4.1.1 Table 3.4-5	3.4-32	Reptiles: Desert tortoise, Habitat: Occurs in Mojave Desert scrub and Joshua tree woodlands in valleys, on bajadas, and in low hills at elevations up to 4,900 feet. Sign and individuals observed ~~at various points along the project alignment~~ within suitable habitat throughout the project area.	Please clarify that species were observed.
0019-169	43.	3.4.1.1 Table 3.4-5	3.4-33 footnote	Legend at bottom of Table 3.4-5 Potential of Occurrence L = Likely (moderate or better potential O = Observed During Reconnaissance Studies or Focused Surveys	Please clarify definition of "Potential of Occurrence."
0019-170	44.	3.4.1.1	3.4-34 Lines 7-11	~~Twenty-nine~~ Thirty-three special-status plant species occur or are ~~very~~ likely to occur along the California segment of the project, while ~~four~~ seven special-status plant species occur or are ~~very~~ likely to occur along the Nevada segment of the project. Based on a review of the existing state and federal databases, no plant species listed as threatened or endangered by the federal government or the states of California or Nevada are expected to occur within the proposed project area.	Please clarify: Table 3.4-4 and 3.4-5 only include a "Likely to Occur" to occur category which is defined as "moderate or better potential." "Very likely to occur" is not defined. Please revise numbers based on number of species in tables. Number of special status species made consistent with Tables 3.4-4 and 3.4-5.
0019-171	45.	3.4.1.1	3.4-34 Lines 25-26	This plant was observed along Transmission Alternative Route D in ~~California~~ Nevada.	Please clarify species locations.
0019-172	46.	3.4.1.1	3.4-35 Line 1	Mojave Milkweed – A single Mojave milkweed plant was observed during the rare plants survey approximately 0.55 miles southwest of the proposed Ivanpah Substation site in California.	Please clarify species locations.
0019-173	47.	3.4.1.1	3.4-37 Line 6-7	Barrel Cactus – This species was found in moderate density along the proposed route in California west of Ivanpah Dry Lake and on the transmission routes in Nevada near and in the McCullough Range.	Please clarify species locations.
0019-174	48.	3.4.1.1	3.4-37 Lines 40-41	Rough menodora – Rough menodora ~~has not been~~ was observed during surveys along the telecommunication route south east of the Mountain Pass substation ~~but~~ and may occur within the project limits on the east flank of the Clark Mountains.	Please clarify that species was observed and location(s).
0019-175	49.	3.4.1.1	3.4-37	Polished Blazing Star –	Please clarify that the proposed project is not in

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-175 Continued			Line 48	This species could occur within the ~~proposed~~ project area in the Clark Mountains ~~in the Mountain Pass area.~~	the Mountain Pass area; the Mountain Pass telecommunication alternative is in this area.
0019-176	50.	3.4.1.1	3.4-38 Line 12-13	Tough Muhley – Tough muhly could be present in the ~~proposed~~ project area near the Mountain Pass Substation.	Please clarify proposed project is not in the Mountain Pass area; the Mountain Pass telecommunication alternative is in this area.
0019-177	51.	3.4.1.1	3.4-39 Lines 24-25	Aven Nelson's phacelia – Aven Nelson's phacelia was observed at four closely spaced locations in the ~~proposed~~ project area, about 1 mile northeast of the Mountain Pass Substation.	Please clarify that the proposed project is not in the Mountain Pass area; the Mountain Pass telecommunication alternative is in this area.
0019-178	52.	3.4.1.1	3.4-39 Lines 30-32	Sky-blue phacelia – Sky-blue phacelia was observed in the project area in California ~~as a single occurrence approximately 2.8 miles northeast~~ northeast and south of the Mountain Pass Substation and along the telecom route on Nipton Road east of Nipton.	Please clarify species locations.
0019-179	53.	3.4.1.1	3.4-40 Lines 11-13	Catclaw acacia – In Nevada, Catclaw acacia occurs with desert wash vegetation (Gucker 2005), and could occur within any portion of the project with this vegetation type. Catclaw acacia has been observed in desert washes within the project area in California and Nevada	Please clarify species locations.
0019-180	54.	3.4.1.1	3.4-40 Lines 27-28	Wildlife – Based on desktop analysis and field surveys, several special-status wildlife species are known to occur or ~~have a very high potential~~ are likely to occur within the EITP (Tables ~~3.4-3~~ 3.4-4 and ~~3.4-4~~ 3.4-5).	Please clarify "very high potential" has not been defined. Please correct table numbers.
0019-181	55.	3.4.1.1	3.4-41 Lines 1-2	Tortoises prefer flowers of annual plants and grasses, but will also ~~assume~~ consume cacti and the vegetation of woody plants ~~herbs~~.	Please clarify.
0019-182	56.	3.4.1.1	3.4-41 Lines 12-23	In Nevada, the proposed redundant telecommunication line would cross approximately 11.8 miles of the Piute-Eldorado Critical Habitat Unit to the south of the Eldorado Substation (Figure 3.4-2, Table 3.4-6). In California, the proposed redundant telecommunications line would cross approximately 3.1 miles of the Ivanpah Critical Habitat Unit between the California-Nevada state line and the	Please clarify potential impacts to desert tortoise critical habitat due to undergrounding the fiber optic line along Nipton Road.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-182 Continued				proposed microwave tower site to the northeast of the town of Nipton. Approximately 2.4 miles of this portion of the proposed telecommunication route along Nipton Road would be installed underground within the existing road shoulder minimizing the potential impacts to desert tortoise habitat. The proposed microwave tower site would also be located entirely within the Ivanpah Critical Habitat Unit for the desert tortoise. **(*new paragraph*)** Both of the alternative redundant telecommunications line routes (Mountain Pass and Golf Course) would cross the Ivanpah Critical Habitat Unit in California. While in Nevada these two alternative redundant telecommunication routes are identical to the proposed route, the California segments differ significantly from the proposed route. Whereas the proposed redundant telecommunication route would cross approximately 3.1 miles of the critical habitat in California, the Golf Course alternative would cross approximately 12.9 miles of the Ivanpah Critical Habitat Unit, and the Mountain Pass alternative would cross approximately 12.8 miles of the Ivanpah Critical Habitat Unit (Figure 3.4-2, Table 3.4-6). Although portions of the telecommunication route alternatives located adjacent to Nipton Road and I-15 are within desert tortoise critical habitat, these segments of the telecommunication route would be installed underground within the existing road shoulder on Nipton Road or overhead on the existing Nipton 33-kV distribution line minimizing the potential impacts to desert tortoise habitat.	
0019-183	57.	3.4.1.1	3.4-42 Lines 2-11	During protocol-level desert tortoise surveys conducted in 2008, ~~and~~ 2009, and 2010 desert tortoises or associated sign (scat, burrows, shell fragments) were observed throughout most of the survey area with the exception of the developed and disturbed areas around Primm, Nevada, disturbed areas near the Molycorp Mine west of 1-15, the dry lake playas (Roach and Jean), and the higher elevation areas around Mountain Pass Substation. Desert tortoise densities in the Nevada portion of the proposed project area as reported by the BLM range from very low to moderate (Figure 3.4-2).	Please add information regarding the 2010 desert tortoise survey. Also see comment for page 3.4-2.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-183 Continued				Desert tortoise densities for the California portion of the project were not reported by BLM. The desert tortoise 2008 survey results are an appendix to the Eldorado-Ivanpah Transmission Project Biological Technical Report (EPG 2009), while the 2009 survey results are provided as a separate document. The Biological Technical Report and the desert tortoise 2008 survey results are found in Appendix B-1 Biological Technical Report and the 2009 Desert Tortoise Surveys are found in Appendix B-2 Desert Tortoise Surveys Results of the 2010 desert tortoise surveys are provided in the Desert Tortoise Survey Report (Karl 2010), in Appendix B-x of this document.	
0019-184	58.	3.4.1.1	3.4-45 Lines 6-7	Western Banded Gecko – The western banded gecko is ~~very~~ likely to be present within the proposed project area, and because it accepts various soil types and elevation, it could be present anywhere (Degenhardt et al. 1996).	Please clarify species potential to occur.
0019-185	59.	3.4.1.1	3.4-48 Lines 6-7	Wild Burros – ~~Although no burros were identified during field surveys,~~Individual burros and recent burro scat was observed on the west edge of Ivanpah Dry Lake.	Please include species observations.
0019-186	60.	3.4.1.1	3.4-52 Lines 29-30	~~No~~ One raptor nest~~s~~ ~~were~~ was observed during the 2010 raptor survey ~~in any~~ on an~~y~~ existing lattice tower on a transmission line ~~on~~ adjacent to the Eldorado–Lugo line.	Please include species observations.
0019-187	61.	3.4.1.1	3.4-52 Lines 45-46	The golden eagle was ~~recorded~~ observed near the Ivanpah Substation site during project surveys and during surveys for the ISEGS site in 2008 (CEC 2008) and on the Eldorado-Lugo line south of Eldorado Substation during the 2010 raptor survey.	Please include species observations.
0019-188	62.	3.4.1.1	3.4-53 Lines 25-26	A burrowing owl was observed along Transmission Alternative Route C during project surveys. They were also observed on the adjacent proposed ISEGS site (CEC 2008). No burrowing owls were observed during the 2010 raptor survey.	Please clarify species observations.
0019-189	63.	3.4.1.1	3.4-54 Lines 12-14	The peregrine falcon is known to occur in the project vicinity (Floyd et al. 2007), as the project area contains both suitable open areas for foraging and suitable nesting habitat in the form of cliff ledges within the McCullough	Please clarify species observations.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-189 Continued				Mountains. One peregrine falcon was observed on the transmission route east of Primm during the 2010 raptor survey.	
0019-190	64.	3.4.1.1	3.4-54 Lines 28-29	The prairie falcon prefers to nest on cliff faces using ledges, cavities, or crevices and will also lay eggs in abandoned stick nests of eagles, hawks, or ravens (Steenhof 1998). One prairie falcon was observed west of the Eldorado Substation during the 2010 raptor survey.	Please clarify species observations.
0019-191	65.	3.4.2.1	3.4-61 Lines 5-6	The nine statewide Regional Water Quality Control Boards (RWQCBs) develop and enforce water quality standards within their boundaries. The Lahontan RWQC has jurisdiction over the California portion of EITP.	Please clarify RWQCB jurisdiction.
0019-192	66.	3.4.3.3	3.4-66 Lines 43-44	Estimates for desert tortoise densities present within the EITP were provided from the 2008, ~~and~~ 2009, and 2010 survey reports from SCE.	Please clarify desert tortoise survey information.
0019-193	67.	3.4.3.4	3.4-67 Lines 19-23	**APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands.** Construction crews would avoid impacting the streambeds and banks of streams along the route to the extent possible. ~~If necessary, a SAA would be secured from the CDFG.~~ As applicable, the necessary permits would be obtained from the appropriate agencies. Impacts would be mitigated based on the terms of the ~~SAA~~ permits. No streams with flowing waters capable of supporting special-status species would be expected to be impacted by the proposed project.	Please insert clarification of potential permitting requirements.
0019-194	68.	3.4.3.4	3.4-69 Lines 42-46	**APM BIO-11: Desert Tortoise Measures** • The applicant would implement a Raven Management Program that would consist of: (1) an annual survey to identify raven nests on towers, and any tortoise remains at ~~the base of the~~ towers locations; this information would be relayed to the BLM so that the ravens and/or their nests in these towers could be targeted for removal, (2) SCE making an annual or one time contribution to an overall raven reduction program in the California or Nevada desert, with an emphasis on raven removal in the vicinity of this project.	Please clarify raven management program annual survey.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-195	69.	3.4.3.4	3.4-70	**APM BIO-12: Desert Bighorn Sheep Measures.** The applicant would consult with the BLM, USFWS, and NDOW regarding conservation measures to avoid impacts on desert bighorn sheep during construction. Project areas with the potential to impact bighorn sheep include the proposed transmission line route through the McCullough Mountains and the telecommunication route segment in the southern Eldorado Valley between the Highland Range and the Southern McCullough Mountains. Avoidance and minimization measures could include such elements as preconstruction surveys, biological monitoring, and timing construction activities to avoid bighorn sheep active seasons. ~~Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the propose route in the McCullough Mountains (June through September).~~ Construction activities in lambing areas from January to May in the North McCullough Pass area (approximately MP 9 to MP12) would only occur if a preconstruction survey is conducted and a biological monitor is present during construction activities.	Please revise to be consistent with Mitigation Measure BIO-13.
0019-196	70.	3.4.3.5	3.4-71 Lines 13-22	**Vegetation** Clearing and grading or other ground-disturbing activities for project infrastructure (~~the substation,~~ improvements to existing access/spur roads, new access/spur roads, staging areas, pulling areas, stringing and splicing areas, and tower foundations for the transmission and telecommunications lines) would cause the direct loss of vegetation communities within the project area boundaries. … Other project infrastructure would be permanent, and vegetation would be permanently impacted for those project areas (~~substation,~~ access roads, and towers).	Please note that "clearing and grading" does not accurately describe the ground disturbing impacts for much of the project. Impacts associated with clearing and grading of the Ivanpah substation site are discussed in the BrightSource environmental document.
0019-197	71.	3.4.3.5	3.4-72 Lines 37-39	MM BIO-2 involves restoration of vegetation and soils within the proposed project area to preconstruction conditions, immediately following the completion of all construction-related activities at impact sites and within one	Please clarify that restoration cannot begin until all construction-related activities have been completed at a given site.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-197 Continued				year post-construction, according to the requirements of wildlife resource agencies' authorizations.	
0019-198	72.	3.4.3.5	3.4-73 Lines 22-23	A complete assessment of potential effects to jurisdictional waters, riparian areas, and wetlands caused directly or indirectly by the proposed project ~~cannot be~~ has been completed ~~until~~ and the Jurisdictional Delineation report was submitted on May 20, 2010. ~~surveys are conducted.~~ [1] ~~NOTE: Pending a jurisdictional delineation, analysis on this section is incomplete.~~ [1] ~~NOTE: Need to include acres of impacts (not available at this time)~~	Please revise to reflect that the Jurisdictional Delineation report has been submitted on May 20, 2010.
0019-199	73.	3.4.3.5	3.4-73 Lines 36-38	~~If~~ The ~~pending~~ Jurisdictional ~~Determination~~ Delineation survey identified the presence of potentially jurisdictional waters~~,~~ or riparian areas ~~or wetlands~~ within the proposed project area~~,~~ ~~i~~If these features cannot be avoided (APM BIO-3), the adverse impacts will likely be moderate and both short term and long term.	Please note that the Jurisdictional Delineation report has been submitted on May 20, 2010.
0019-200	74.	3.4.3.5	3.5-74 Lines 2-4	**Wildlife** Clearing and grading or other ground-disturbing activities for project infrastructure (the Ivanpah substation, existing access/spur roads, and new access/spur roads, staging areas, pulling areas, stringing and splicing areas, and tower foundations for the transmission and telecommunications lines) would be potential sources of direct death of wildlife.	Please note that "clearing and grading" does not accurately describe the ground disturbing impacts for much of the project.
0019-201	75.	3.4.3.5	3.4-74 Line 21	Substation infrastructure built could alter wildlife movement, as animals ~~would~~ may avoid construction areas such as those for the microwave tower and other permanent structures.	Please clarify if impacts are permanent or temporary relating to construction activities or project structures.
0019-202	76.	3.4.3.5	3.4-76 Lines 25-27	Desert tortoise sign such as burrows, scat, and bone or shell fragments were observed in almost all areas of the proposed transmission alignment during surveys conducted in 2008 and 2009, including on the proposed Ivanpah Substation site in California.	Please include 2009 desert tortoise survey.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-203	77.	3.4.3.5	3.4-76 Lines 30-35	The redundant telecommunications line is almost entirely within desert tortoise habitat. ~~While surveys of this area have not currently been reported (pending~~ The results of the 2009 and 2010 desert tortoise surveys ~~and available literature suggests~~ indicate that desert tortoise is present along the lower elevations of this segment of the project. Several areas within the proposed project area are not suitable habitat for desert tortoise, including Roach and Ivanpah lakes (dry), the disturbed and developed areas in and around the town of Primm, Nevada, and the higher elevations of the Eldorado–Lugo transmission line in the southern McCullough Range where desert tortoise sign was not observed during the 2009 and 2010 surveys.	Please include 2009 desert tortoise survey.
0019-204	78.	3.4.3.5	3.4-78 Line 23	There is the potential for 17 protected mammal species to occur within the proposed project area (Tables ~~3.4-.3~~ 3.4-4 and ~~3.4-4~~ 3.4-5).	Please confirm table numbers.
0019-205	79.	3.4.3.5	3.4-78 Lines 39-40	The transmission route bisects the McCullough Range and the communication line bisects the pass between the McCullough Range and the Highland Range.	Please clarify telecommunications route location description.
0019-206	80.	3.4.3.5	3.4-79 Lines 31-33	**American Badger** However, the amount of permanent habitat lost (less than approximately 51 acres) is relatively small compared with the total amount of available suitable badger habitat within this area.	Please confirm that permanent habitat loss is less than approx. 51 acres.
0019-207	81.	3.4.3.5	3.4-80 Lines 45-46	~~No surveys for nesting birds~~, Raptor and raptor nest ~~, or nests~~ surveys were conducted for the proposed project~~, although the applicant plans to commence raptor and raptor nest surveys~~ in Sspring 2010. One stick nest was observed in a transmission tower during the 2010 survey.	Please update to include results of 2010 raptor survey.
0019-208	82.	3.4.3.5	3.4-86	~~The alternative would result in impacts on the Clark County MSHCP and the BCCE, as the entire alternative lies outside a pre-existing ROW within lands preserved by these plans. Biological resources and species targeted for conservation and protection by these plans, particularly the desert tortoise, would be potentially impacted by the project. However, MM BIO-1 through BIO-16 would significantly reduce biological impacts. Furthermore, the applicant~~	Please consider revising to be consistent with Land Use section 3.9: "Transmission Alternative Route A would bypass the segment of the proposed transmission line alignment between MP 1 and MP 7 and would be constructed entirely within a BLM-designated utility corridor, thus avoiding potential conflicts with the BCCE."

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-208 Continued				~~would be required to initiate discussions with Clark County and Boulder City concerning additional fee-based compliance and mitigation measures to ameliorate biological impacts. This compliance would be directly based on the provisions of the MSHCP and the BCCE. Impacts to provisions of the plans would be reduced to less than significant with the incorporation of results from biological mitigation and compliance discussions.~~	See Land Use 3.9, p.3.9-21 (lines 19-27) and p. 3.9-23 (lines 13-16). See also, Appendix C, BLM February 2010 letters to Clark County and Boulder City.
0019-209	83.	3.4.3.7	3.4-85	[7] ~~NOTE: Will be verified once JD complete.~~	Please note that the jurisdictional delineation report was submitted on May 20, 2010.
0019-210	84.	3.4.3.7	3.4-86 Lines 36-40	~~Surveys are still ongoing; for instance, burrowing owl and raptor surveys will be conducted in 2010. Thus, pending results, analysis of impacts to these species for this alternative (and for other alternatives) cannot be completed. Although site-specific data is not complete at this time, analysis of potential impacts to listed and sensitive species is still possible without all the data (40 CFR 150.22) and by assuming a high likelihood of species presence.~~	Please update this paragraph to reflect the 2010 survey results.
0019-211	85.	3.4.3.10	3.4-88 Line 48	Transmission Alternative Route D and Subalternative E were suggested by BLM to minimize <u>recreational</u> impacts to the Ivanpah Dry Lake.	Please clarify that these alternatives were suggested by the BLM to minimize impacts to recreational activities, which is accounted for in Section 3.12.3.5 (Recreation)
0019-212	86.	3.4.3.11	3.4-90 Lines 15-23	The additional communication line located between the Town of Nipton and I-15 would cross approximately 12.9 miles of designated desert tortoise critical habitat (Ivanpah Unit), approximately 9.8 miles more than the proposed telecommunication route (Table 3.4-6). All the disturbance created within this section of this alternative would be permanent in terms of restoration, mitigation, and compensation requirements. Desert tortoise surveys for this alternative found a greater amount of tortoise sign within the Golf Course Telecommunication Alternative than within the proposed project. <u>However, impacts to desert tortoise habitat would be minimized since the fiber optic line will be installed in the disturbed road shoulder or on the existing Nipton 33kV distribution line.</u> Additionally, when compared with the proposed project, this alternative would increase potential impacts on desert tortoise due to	Please specify location of the underground fiber optic line relative to desert tortoise habitat.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-212 Continued				the significantly increased impacted critical habitat acreage. However, once final density calculations of desert tortoise are available, they should be used to compare this alternative with the proposed project.	
0019-213	87.	3.4.3.12	3.4-91 Lines 9-13	The sensitive plant species that occur along this alternative are rough menodora, sky-blue phacelia, *Coryphantha* spp., Clark Mountain buckwheat, black grama, Aven Nelson's phacelia, and nine-awned pappus grass. However, potential impacts would be minimized since the fiber optic line would be installed overhead on the existing Nipton 33 kV line. The increase in the acreage of previously undisturbed habitat that would be impacted as a result of this alternative would increase the potential for introduction of invasive, non-native, or noxious plant species. Special-status wildlife would also be impacted by this alternative.	Please note that impacts would be minimized since the fiber optic line would be installed overhead on the existing distribution line.
0019-214	88.	3.4.3.12	3.4-91 Lines 15-26	The alternative route would be directly adjacent to special management areas for desert tortoise and bighorn sheep (Clark Mountain ACEC and CDFG Zone 3 for bighorn sheep; Figure 3.4-4). Although the Clark Mountains do not provide suitable lambing habitat for desert bighorn sheep, they do provide suitable habitat for foraging. Thus, compared with the California portions of the proposed route which do not pass into the Clark Mountains, this alternative is in closer proximity to areas that would provide additional habitat for the sheep. Therefore, greater temporary impacts from human presence and noise could result from this alternative, although these would be minor because the Clark Mountains are not crucial breeding habitat for the sheep. Increased disturbance impacts to birds could result from this alternative. Montane bird species use the upper elevations of the Clark Mountains for foraging and nesting. The Mountain Pass Substation is adjacent to this area; however, the substation and distribution line already exists and thus any additional impacts from construction noise and human disturbance to nearby nesting birds would be temporary and minor. Impacts in the Mountain Pass area would be minimized since the fiber optic line would be installed overhead on the existing Nipton 33kV distribution line and no new structures would be constructed. ~~As~~	Please note that impacts would be minimized since the fiber optic line would be installed overhead on the existing distribution line.

0019

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-214 Continued				~~discussed for the Golf Course Alternative, this alternative could also have some beneficial impacts not provided by the proposed project on raptors in the area, because additional new towers would be installed.~~	
0019-215	89.	3.4.3.12	3.4-91 Lines 28-37	The Mountain Pass Telecommunication Alternative would cross approximately 12.8 miles of designated desert tortoise critical habitat (Ivanpah Unit); a 9.7-mile increase compared with the proposed telecommunication route (Table 3.4-6). This would include the same 10-mile segment that is part of both the Mountain Pass and the Golf Course alternative. The Mountain Pass Telecommunication Alternative would impact approximately 0.08 miles less of critical habitat than would the Golf Course Alternative (Table 3.4-6). As previously discussed, all of the disturbance created within this 10-mile section would be permanent in terms of restoration, mitigation, and compensation requirements. Desert tortoise surveys for this alternative found more tortoise sign (e.g., scat, tracks, tortoise, burrow, shell) within the Mountain Pass Telecommunication Alternative than within the proposed project. Additionally, when compared with the proposed project, this alternative would increase the potential of impacting desert tortoise due to the significantly increased amount of critical habitat that would be impacted. <u>However, impacts to desert tortoise habitat would be minimized since the fiber optic line will be installed in the disturbed road shoulder or on the existing Nipton 33kV distribution line.</u>	Please specify location of the underground fiber optic line relative to desert tortoise habitat.
0019-216	90.	3.4.3.5	3.4-92 Lines 22-24	**MM BIO-3: Special-Status Plants Restoration and Compensation.** The applicant will mitigate for the loss of special-status plant species within the project area ~~immediately~~ following <u>the completion of all</u> construction <u>activities at a site</u> and within 1 year of post-construction according to the requirements of resource agency authorizations (e.g., CDFG 2081 permit).	Please note that mitigation cannot begin until all construction activities have been completed at a particular site.
0019-217	91.	3.4.3.5	3.4-93 Lines 16-22	**MM BIO-9: Cover Steep-walled Trenches or Excavations during Construction.** To prevent entrapment of wildlife, all steep-walled trenches, auger holes, or other excavations will be covered at the end of each day. Fencing	Please clarify that an appropriate tool may be used.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-217 Continued				will be maintained around the covered excavations at night. For open trenches, earthen escape ramps will be maintained at intervals of no greater than 0.25 miles. A biological monitor will inspect all trenches, auger holes, or other excavations a minimum of twice per day, and also immediately prior to back-filling. Any wildlife species found will be safely removed and relocated out of harm's way, using a suitable tool such as a pool net when applicable. For safety reasons, biological monitors will under no circumstance enter open excavations.	
0019-218	92.	3.4.3.5	3.4-93 Lines 23-26	**MM BIO-10: Biological Monitors.** Biological monitors will be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. A minimum of one monitor per crew is needed for construction crews using heavy equipment (e.g., backhoes, large trucks). One roving monitor will monitor multiple times per day in other active construction zones where heavy equipment is not in use.	Please clarify monitoring would not be required for areas with no habitat, e.g. developed areas or within substation fence lines.
0019-219	93.	3.4.3.5	3.4-93 Line 44	**MM BIO-12: Desert Tortoise** • Qualified and/or authorized biologists will conduct preconstruction surveys according to the most current USFWS protocol.	Please clarify.
0019-220	94.	3.4.3.5	3.4-94 Line 8	**MM BIO-12: Desert Tortoise** • Biological monitors will clear all active work sites located in desert tortoise habitat each morning before construction begins and throughout the day if crews move from ~~tower~~ construction site to construction site.	Please clarify.
0019-221	95.	3.4.4	3.4-95-11	**MM BIO-13: Desert Bighorn Sheep Impacts Reduction Measures**. To reduce impacts on desert bighorn sheep, the following will be done • ~~Avoid all~~ Construction activities ~~(with the exception of vehicle use of access roads during emergencies)~~ in lambing areas from January to May in the North McCullough Pass area (approximately MP 9 to MP 12) would only occur if a preconstruction survey is conducted and a biological monitor is present during construction activities. ~~during the~~	Please consider revising this language as construction activities would be prolonged if SCE is not allowed from MP 9-12 during the months of January through May. This potential delay could result in additional environmental impacts from prolonged operations.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-221 Continued				~~duration of construction and all maintenance events.~~	
0019-222	96.	3.4.3.5	3.4-95 Line 43	**MM BIO-15 Migratory Birds and Raptors** • As outlined by the *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006), transmission, subtransmission, and distribution structures will be designed and constructed to be avian safe by ensuring a minimum phase to phase and phase to ground separation of 60 inches horizontal and 40 inches vertical will be maintained or energized equipment will be covered ~~the following avian safe practices will be employed during construction: cover phase conductors with manufactured covers, include perch discouragers on crossarms and on top of poles, exceed the minimal distance between phase conductors~~ to prevent electrocution by perched birds and their wingspan~~., utilize longer horizontal insulators, suspend phase conductors on pole top and cross arms, install horizontal jumper support to increase the phase-to-ground separation, replace tension members with fiberglass or non-conducting materials, cover tension members with dielectric material, utilize fiberglass poles or switches, and install standard nest discouragers.~~	Please consider revising to allow flexibility in determining most effective means for reducing avian electrocution potential.
0019-223	97.	3.4.3.5	3.4-96 Lines 18-26	If burrowing owls are found on site in the California portion of the project, the following additional measures will be included: 1) As compensation for the direct loss of burrowing owl nesting and foraging habitat, the project proponent shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat at ~~the~~ a ~~following~~ ratio to be determined by consultation with resource agencies (USFWS, BLM, CDFG). ~~:~~ ~~(a) Replacement of occupied habitat with suitable habitat at 1.5 x 6.5 acres per pair or single bird;~~ ~~(b) Replacement of occupied habitat with habitat contiguous with occupied habitat at 2 x 6.5 acres per pair or~~	Please consider determining mitigation ratios by consultation with applicable agencies.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-223 Continued				~~single bird; and/or~~ ~~(c) Replacement of occupied habitat with suitable unoccupied habitat at 3 x 6.5 acres per pair or single bird.~~	
0019-224	98.	3.4.5.1	3.4-97 Lines 5-8	**Overall** The setting of the ISEGS is very similar to the Ivanpah Substation area as described in Section 3.4.1, "Environmental Setting." The ISEGS project is located wholly in California on undisturbed, natural land. This area is surrounded by both undisturbed and developed land, including the Primm Valley Golf Course, I-15, ~~an~~ existing transmission line<u>s</u>, and unpaved roads.	Please clarify that there are several transmission lines in the area.
0019-225	99.	3.4.5.1	3.4-97 Lines 11-20	~~Although~~ An assessment of ephemeral and intermittent drainages and Waters of the State ~~(including jurisdictional determination by federal and state agencies)~~ ~~has~~ ~~not been completed~~ <u>was conducted for the EITP in spring 2010.</u> The general characteristics of the drainages within the EITP area are similar in form and function to those in the ISEGS area. The ISEGS project is sited on a broad bajada that extends from the base of the Clark Mountains to the western edge of Ivanpah Dry Lake. Within the ISEGS area, the drainages range from small (1 to 4 feet wide) to large (greater than 85 feet). A total of 291 miles of channels cover 198.72 acres. Most of the drainages are small. Based on initial delineations, no wetlands or riparian areas are within the ISEGS project area. The USACE determined that the ISEGS would not discharge dredged or fill material into a Water of the United States or an adjacent wetland, and therefore would not be subject to jurisdiction under Section 404 of the Clean Water Act. However, all of the ephemeral and intermittent drainages are considered Waters of the State of California.	Please not that the jurisdictional delineation survey was submitted on May 20, 2010.

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT (DEIR/EIS)
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 3.5 Cultural Resources and Native American Values

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-226	1.	3.5.1.2	3.5-4 Lines 10-12	It is likely that associated cultural resources such as trails, campsites, and other features associated with mining were in the general project area, outside the current Area of Potential Effects (APE), and may prove to be National Register of Historic Places (NRHP)-eligible resources.	Please clarify that these mining-related activities lie outside the project area.
0019-227	2.	3.5.1.3	3.5-4 Line 28	3.5.1.3 Cultural Sites within Area of Potential Effect (APE)	Please add APE so that the reader knows that there are a finite number of resources inventoried as a result of cultural resources surveys.
0019-228	3.	3.5.1.3	3.5-4 Lines 47-50	Although this site as a whole is eligible for listing in the NRHP, the short sections of the railroad line located within the project corridor are not recommended as contributing elements of the structure (Chambers Group 2009).	Consider adding reference for evaluation completed in support of EITP. 2009 Chambers Group, *Architectural Evaluation of Three Historic Sites (CA-SBR-1910H, CA-SBR-3048H, and CA-SBR-12980H) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*. Evaluation Report submitted to BLM and CPUC in December 2009.
0019-229	4.	3.5.1.3	3.5-5 Lines 4-5	At this point, the applicant intends to span over the LADWP Transmission Line using H-frame towers, thus avoiding any direct impacts to this resource.	Please clarify that there will not be any direct impacts to the LADWP Line as a result of construction activities.
0019-230	5.	3.5.1.3	3.5-5 Line 34 (Insert)	~~This site has not been evaluated for NRHP eligibility.~~ The site was evaluated in 2010 and has been recommended as ineligible for inclusion in the NRHP (Thompson 2010).	Consider adding reference for evaluation completed in support of EITP. 2010 Thompson, Annette, J., *Letter Report: Evaluation of 26CK2633 in Support of Eldorado-Ivanpah Transmission Line Project*, Harry Reid Center for Environmental Studies.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-231	6.	3.5.1.3	3.5-5 Line 42	(CA-SBR-13132H)	Revise to add missing "3" to Trinomial.
0019-232	7.	3.5.1.3	3.5-5 Lines 45-46	This site ~~does not appear eligible~~ is recommended as ineligible for listing in the NRHP; ~~however, a formal NRHP evaluation of site would be conducted if the Mountain Pass alternative is chosen for construction~~ (Sander and Auck 2009).	Consider adding reference for evaluation completed in support of EITP. 2009 Sander, Jay, K. & Jessica J. Auck, *Testing Report for Evaluation of Five Historic Archaeological Sites (CA-SBR-7802, CA-SBR-12981, CA-SBR 12982, CA-SBR-13232, and CA-SBR-13133) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*, Chambers Group.
0019-233	8.	3.5.1.3	3.5-5 Line 51	The site is recommended as not eligible for the NRHP (Sander and Auck 2009).	Consider adding reference to Sander and Auck report. See above.
0019-234	9.	3.5.1.3	3.5-6 Lines 27-29	The portions of Old Traction Road that may be affected by the EITP development are not recommended as contributing elements of the resource (Chambers 2009).	Consider adding reference for evaluation completed in support of EITP. 2009 Chambers Group, *Architectural Evaluation of Three Historic Sites (CA-SBR-1910H, CA-SBR-3048H, and CA-SBR-12980H) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*. Evaluation Report submitted to BLM and CPUC in December 2009.
0019-235	10.	3.5.1.3	3.5-6 Lines 33-35	This site has been recommended not eligible for the NRHP due to disturbances associated with road maintenance, and the site testing results from the EITP investigations support this recommendation (Sander and Auck 2009).	Add reference for evaluation completed in support of EITP. 2009 Sander, Jay, K. & Jessica J. Auck, *Testing Report for Evaluation of Five Historic Archaeological Sites (CA-SBR-7802, CA-SBR-12981, CA-SBR 12982, CA-SBR-13232, and CA-SBR-13133) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*, Chambers Group.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-236	11.	3.5.1.3	3.5-6 Lines 42-43	The roadway is recommended as not eligible for listing on the NRHP (Chambers 2009).	Consider adding reference for evaluation completed in support of EITP. 2009 Chambers Group, *Architectural Evaluation of Three Historic Sites (CA-SBR-1910H, CA-SBR-3048H, and CA-SBR-12980H) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*. Evaluation Report submitted to BLM and CPUC in December 2009.
0019-237	12.	3.5.1.3	3.5-7 Lines 4-5	However, the short sections of the railroad line located within the project corridor are not recommended as contributing elements of the structure (Chambers 2009).	Consider adding reference to Chambers report. See above.
0019-238	13.	3.5.1.3	3.5-7 Line 17	It has been recommended not eligible for the NRHP (Sander and Auck 2009).	Consider adding reference for evaluation completed in support of EITP. 2009 Sander, Jay, K. & Jessica J. Auck, *Testing Report for Evaluation of Five Historic Archaeological Sites (CA-SBR-7802, CA-SBR-12981, CA-SBR 12982, CA-SBR-13232, and CA-SBR-13133) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*, Chambers Group.
0019-239	14.	3.5.1.3	3.5-7 Line 24	It has been recommended not eligible for the NRHP (Sander and Auck 2009).	Consider adding reference to Sander and Auck report. See above.
0019-240	15.	3.5.1.3	3.5-7 Line 43	A search of the Native American Heritage Commission's Sacred Lands File (SLF) was conducted to determine ~~the~~ any known Native American cultural resources in the proposed project area.	Please revise and clarify when the search was conducted and by whom.
0019-241	16.	3.5.3.4	3.5-13 Lines 21-23	If necessary, the applicant would assist BLM in consultations with Native Americans regarding traditional cultural values that may be associated with ~~archaeological resources~~ locations within the APE.	Consider clarifying. Traditional cultural values are not necessarily linked with archaeological resources, but rather locations that may be sacred to Native Americans.
0019-242	17.	3.5.3.5	3.5-15 Line 19	Construction of the EITP ~~would~~ has the potential to impact cultural resources because of surface and subsurface ground disturbance.	Consider revising to clarify, as all studies show that only the Boulder Transmission Line will be adversely affected by construction.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-243	18.	3.5.3.5	3.5-15 Lines 31-35	The LADWP Boulder Transmission Line was determined eligible for the NRHP in 1994. The transmission line will not be altered by the project since the proposed line will be engineered at the crossing locations to avoid this resource. ~~The applicant intends to span over the line using H-frame towers, which would allow the EITP line to cross the historic LADWP line without impacting it. Any disturbance or destruction of the contributing elements to this resource would result in an impact.~~ All measures of APM CR-2a would help ensure that adverse effects/impacts would be avoided ~~or minimized~~.	Consider revising to reflect that the LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.
0019-244	19.	3.5.3.5	3.5-16 Lines 3-4 (Insert)	~~This site has been recommended not eligible for the NRHP, so the EITP would not result in any impacts to this resource.~~ Because 36-13416 may share a historical association with the Boulder Dam 132-kV transmission line, it will also be included as part of APM CR-4b, even though it will not be affected by the EITP.	This telecommunications system would be deemed a contributing element within the Southern Sierras Power Company (SSPC) Boulder Line Historic District, which has been determined eligible for the NRHP.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-245	20.	3.5.3.5	3.5-16 Lines 10-13	The prehistoric lithic scatter, which contained debitage, one projectile point, and two biface fragments, was evaluated in February 2010 and recommended as ineligible for inclusion in the NRHP (Thompson 2010). ~~has not been evaluated for eligibility to be listed on the NRHP~~; Furthermore, ~~however,~~ the applicant plans to avoid this site entirely by implementing APMs CR-2, CR-2b, and CR-2c. Therefore, the EITP would not result in adverse impacts on this resource. ~~APMs CR-2, CR-2b, and CR-2c would also help ensure there would be no adverse impacts.~~	Consider adding reference for evaluation completed in support of EITP. 2010 Thompson, Annette, J., *Letter Report: Evaluation of 26CK2633 in Support of Eldorado-Ivanpah Transmission Line Project*, Harry Reid Center for Environmental Studies.
0019-246	21.	3.5.3.5	3.5-16 Lines 45-49	~~Cultural resources may also be discovered on the surface of these sediments.~~ The rest of this segment passes over colluvial deposits and exposed bedrock of volcanic origin that has low potential for buried cultural resources or human remains, including those interred outside of formal cemeteries~~; however, cultural resources may be discovered on the surface of these sediments~~.	Please revise to reflect that the EITP APE has been surveyed intensively for cultural resources and is, therefore, unlikely to yield prehistoric artifacts/features on the surface of these sediments within the project APE.
0019-247	22.	3.5.3.5	3.5-17 Lines 5-6	~~Cultural resources may also be discovered on the surface of these sediments.~~	Please consider revising. See comment above.
0019-248	23.	3.5.3.5	3.5-17 Line 12	~~Cultural resources may also be discovered on the surface of these sediments.~~	Please consider revising. See comment above.
0019-249	24.	3.5.3.5	3.5-17 Lines 24-26	Construction of the EITP would result in a direct, adverse, and permanent impact to ~~Cultural Resources~~ 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H)/26CK4957~~ by altering the setting and disturbing elements of the site that contribute to its historic significance.	Please consider revising to reflect that the LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.
0019-250	25.	3.5.3.5	3.5-17 Lines 39-40	Impacts to Cultural Resource~~s~~ 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H/26CK4957~~	Please consider revising to reflect that the LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
					LADWP Line.
0019-251	26.	3.5.3.5	3.5-18 Line 20	Additionally, implementation of APM CR-2b would reduce these potential impacts to less than significant levels by educating the construction crew on the penalties associated with not reporting a cultural find or of collecting artifacts from federal- or state-controlled land.	Please consider revising, as APM CR-2b refers specifically to the WEAP Program.
0019-252	27.	3.5.3.9	3.5-19 Lines 23-25	This alternative would result in significant adverse permanent impacts to 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H)/26CK4957~~ as described above under the proposed project by removing the line along the proposed route ~~altering the setting and disturbing the elements contributing to the historic significance of the sites.~~	Please consider revising to reflect that the LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.
0019-253	28.	3.5.3.12	3.5-20 Line 25-28	Construction of the Mountain Pass Telecommunication Alternative would not ~~likely~~ result in impacts to cultural resources 36-014497 (CA-SBR-12981H), or 36-014498 (CA-SBR-12982H) because these sites have been recommended as ineligible for inclusion in the NRHP (Sander and Auck 2009). ~~appear ineligible for the NRHP, pending formal evaluation.~~ Impacts to cultural resource 36-7347 (CA-SBR-7347H) are unknown because no NRHP determinations have yet been made for the resource.	Please consider adding a reference for evaluation completed in support of EITP. 2009 Sander, Jay, K. & Jessica J. Auck, *Testing Report for Evaluation of Five Historic Archaeological Sites (CA-SBR-7802, CA-SBR-12981, CA-SBR 12982, CA-SBR-13232, and CA-SBR-13133) Southern California Edison Eldorado-Ivanpah Transmission Project San Bernardino County, California*, Chambers Group.
0019-254	29.	3.5.4	3.5-21 Lines 9- 13	The qualified cultural resources specialist will conduct HAER recordation on Cultural Resources 36-10315 (CA-SBR-10315H) ~~and 36-7694 (CA-SBR-7694H)/26CK4957~~. HAER recordation will be conducted in accordance the Secretary of the Interior's Standards for Architectural and Engineering Documentation, following Documentation Criteria Level II. ~~, as appropriate, for the level of significance assigned to the resources.~~	Please consider revising to reflect that the LADWP Boulder Transmission Line will not be directly impacted by construction. Indirect effects may occur if the setting of the line was altered by the Undertaking. The EITP, however, being a transmission project within an existing transmission right-of-way, will not alter the setting of the LADWP Line.

Section 3.6: Geology, Soils, Minerals, and Paleontology

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-255	1.	3.6.1.1	3.6-1 Lines 45-47	Normal faulting is one of the most common types, exhibiting movement along a generally non-vertical plane such that the upper part moves downward along the plane causing an offsetting of the geologic unit(s).	Please revise.
0019-256	2.	3.6.1.1	3.6-5 Line 14	In the valley bottoms and flat areas, latest Holocene to late Pleistocene playa deposits ~~of~~ are characterized as ….	Please revise.
0019-257	3.	3.6.1.3	3.6-15 Line 50 and 3.6-16 Line 1	The proposed above ground portion of the Mountain Pass Telecommunications Line (attached to the existing Nipton 33-kV poles) intersects the Molycorp Mine, a large rare-earth mine near Mountain Pass, California, hereafter called the Mountain Pass Mine.	Please indicate that this section is above ground and no excavation is planned through the Molycorp Mine area.
0019-258	4.	3.6.1.3	3.6-16 Line 34	There is some~~no~~ mining claim activity along this segment, no known mineral resource recovery ongoing near this segment, and no active mines are identified in the USGS MRDS database within 1,000 feet of this segment.	Please revise as noted. This alternative crosses one area with a moderate number of mining claims per Figure 3.6-3.
0019-259	5.	3.6.1.3	3.6-19 Lines 5-8	*Golf Course Alternative* There is mining claim activity in the vicinity of this route, which consists of aboveground and underground fiber-optic cable. However, there is no known ongoing mineral resource recovery near this segment, and no active mines are identified in the USGS MRDS database within 1,000 feet of this segment. *Mountain Pass Alternative* There is mining claim activity in the vicinity of ~~these short conduit routes, but no known ongoing mineral resource recovery is near these segments, and no active mines are identified in the USGS MRDS database within 1,000 feet of~~	These two alternatives are unique geologically and should not be combined. It is important to indicate that this section is aboveground and no excavation is planned through the actively mined Molycorp Mine area.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-259 Continued				~~these segment.~~this route, which consists of aboveground and underground fiber-optic cable. There is ongoing mineral resource recovery in the Mountain Pass portion of this segment with aboveground fiber-optic cable on existing poles and active mining is occurring within 1,000 feet of this segment.	
0019-260	6.	3.6.3.5	3.6-30 Line 25	Slope stability (e.g., ~~L~~landslides and rockfall) effects are assessed in two distinct ways: 1) project development could destabilize a soil or geologic unit and induce a landslide; or 2) project components could be transported in a landslide and introduce additional risk or damage to people or the environment.	Please consider revising, in order to introduce the more general term "slope stability" to cover the two main forms of potential failure, landslides, and rockfall.
0019-261	7.	3.6.3.5	3.6-30 Lines 48-51 and 3.6-31 Line 1	For example, the impact to existing surface topography related to subsidence due to groundwater withdrawal would be possible if substantial pumping were to occur related to development in the region; continued and/or increased groundwater withdrawal from the Ivanpah and Eldorado valleys may cause an overdraft condition resulting in settling of the ground surface due to compaction of underlying unconsolidated sediments resulting in unsafe changes in surface topography; and dehydration of clays between the soil surface and the water table causing local sinkholes due to fluctuations in hydrology.	Please consider revising. Since the potential for sinkholes in areas adjacent to Ivanpah Dry Lake is introduced in section 3.6.1.2, it should be carried in subsequent relevant sections.
0019-262	8.	3.6.3.5	3.6-31 Lines 11-18	No mining of metallic deposits was identified within 1,000 feet of the proposed transmission line project area. Metallic and ~~N~~non-metallic deposits within the general project area include rare earth minerals from the Molycorp Mine, pumice, feldspar, limestone, and sand and gravel, with sand and gravel potential being the highest along the routes. There are a few past and current mining locations in the vicinity of the proposed project, but none identified in the USGS database as located within 1,000 feet of either side of the proposed transmission line route or alternative routes. Any adverse impacts to the availability of currently-identified mineral resources would be negligible; the potential resource is area-wide but would be only locally developed. The development of mineral deposits within the proposed project area would result in a less than significant impact to no impact without mitigation.	Please clarify that the transmission line does not pass within 1000 feet of the Molycorp Mine and that the rare earth minerals are metallic.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-263	9.	3.6.3.5	3.6-32 Lines 8-9	The proposed location of the substation is in an area that may be susceptible to subsidence caused by removal of groundwater, to sinkholes due to dehydration of clays between the soil surface and the water table, and to~~in an area of~~ expansive soil.	Please consider revising. The potential for sinkholes in areas adjacent to Ivanpah Dry Lake is introduced in section 3.6.1.2; therefore, it should be carried in subsequent relevant sections.
0019-264	10.	3.6.3.5	3.6-33 Lines 37-42	No mining of metallic deposits was identified within 1,000 feet of the proposed project area, except the aboveground portion of the Mountain Pass Telecommunication Alternative would go through the Molycorp Mine. Non-metallic deposits within the general project area include rare earth minerals, pumice, feldspar, limestone, and sand and gravel, with sand and gravel potential being the highest along the routes. There are a few past and current mining locations in the vicinity of the proposed project, but other than the Molycorp Mine, none is located within 1,000 feet of either side of the proposed telecommunications line route or alternative routes.	Please indicate that this section of the project is aboveground, no excavation is planned through the actively mined Molycorp Mine area, and to clarify that the telecommunication line does pass within 1000 feet of the Molycorp Mine.
0019-265	11.	3.6.3.5	3.6-34 Lines 19-20	Fault rupture, although very unlikely due to movement on the SFS or the Black Hills fault, ~~can~~could result in structural failure that poses a risk to people.	Please clarify that the potential for fault rupture is limited to two faults and the likelihood is low.
0019-266	12.	3.6.3.5	3.6-34 Lines 26-29	Maintenance of service roads could expose people or structures to minor adverse slope stability (e.g., landslides and rockfall) ~~landslide~~ effects over the life of the proposed project. In addition, operation and maintenance activities could expose people and structures to landslide hazards during the life of the project. Geologic conditions along the transmission line route favorable to landslides would be expected to occur in areas on or adjacent to hill slopes (in the McCullough Mountains and the hills west of Primm), particularly where access roads have been built.	Please consider revising. The more general term "slope stability" should be used to cover the two main forms of potential failure, landslides, and rockfall.
0019-267	13.	3.6.3.5	3.6-34 Lines 44-46	As part of MM GEO-1, the applicant will contact the California Department of Water Resources and the Nevada Division of Water Resources on an annual basis to determine if groundwater withdrawals in the area are causing ground subsidence or sinkholes. If subsidence or sinkholes are found and threatens any project facility, the applicant will develop a mitigation plan to prevent damage to structures.	Please consider revising. The potential for sinkholes in areas adjacent to Ivanpah Dry Lake is introduced in section 3.6.1.2; therefore, it should be carried in subsequent relevant sections.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-268	14.	3.6.3.5	3.6-35 Lines 49	Fault rupture, although very unlikely due to movement on the SFS or the Black Hills fault, could ~~can~~ result in structural failure that poses a risk to people.	Please clarify that the potential for fault rupture is limited to two faults and the likelihood is low.
0019-269	15.	3.6.3.5	3.6-36 Lines 5-14	Maintenance of service roads could expose people or structures to minor adverse slope stability (e.g., landslides and rockfall) effects over the life of the proposed telecommunications line. In addition, operation and maintenance activities could expose people to landslide hazards during the life of the project. Geologic conditions along the telecommunications line route favorable to landslides would be expected to occur in areas on or adjacent to hill slopes (in the McCullough Mountains and the hills west of Primm), particularly where access roads have been built. Although these landslide-prone conditions would be local in extent, their potential for impact may extend over a long period of time. The impact of these conditions on the project would be less than significant with mitigation. Operation and maintenance of service roads would lead to continued ground disturbance that would result in sites of potential erosion, particularly in areas of hill slopes. These activities would continue to disturb the existing ground surface and natural drainage(s) over the entire life of the proposed project, causing minor adverse erosion-related impacts. However, with the implementation of proper engineering control measures, this impact would be less than significant with~~out~~ mitigation.	Please revise as noted. The more general term "slope stability" should be used to cover the two main forms of potential failure, landslides, and rockfall.
0019-270	16.	3.6.3.5	3.6-36 Lines 19-22	Subsidence due to groundwater withdrawal is possible due to substantial pumping and ~~,~~ due to dehydration of clays between the soil surface and the water table; continued and/or increased groundwater withdrawal from the Ivanpah and Eldorado valleys could cause an overdraft condition resulting in the settling of the ground surface due to compaction of underlying unconsolidated sediments.	Please revise as noted. The potential for sinkholes in areas adjacent to Ivanpah Dry Lake is introduced in section 3.6.1.2; therefore, it should be carried in subsequent relevant sections.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-271	17.	3.6.3.5	3.6-39 Lines 23-27	Ground subsidence or collapse due to groundwater withdrawal or dehydration of clays between the soil surface and the water table could lead to the structural failure of the transmission line and telecommunication line towers and substation facility. This adverse impact on the project, ranging from negligible to minor, could be localized to extensive, depending on the degree to which continued and/or increased groundwater withdrawal from the Ivanpah and Eldorado valleys causes an overdraft condition or dehydration resulting in settling of the ground surface due to compaction of underlying unconsolidated sediments.	Please revise as noted. The potential for sinkholes in areas adjacent to Ivanpah Dry Lake is introduced in section 3.6.1.2; therefore, it should be carried in subsequent relevant sections.
0019-272	18.	3.6.3.5	3.6-40 Lines 1-3	There are a few past and current mining locations in the vicinity of the proposed project, but none, except the aboveground portion of the Mountain Pass Telecommunications Alternative, is within 1,000 feet of either side of the proposed telecommunications line route. The Molycorp Mine is within 1000 feet of the Mountain Pass telecommunications line ~~or a~~alternative route~~s~~.	Please indicate that this section of the project is aboveground in the actively mined Molycorp Mine area and to clarify that the telecommunication line does pass within 1000 feet of the Molycorp Mine.
0019-273	19.	3.6.5.1	3.6-44 Lines 43-45	The potential for surface rupture on a fault at any of the three power plant sites (Ivanpah 1, 2, and 3) is very low since no active or potentially active faults are known at~~to have ruptured~~ the ground surface of the proposed ISEGS location.	Please clarify that any faults found on maps through this area are not active or potentially active, thereby not presenting a hazard. Also, such faults may not have ruptured the existing ground surface.
0019-274	20.	3.6.4	3.6-44 Line 4	**MM GEO-1: Monitor and Mitigate Damage to Tower Structures.** If physical evidence proves groundwater withdrawals are threatening tower locations, SCE would contact the California Department of Water Resources and the Nevada Division of Water Resources ~~on an annual basis to determine if groundwater withdrawals are threatening to cause ground subsidence within the project area~~ to determine groundwater levels. ~~If subsidence threatens tower locations~~ If necessary, SCE ~~will~~ would develop a plan to mitigate potential damage to tower structures using standard foundation remediation techniques available	Consider deleting this measure as SCE has operations and maintenance policies to maintain foundations and structures. However, if **MM GEO-1** is not removed, please consider revising the mitigation to reflect this language.

Section 3.7: Hazards, Health, and Safety

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-275	1.	3.7.1	3.7-1 Line 38 (Insert)	**Hazardous Waste:** A waste may be considered hazardous if it exhibits certain hazardous properties ("characteristics") or if it is included on a specific list of wastes the U.S. Environmental Protection Agency (U.S. EPA) has determined are hazardous ("listing" a waste as hazardous). U.S. EPA's regulations in the Code of Federal Regulations (CFR) define four hazardous waste characteristic properties: ignitability, corrosivity, reactivity, and toxicity (40 CFR 261.21-261.24; U.S. EPA 2010a). Additionally, in California, a waste is considered a hazardous waste if it's listed in Title 22, CCR Section 66261.126 Appendix 12 (b) in the List of California Hazardous Waste Codes.	Please revise to recognize California's regulations on hazardous waste.
0019-276	1.	3.7.1.2 Table 3.7-2	3.7-4	Atc-Mountain Pass #89344 Bailey Road 16n 13e Sec 11 Mountain Pass Permitted ~~UST~~ AST Active Permit Approx. 0.5 miles west of Mountain Pass Telecom. Alternative	Please revise. Cal Trans has an AST not a UST.
0019-277	2.	3.7.1.6	3.7-8/ Line 31	The apparent power (measured in multiples of ~~watts~~ volt-amperes [VA]) passing through a transmission line is determined by the transmission line's voltage and the current, which is measured in amperes, or amps.	Please revise to reflect that volt-amperes is the proper measurement for calculating apparent power.
0019-278	3.	3.7.1.6	3.7-10/ Line 3	The potential health effects of EMFs from power lines have been researched for more than ~~20~~ 40 years.	Please revise, as EMF research has been active for over 40 years to date.
0019-279	4.	3.7.1.6	3.7-12/ Line 5	These reviews include those prepared by international agencies such as the World Health Organization (WHO) (WHO 1984, 1987, ~~and~~ 2001 and 2007),	Please revise to reflect that the WHO has released an update to the 2001 review in 2007. This is the most current review of the research available by the WHO.
0019-280	5.	3.7.5.3	3.7-38/	Nuisance shocks may also occur from human contact ~~from~~	Consider revising because this more accurately depicts

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-280 Continued 0019-281			Line 34	~~the energized lines~~ with large surface area metallic objects charged by the electric field.	nuisance shocks.
	6.	3.7.5.3	3.7-38/ Line 42-43	~~COC TLSN-2 is intended to validate the ISEGS applicant's assumed reduction efficiency.~~	See comments for TSLN-2 Mitigation Measure.
0019-282	7.	3.7.5.3	3.7-39/ Line 12-15	~~TLSN-2 requires that the applicant use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity before and after energizing according to the American National Institute Standards/Institute of Electrical and Electronics Engineers standard procedures. These measurements must be completed no later than 6 months after the start of operations.~~	Please clarify that TLSN-1 through TLSN-4 are Conditions of Certification imposed by the CEC on the ISEGS applicant, not SCE. Further, please delete TLSN-2, as Mitigation Measure TLSN 2 requires inappropriate pre- and post-construction magnetic field measurements to assess the effectiveness of the field reduction measures utilized in the Proposed Project design. Such measurements are not an appropriate method to conduct this assessment, and this mitigation measure should be removed. The measure is not appropriate because magnetic fields vary with time and electrical demand. Therefore, the before and after measurements required by this mitigation measure will depend more on when the measurements are taken and load conditions and less on the effectiveness of the field reduction measures. The CPUC recognized this in Decision 06-01-042 stating, "…post construction measurement of EMF in the field cannot indicate the effectiveness of mitigation measures used…" (Page 10) and specifically declined to order pre- and post construction measurements for transmission and substation projects. To overcome the limitations of doing pre- and post measurements, SCE utilizes computer models using the same load conditions to assess the effectiveness of field reduction measures. This allows a like-for-like comparison of the field reduction measures that field measurements do not allow. The CPUC validated SCE's modeling methods in Decision 06-01-042 stating, "Our [CPUC] review of the modeling methodology provided in the utility [EMF] design guidelines indicates that it accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-282 Continued					indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields." (Page 10)
0019-283	8.	3.7.1.6	3.7-8 - 3.7-15	~~3.7.1.6~~ 2.4.10 Electromagnetic Fields	The EMF section should be moved from 3.7 Hazards, Health, and Safety to 2.4 Project Construction as a new section 2.4.10-Electromagnetic Fields. Since EMF is not a public health and safety issue or a potential cumulative impact, it is better fit to be discussed in Chapter 2 Project Construction.
0019-284	9.	3.7.3.5	3.7-26 Line 7	Sulfur hexafluoride (SF6) gas (dielectric medium)	Please revise to provide consistency of term (see p. 2-90) and also provide clarity as to what this substance is.
0019-285	10.	3.7.3.5	3.7-27 Line 21	Portions of the EITP ~~could~~ may be located close to existing underground pipelines and would cross ~~below~~ under existing overhead powerlines.	Regarding the natural gas pipeline, only Alt C would be located close (within 0.5 miles) to the existing pipeline (see Figure 2-3a, Map 2 of 5, milepost 3, p. 2-15 or Map 3 of 5, p. 2-17.) Otherwise, the proposed route would be over 1.5 miles away from pipeline. The proposed route would cross below overhead powerlines (i.e., LADWP Eldorado–McCullough (500-kV), LADWP Mead–Victorville (287-kV), LADWP McCullough–Victorville 1 (500-kV), LADWP McCullough–Victorville 2 (500-kV), LADWP Intermountain–Adelanto (500-kV), and Nevada Power Powerline (115-kV) – as specified in Section 2.2.1.2 on p. 2-10.
0019-286	11.	3.7.3.5	3.7-28 Lines 26-27	Brushing activities for vegetation control and ~~removal~~ clearance during construction could ~~result in fire~~ present a fire hazard if the vegetation debris is not removed from areas of welding.	Please revise as noted.
0019-287	12.	3.7.3.5	3.7-29 Lines 38-40	The applicant's SPCC Plan and Hazardous Materials Business Plan (APM HAZ-5) would also help ensure that the applicant would minimize, avoid, and/or clean up spills of hazardous materials.	Please specify measure as an APM.
0019-288	13.	3.7.3.8	3.7-31	Several of ~~these~~ the existing overhead utility lines might	Please specify "existing" overhead lines.

No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-288 Continued		Line 38	have to be modified or relocated to accommodate this alternative.	
14.	3.7.5.3	3.7-38 Line 34	Nuisance shocks may also occur from human contact ~~from the energized lines~~ with large surface area metallic objects charged by the electric field.	Please revise as shown.

Section 3.8: Hydrology and Water Quality

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-290	1.	3.8.1.1	3.8-3	Figure 3.8-1 Hydrology and Physiography~~logy~~ Around the Proposed Project	Please make global change to term.
0019-291	2.	3.8.1.4	3.8-9 Lines 18-21	This basin is confined by the Clark Mountains to the northwest, the Ivanpah Range to the west, the New York Mountains to the ~~southwest~~southeast, and the Lucy Gray Mountains to the east. This groundwater basin consists of Quaternary alluvium deposits up to 825 feet thick bound by northwest-trending faults. ~~As with surface drainage, g~~ Groundwater flows northward and is discharged via pumping and underflow to Las Vegas Valley (CDWR 2004).	The direction of the mountains and the surface drainage direction require correction.
0019-292	3.	3.8.1.4	3.8-9 Lines 45-47	One U.S. Geological Survey~~ervice~~ (USGS) monitoring well is present near the proposed project area near Jean, Nevada. The well has been monitored since September 1990. Typical well elevations are between 535 and 595 feet below ground surface. This well samples the Ivanpah Valley sub-basin of the Basin and Range Aquifer (USGS 2009).	Please verify the 535 and 595 groundwater depths. The PEA indicates groundwater depths of 100 to 350 feet in the Ivanpah Valley Groundwater Basin. The coordinates of the referenced USGS well is located west of Jean, the referenced well could not be located.
0019-293	4.	3.8.1.5	3.8-10 Lines 24-28	Presently, a maximum of 252 acre-feet per year (acre-ft/yr) of water is reclaimed/recycled from non-potable sources in the Primm area. Some of this could be used for the Bighorn Power Plant, a 580-MW combined-cycle gas-fired power plant located in Primm. The Bighorn Power Plant currently uses reclaimed water supplied by the Primm wastewater treatment plant as its primary water source (NDEP 2008). An additional 3 acre-ft/yr is supplied by a groundwater well on the power plant site. With respect to existing groundwater production in the Ivanpah Valley Groundwater Basin, municipal and industrial wells have yielded on	Please revise as shown to provide context for the amount of reclaimed and ground water available in the Primm area and it is also important to understand how much groundwater is being, or can be, pumped out of the Ivanpah Valley Groundwater Bain near Primm.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-293 Continued				average approximately 400 gallons per minute (CDWR 2004).	
0019-294	5.	3.8.2.3	3.8-15 (also 3.8-17) Lines 22-29	~~Basin management for the proposed project area is administered by the Mojave Water Agency in San Bernardino County and the Southern Nevada Water Authority in Clark County. The Mojave Water Agency Regional Water Management Plan was developed in 1994 and is still in place (CDWR 2004)~~. A primary mandate of these entities is to ensure long-term public water supply by protecting surface water and groundwater resources, including supply, storage, recharge capability, and chemical quality. The applicant would confer with ~~the Mojave Water Agency and~~ Southern Nevada Water Authority during implementation of the proposed project to ensure protection of groundwater resources and compliance with any established groundwater management plans, and, if necessary, to secure permits needed for encroachment on water district easements.	Please verify that the Mojave Water Agency (MWA) boundary does include this area. This information should be verified globally throughout DEIR/EIS (e.g., Section 3.8-16).
0019-295	6.	3.8.2.3	3.8-17 Lines 6-8	~~Basin management for the Ivanpah Valley (the California portion of the proposed project) is administered by the Mojave Water Agency in San Bernardino County. A Regional Water Management Plan was developed in 1994 and is still in place (DWR 2004). As discussed above, a primary mandate of the agency is to ensure long-term public water supply. The applicant would confer with the Mojave Water Agency during implementation of the proposed project to ensure protection of groundwater resources and compliance with any established groundwater management plans and, if necessary, to secure permits needed for encroachment on water district easements.~~	Please verify that the Mojave Water Agency (MWA) boundary does include this area. This information should be verified globally throughout DEIR/EIS (e.g., Section 3.8-16).
0019-296	7.	3.8.3.5	3.8-24 Lines 28-36	The proposed project could have small impacts on the local ~~water table~~groundwater levels and on aquifer recharge processes by altering surface water drainages and increasing~~exceeding current~~ groundwater withdrawal over current conditions. Construction activities could modify~~shift~~ ~~sub~~surface hydrology in such a way that local wells or aquifers might not receive groundwater inputs at the same rate as prior to construction. The small ~~I~~increase~~d~~ in impermeable surfaces at the Ivanpah Substation could	Please revise as shown.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-296 Continued				limit surface water absorption processes locally. The altered runoff patterns ~~e~~should not affect~~decrease~~ local groundwater supply and recharge or~~and~~ deplete water available for surface waterbodies. Since transmission line construction would replace existing structures, construction would not change the existing impervious area. The construction and operation of the new Ivanpah Substation would result in an increase in impervious area, but this area would be ~~relatively~~small relative to the surrounding pervious area, which ~~e~~would continue to receive the surface water runoff.	
0019-297	8.	3.8.3.5	3.8-24 Lines 42-47	~~However, because the source of the water to be used during construction is currently unknown, at this point the possibility that the impact on groundwater supplies could e significant must be considered.~~ The applicant has provided information regarding the source of water to be used. This information indicates that impacts to groundwater supplies would be less than significant.	Consider revising to reflect information provided by SCE on this issue. Please see attached data request responses, attached hereto as Appendix B.
0019-298	9.	3.8.4	3.8-30-9	**MM W-6: DESCP, SWPPP, and Erosion Control Plan for Ivanpah Substation.** ~~The CEC is the lead agency for the ISEGS project. In order to ensure protection of water quality during construction and operation of the ISEGS project, the CEC is requiring ISEGS to prepare and submit a Drainage, Erosion, and Sedimentation Control Plan (DESCP) and to prepare a SWPPP. As part of MM W-6,~~ The applicant will be required to submit copies of the approved Drainage, Erosion, and Sedimentation Control Plan (DESCP) and Storm Water Pollution Prevention Plan (SWPPP) to CPUC three months prior to the start of construction, and implement those plans as part of the EITP. Additionally, the applicant would develop and implement an Erosion Control Plan for construction activities. Copies of the Erosion Control Plan would be submitted to the CPUC. The intent of this MM is to minimize the impact of construction on surface water quality in the basins surrounding the proposed project.	Consider revising to reflect that SCE will obtain its own DESCP and SWPPP for construction activities. A SWPPP monitor would install and maintain BMPs, provide training and monitor compliance. Please consider adding the Erosion Control Plan into this MM as it is a related document to the DESCP and SWPPP and would contain the same BMPs as the erosion control section of the SWPPP. Please consider deleting MM W-1, see below
0019-299	10.	3.8.4	3.8-29-12	~~**MM W-1: Erosion Control Plan and Compliance with**~~	Please consider deleting this mitigation measure as

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-299 Continued				~~**Water Quality Permits.** The applicant will employ a professional engineer to develop and implement an Erosion Control Plan and monitor construction activities to ensure compliance with federal and state water quality permits. The Erosion Control Plan will comply with or exceed BMPs commonly used on projects in the California/Nevada area and those outlined in county plans. Copies of the Erosion Control Plan will be submitted to CPUC. The intent of this MM is to minimize the impact of construction on surface water quality in the basins surrounding the proposed project. This MM will apply to all construction sites for the duration of construction and restoration activities.~~	the requirement to prepare an Erosion Control Plan was inserted into MM W-6. Please see comment above. Please note that a monitor for the Erosion Control Plan would not be necessary because the SWPPP monitor would perform the necessary monitoring.
0019-300	11.	3.8.5.3	3.8-35 Lines 22-23	If the extraction of groundwater were to change the ~~topography of~~ the local subsurface ~~water table~~groundwater gradients (depth and slope of the groundwater surface), it could result in the plume flowing in a different direction.	Please change to clarify.

EITP DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT
SOUTHERN CALIFORNIA EDISON COMPANY
COMMENTS & SUGGESTED REVISIONS

Section 3.10: Noise

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-301	1.	3.10.2	3.10-7 Line 13 (Insert)	Add at line 13: FTA guidelines for assessing the impacts of groundborne vibration are expressed in terms of the "vibration level," (VdB) or peak particle velocity (PPV). The threshold of perception as expressed by FTA is 65 VdB. The FTA criteria for evaluating residential uses near proposed facilities that generate vibrations during both day and nighttime hours over the life of the facility is 72 VdB for frequent events (greater than 70 times per day) and 80 VdB for infrequent events (less than 30 times per day). (FTA 2006).	Please revise to incorporate FTA guidance on vibration.
0019-302	2.	3.10.3.2	3.10-10 Lines 24-27	b. cause the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (vibration of approximately 75 vibration velocity level in decibels [VdB]) is generally considered intrusive for residential uses) Vibration velocity levels are commonly reported in decibels relative to a level of 1x10-6 inches per second and denoted as VdB;	Please see FTA guidance for evaluation of vibration effects, incorporated above.

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-303	3.	3.10.4	3.10-18 Line 24	**MM NOI-1: Conduct Construction Activities during Daytime Hours.** The applicant ~~will conduct construction activities only during daytime hours (7 a.m. to 7 p.m.) while in the vicinity of the Desert Oasis Apartment Complex~~ would conduct construction activities during times that comply with the local noise ordinance. If construction is necessary outside of the local noise ordinance, a variance would be obtained from the appropriate city or county.	Please consider including language that SCE would be in compliance with the local ordinance and a variance would be obtained if work is expected outside of those hours.
0019-304	4.	3.10.4	3.10-18 Line 29	~~**MM NOI-3: Turn off Idling Equipment.** The applicant will turn off idling equipment when not in use.~~	Please consider removing as noise and emissions from idling equipment is minimal and turning equipment on more frequently could increase NOx and PM emissions.
0019-305	5.	3.10.4	3.10-18 Line 32	~~**MM NOI-5: Install Acoustic Barriers.** The applicant will install acoustic barriers around stationary construction noise sources near sensitive receptors.~~	Please consider removing since SCE would be in compliance with the local ordinances and would use necessary measures to comply with those ordinances.

Section 3.11: Public Services and Utilities

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-306	1.	3.11.3.5 CEQA Significance Determinations	3.11-11 Lines 4-19	~~**IMPACT PUSVC-2: Project construction temporarily increases water use, and project operation contributes to increased long-term water consumption.** *Potentially significant*~~ ~~As discussed in Section 3.8, "Hydrology and Water Quality," the applicant has estimated that between 30.6 and 38.3 acre-feet per annum would be needed for the construction phase of the transmission line. Because there is a limited water supply in the proposed project area, the applicant would implement MM W-2, which requires preparation of a project-specific Water Use Plan, specifying the quantities and sources for all water to be used during construction, operation, and maintenance of the proposed project. The Water Use Plan would also identify the source and approximate quantity of water to be used for each activity, broken down by phase of the project, and for each source, the plan would address the potential impact on the local aquifer. In addition, MM W-2 also sets maximum water use limits for the construction and operation phases. However, because the source of the water to be used during construction is currently unknown, at this point the possibility that the impact on groundwater supplies could be significant must be considered. For more information on water use and consumption, specifically as it relates to the potential for lowering the water table in the project area, see Impact HYDRO-2 in Section 3.8, "Hydrology and Water Quality."~~	Please revise as shown. The new text addresses CEQA impact criteria "e" as listed in Section 3.11.3.2 and below. e. The proposed project would have a significant impact if it would not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements. See also comments on Section 3.8 Hydrology and Water Quality.

No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-306 Continued			**IMPACT PUSVC-2: Project would have sufficient water supplies to serve the Project from existing entitlements and resources** *Less than significant* The Project would have sufficient water supplies available to serve the Project from existing entitlements and resources, or require new or expanded entitlements. The only demand for water would be for use by construction workers and water brought in for dust control. Potable water for drinking and portable restrooms would be brought in for construction, and disposed of accordingly. Non-potable water would be transported to the various construction areas for dust-suppression purposes. The Proposed Project and alternatives, during construction and operation, would have a less than significant impact on water supplies. Potential impacts to groundwater and associated mitigation measures are discussed in Section 3.8, "Hydrology and Water Quality."	

Section 5.3: Cumulative Impacts Analysis

	No.	Section/ Appendix	Page	Draft EIR/EIS Text Revision	Justification
0019-307	1.	5.3.4.1	5-51 Line 36-38	Because this is a linear resource that exists outside the geographic scope described above, geographic scope for the cumulative impacts analysis for this specific resource comprises the entire ROW of the transmission line from Calelectric Substation in San Bernardino to Eldorado Substation. ~~Victorville to Hoover Dam.~~	Please revise to reflect that extant portions of the line only run between the two substations noted in the changes.
0019-308	2.	5.3.4.2	5-52 Line 6	Land sailing activities that occur at Ivanpah Dry Lake may come into contact with cultural resources on the dry lake bed, resulting in damage or alter~~n~~ation of sites or isolated finds.	Please revise. SCE is unaware of any cultural resources on the Dry Lake.
0019-309	3.	5.3.4.4	5-53 Line 2	The relevant impact of the proposed project is IMPACT CR-1: Impacts to Cultural Resource 36-10315 (CA-SBR-10315H)/53-8280 (Boulder Dam to San Bernardino 132-kV Transmission Line). ~~and~~ 36-7694 (CA-SBR-7694H)/26CK4957 (LADWP Boulder Transmission Line) will be avoided by the EITP.	Please revise to clarify.
0019-310	4.	5.3.4.4	5-54 Line 16-19	Ground disturbing activities associated with the construction of the reasonably foreseeable future project could result in impacts to these resources by demolishing, destroying, or altering the resource and its immediate surroundings in a way that diminishes its integrity and impairs its ability to be considered for listing in the NRHP ~~NRUP~~ or the CRHR.	Please correct acronym.

APPENDIX A

REFERENCED TABLES

Table 2-9 Proposed Construction Yards and Helicopter Staging Locations

No.	Location	MP	Distance to ROW (miles)	Current Condition	Area (acres)[1]
CY 1	Eldorado Substation, NV	0	0	Previously disturbed	9.8
CY 2	Jean, NV	15	11.5	Previously disturbed	13.6
CY 3	Generating Station Yard, NV	27	0.4	Previously disturbed	16.5
CY 4	Primm Valley Casino Vacant Lot, NV	28	0.1	Previously disturbed	28.3
CY 5	Whiskey Pete's Casino Vacant Lot, NV	28	1.1	Previously disturbed	2.4
CY 6	BrightSource Generating Station Yard, CA	35	0	Unknown (public land)[2]	10+
CY 7	Nipton, CA [3]	n/a	4.7	Previously disturbed	2.5
~~HL~~ FY 1	Helicopter Fly Yard -1 (East of McCollough Pass)	9	0.2	Not disturbed [4]	~~3.6~~ 5.0
~~HL~~ FY 2	Helicopter Fly Yard - 2 (West of McCollough Pass)	15	0.01	Not disturbed [4]	5.7

Source: SCE 2009
Notes:
[1] Approximate areas based on current design
[2] Only Construction Yard #6 is located on public (BLM) land
[3] Construction Yard #7 is proposed for tower retrofit activities
[4] Based on aerial imagery
Key:
CY = Construction Yard
~~HL~~ FY = Helicopter ~~Landing site~~ Fly Yard
n/a = not applicable

Table 2-11 230-kV Transmission Line Estimated Land Disturbance

Project Feature	Quantity	Each Disturbed Area (L x W)	Acres Disturbed during Construction	Acres Temporarily Disturbed	Acres Permanently Disturbed
Remove existing lattice steel H-frame [1]	208	150 feet x 75 feet	53.7	53.7	0.0
Remove existing lattice steel structure [1]	13	150 feet x 75 feet	3.4	3.4	0.0
Remove existing wood H-frame [1]	23	100 feet x 75 feet	4.0	4.0	0.0
Remove existing wood pole [1]	6	100 feet x 75 feet	1.0	1.0	0.0
Construct new lattice steel suspension structure [2]	178	200 feet x 200 feet	163.5	137.6	25.9
Construct new lattice steel dead-end structure [2]	35	200 feet x 200 feet	32.1	25.6	6.5
Construct new lattice steel heavy dead-end structure [2]	3	200 feet x 200 feet	2.8	2.2	0.6
Construct new tubular steel double H-frame [3]	21	200 feet x 200 feet	19.3	15.4	3.9
115-kV conductor removal and 230-kV conductor and optical ground wire stringing setup area – puller [4]	23	200 feet x 150 feet	15.8	15.8	0.0
115-kV conductor removal and 230-kV conductor and optical ground wire stringing setup area – tensioner [4]	24	500 feet x 150 feet	41.3	41.3	0.0
230-kV conductor splicing setup areas [4]	12	150 feet x 100 feet	4.1	4.1	0.0
New access roads [5]	~~0.0~~ 1.2 miles	Miles x 14 feet	~~0.0~~ 2.0	0.0	~~0.0~~ 2.0
New spur roads [5]	~~1.2~~ 1.7	Miles x 14 feet	~~2.4~~ 2.9	0.0	~~2.4~~ 2.9

Table 2-11 230-kV Transmission Line Estimated Land Disturbance

Project Feature	Quantity	Each Disturbed Area (L x W)	Acres Disturbed during Construction	Acres Temporarily Disturbed	Acres Permanently Disturbed
	miles				
El Dorado Substation material and equipment staging area	1	9.8 acres	9.8	9.8	0.0
Jean, Nevada – material and equipment staging area	1	13.6 acres	13.6	13.6	0.0
General Construction Yard – material and equipment staging area	1	16.5 acres	16.5	16.5	0.0
Primm Valley Casino vacant lot – material and equipment staging area	1	28.3 acres	28.3	28.3	0.0
Whiskey Pete's Casino vacant lot – material and equipment staging area	1	2.4 acres	2.4	2.4	0.0
ISEGS construction station – material and equipment staging area	1	10 acres	10.0	10.0	0.0
Helicopter Fly Yard – 1 (East)	1	5.0 acres	5.0	5.0	0.0
Helicopter Fly Yard – 2 (West)	1	5.7 acres	5.7	5.7	0.0
Total [6]			~~424.0~~ 438.6	~~386.1~~ 396.8	~~39.3~~ 41.8

Notes:
[1] Includes removing existing conductor, tearing down existing structure, and removing foundation 2 feet below ground surface.
[2] Includes installing foundation, assembling and erecting structure, installing conductor and optical ground wire. Area to be restored after construction. The portion of ROW within 25 feet of the lattice steel structure to remain cleared of vegetation would be permanently disturbed for each structure (suspension = 0.145 acre; dead-end = 0.187acre; heavy dead-end = 0.188 acres).
[3] Includes assembling and erecting structure, installing conductor and optical ground wire; area to be restored after construction includes a portion of ROW within 25 feet of the tubular steel double H-frame to remain cleared of vegetation; 0.185 acres would be permanently disturbed for each tubular steel double H-frame.
[4] Based on 9,000-foot conductor reel lengths, number of circuits, and route design.
[5] Quantity of this item is provided in linear miles, based on the expected length of road (in miles) and a road width of 14 feet.
[6] The disturbed acreage calculations are estimates based on the applicant's preferred area of use for the described project feature, the width of the existing ROW, or the width of the proposed ROW. These estimations are based on preliminary design information and are subject to revision based on final engineering and review.

Table 2-13 Distribution Line Loop Estimated Land Disturbance

Project Feature	Quantity	Each Disturbed Area (L x W)	Acres Disturbed during Construction	Acres Temporarily Disturbed	Acres Permanently Disturbed
Underground trench/duct for conduit [(1)]	1	~~2,600 feet x 1.5 feet~~ 4800 feet x 2 feet	~~0.09~~ 0.22	~~0.09~~ 0.22	0.00
Underground manhole installation	~~4~~ 6	10 feet x 15 feet	~~0.01~~ 0.02	~~0.01~~ 0.02	0.00
Work area for underground ~~manholes~~ pulling area	~~4~~ 6	40 feet x 60 feet	~~0.11~~ 0.33	~~0.11~~ 0.33	0.00
Work area pulling of 3/8 mile of 1/0 ACSR pole line construction	~~2~~ 10	40 feet x 60 feet	~~0.17~~ 0.55	~~0.17~~ 0.55	0.00
Total			**~~0.37~~ 1.12**	**~~0.37~~ 1.12**	**0.00**

Note:
[(1)] Underground trench is approximately ~~1.5~~ 2.0 feet wide at most and ~~2,600~~ 5,280 feet long from the existing transformer to the proposed new underground dip pole. All construction is along existing paved and dirt roads at the perimeter of the Primm Valley Golf Course.
Key: ACSR = Aluminum Conductor Steel Reinforced

Table 2-22 Summary of Land Disturbances and Comparison between Alternatives						
Project Feature	**Proposed Route**	**Transmission Line Alternative Route A**	**Transmission Line Alternative Route B**	**Transmission Line Alternative Route C**	**Transmission Line Alternative Route D**	**Transmission Line Subalternative Route E**
Permanent Land Disturbance (acres)						
Transmission line ROW (1)	36.8	35.5	41.3	37.9	36.9	37.0
New ROW (route alternatives only)	N/A	4.9	7.3	5.3	3.2	2.9
Access roads	~~0~~ 2.0	~~0~~ 3.9	0	1.7	0	0
Spur roads	~~2.4~~ 2.9	~~6.8~~ 0.9	0.6	0.8	0.3	0.3
Ivanpah Substation (2)	0	0	0	0	0	0
Eldorado Substation (3)	0	0	0	0	0	0
115-kV subtransmission line	1.0	1.0	1.0	1.0	1.0	1.0
33-kV distribution line	0.0	0.0	0.0	0.0	0.0	0.0
Telecommunication system (3)	11.0	11.0	11.0	11.0	11.0	11.0
Project with Microwave Path (4)	**~~51.2~~ 53.7**	**~~59.2~~ 57.2**	**61.2**	**57.7**	**52.4**	**52.2**
Golf Course Alternative (5)	**~~51.3~~ 53.8**	**~~59.3~~ 57.3**	**61.3**	**57.8**	**52.5**	**52.3**
Mountain Pass Alternative (6)	**~~51.3~~ 53.8**	**~~59.3~~ 57.3**	**61.3**	**57.8**	**52.5**	**52.3**
Temporary Land Disturbance (acres)						
Transmission line construction (1)	242.9	273.7	305.0	286.6	282.0	282.0
Alternate route segments	N/A	24.5	34.0	25.9	16.1	14.5
Construction yards,~~and~~ pulling and tensioning sites, and helicopter fly yards	~~141.8~~ 152.5	~~149.1~~ 159.8	~~175.5~~ 186.2	~~151.8~~ 162.5	~~146.6~~ 157.3	~~146.6~~ 157.3
Ivanpah Substation (2) (3)	0	0	0	0	0	0
115-kV subtransmission line	7.3	7.3	7.3	7.3	7.3	7.3
33-kV distribution line	~~0.4~~ 1.1	~~0.4~~ 1.1	~~0.4~~ 1.1	~~0.4~~ 1.1	~~0.4~~ 1.1	~~0.4~~ 1.1
Telecommunication system (3)	22.1	22.1	22.1	22.1	22.1	22.1
Project with Microwave Path (4)	**~~414.9~~ 425.9**	**~~477.1~~ 488.5**	**544.3 555.7**	**~~494.1~~ 505.5**	**~~474.5~~ 485.9**	**~~472.9~~ 484.3**
Golf Course Alternative (5)	**~~424.2~~ 435.6**	**~~486.4~~ 497.8**	**~~553.6~~ 565.0**	**~~503.4~~ 514.8**	**~~483.8~~ 495.2**	**~~482.2~~ 493.6**

Table 2-22 Summary of Land Disturbances and Comparison between Alternatives						
Project Feature	**Proposed Route**	**Transmission Line Alternative Route A**	**Transmission Line Alternative Route B**	**Transmission Line Alternative Route C**	**Transmission Line Alternative Route D**	**Transmission Line Subalternative Route E**
Mountain Pass Alternative [6]	~~424.4~~ 435.8	~~486.6~~ 498.0	~~553.8~~ 565.2	~~503.6~~ 515.0	~~484.0~~ 495.4	~~482.4~~ 493.8

Notes:
[1] Does not include overlapping area between structure removal and new structure installation.
[2] Grading and other ground-disturbing activities of the Ivanpah Substation site would be approved under the ISEGS project, currently under environmental review.
[3] Telecommunication equipment to be installed within the existing fence line. Areas occupied by facilities installed within existing substation and communications site properties are not included in estimates.
[4] Includes proposed Telecommunication Line Path 1 and Path 2 Sections 1, 2, and 3 (Microwave Path).
[5] Golf Course Telecommunication Alternative: Path 1 and Path 2 Sections 1 and 2 and Golf Course segment.
[6] Mountain Pass Telecommunication Alternative: Path 1 and Path 2 Sections 1 and 2 and Mountain Pass segment.

Table 2-23 Construction Workforce Required for the Proposed Project

Project Component	Summary of Construction Activities	Total Estimated Workforce	Estimated Schedule (days)
230-kV transmission line	Conducting pre-construction surveys Establishing construction yards and helicopter landing areas Conducting road work Installing guard structures Removing existing conductors, structures, foundations, and wood poles Installing lattice steel towers and H-frames Installing conductor Removing guard structures Restoring temporary construction areas and roads	209	1,257
115-kV subtransmission line	Conducting pre-construction survey Conducting road work Removing existing H-frame poles and foundations Installing tubular steel poles Installing lightweight steel poles Installing overhead shield wire	69	35
33-kV distribution line	Trenching Installing overhead line Installing underground cable	20	73
Ivanpah Substation	Conducting pre-construction survey Grading substation site Installing civil and electrical components	22	175
Telecommunication System	***Path 1*** Installing optical ground wire	3	30
	Path 2, Section 1 Establishing construction yards Conducting road work Retrofitting existing towers Removing existing overhead ground wire Installing optical ground wire Restoring temporary construction areas and roads	49	200
	Path 2, Section 2 Trenching Pulling/installing underground fiber optic cable Installing underground duct	12	76
	Path 2, Section 3 – Proposed Project Installing microwave site Trenching Pulling/installing underground fiber optic cable Installing underground duct	16	20
	Path 2, Section 3 – Golf Course Alternative Trenching Pulling/installing underground fiber optic cable Installing underground duct Installing all-dielectric self-supporting cable	24	153
	Path 2 – Section 3 – Mountain Pass Alternative Trenching Pulling/installing underground fiber optic cable Installing underground duct	28	230

Table 2-23 Construction Workforce Required for the Proposed Project			
Project Component	**Summary of Construction Activities**	**Total Estimated Workforce**	**Estimated Schedule (days)**
	Installing all-dielectric self-supporting cable		

APPENDIX B

Southern California Edison
EITP A.09-05-027

DATA REQUEST SET EITP-CPUC-SCE-05

To: CPUC
Prepared by: Jeffrey Miller
Title: Project Manager
Dated: 05/06/2010

Received Date: 05/06/2010

Question 11:

Source and amount of water needed for each project phase—construction, operation & maintenance (a Water Usage Plan is required in MM W-2)

Response to Question 11:

A. Construction Water Usage

SCE estimates using a maximum of between 32,000 and 40,000 gallons per day (gpd) of water for the construction phase of the project. (See response to data gap Question No. 2.21.2.) This translates to an estimate of between 30.6 to 38.3 acre feet of water per annum. (See response to data gap Question No. 10.05).

Regarding the source of the water needed during the construction phase, SCE has previously indicated that water would be provided by a local vendor. (See response to data gap Question No. 2.19.) Upon further investigation, SCE has identified several local sources of water in the area as follows:

- Molycorp Minerals (Mountain Pass facility), San Bernardino County, California
- Las Vegas Valley Water District (LVVWD), Jean, Nevada
- City of Henderson, Nevada

After discussions with Molycorp Minerals regarding the water it can make available to meet the project construction needs from its Mountain Pass facility, SCE intends that Molycorp Minerals will be its primary source of water.

Molycorp's Mountain Pass operation derives water from three sources: (1) the Ivanpah fresh water production well field, (2) the Shadow Valley fresh water production well field, and (3) the water that is pumped from the mine (while not part of the source assessment mentioned below, water production from the mine is approximately 150 gpm). County of San Bernardino Drinking Water Source Assessment reports from 2001 on 5 wells in the Ivanpah well field and 4 wells in the Shadow Valley well field indicate that the Ivanpah well field can produce 675 gpm, and the Shadow Valley well field can produce 830 gpm.

Based on this data and SCE's consultation with Molycorp Minerals, the Mountain Pass facility can supply the water needed for the construction phase of the project from any one of, or some combination of, the three available water sources.

In addition, LVVWD has stated that it could supply approximately 15,000 gpd from its facilities in Jean, NV. Further, the City of Henderson, NV, has stated it would have no problems being able to supply SCE with approximately 40,000 gpd for construction water from its facilities. Note: Other potential sources of water for the project include Primm Properties (Primm, Nevada) and Boulder City, Nevada.

B. Operations and Maintenance Water Usage

No water will be used during routine operation and maintenance of the transmission line. Polymer insulators are being proposed on the structures for this Project and they do not require cleaning/washing (See response to data gap Question No. 10.05).

Southern California Edison
EITP A.09-05-027

DATA REQUEST SET EITP-CPUC-SCE-06

To: CPUC
Prepared by: Jeffrey Miller
Title: Project Manager
Dated: 06/08/2010

Received Date: 06/01/2010

Question A1:

SCE has identified the Molycorp Minerals Mountain Pass facility as a potential source of water for EITP construction needs. The BLM has determined that produced water from the Molycorp Mine is not an appropriate water source for use during EITP construction and operation; however, the use of water drawn from Molycorp Mine wells is acceptable. In order to assess the impacts of using water drawn from the local water sources on water and other resources, provide the following information:

A.1 Basics of Well Capacity used by Molycorp Mine. Please provide the location of the existing wells relative to the Molycorp mine site. Also provide specific hydraulic characteristics of the well fields including hydrologic connectivity, storativity (porosity), specific capacity and production ranges of the well or wells.

Response to Question A1:

Please find attached San Bernardino County Source Assessment documents. Note: It is SCE's understanding that this aquifer has been exhaustively studied and that the BLM is in possession of all of these studies as well as the quarterly groundwater monitoring reports for the Ivanpah area that continue to be produced by Chevron. Further, SCE believes that George Meckfessel of the BLM's Needles office is familiar with this information.

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Email: mjconnor@westernwatersheds.org
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Working to protect and restore Western Watersheds

June 21, 2010

Sent by E-mail to: < ivanpah@ene.com >

CPUC/BLM
Eldorado-Ivanpah Transmission Project
130 Battery Street, 4th Floor
San Francisco, CA 94111

Draft Environmental Impact Report/Environmental Impact Statement Eldorado–Ivanpah Transmission Project

Dear Planners,

Western Watersheds Project is pleased to provide the following comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) for the Eldorado–Ivanpah Transmission Project proposed by Southern California Edison Company.

The proposed Eldorado–Ivanpah Transmission Project will cross fragile desert lands and will have lasting, multiple direct, indirect and cumulative effects on sensitive desert resources. The DEIR/DEIS concludes that "the proposed project would still result in major adverse unavoidable effects to desert tortoise habitat and major adverse impacts to aesthetics, air quality, hydrology, and public services" (DEIR/DEIS at 4-8).

We have also attached a copy of our scoping comments to this letter and incorporate its entire content by reference. Please consider all the issues we raised in that letter regarding Alternatives, Air Quality, Biological Resources, Horse Management Areas, Invasive Species, Cultural & Paleontological Resources, Hazards and Hazardous Materials, Fire Prevention and Suppression, Geology and Soils, Riparian Resources, Hydrology, and Water Quality, Climate Change, Cumulative Effects and Mitigation that were not addressed in the DEIR/DEIS in developing the Final DEIR/DEIS. We have also identified the following specific issues and environmental concerns that should be addressed in the DEIR/DEIS review process.

Livestock Grazing

The DEIR/DEIS at 3.9-5 (and associated Table 3.9-3) incorrectly states "The Clark Mountain Allotment is open, but not currently in use" and this is repeated in the analysis at 3.9-19. This allotment is currently being grazed by cattle.

0021-1

Project Description and Biological Resources

0021-2

The proposed transmission project will impact desert tortoises within the Northeastern Mojave Desert Tortoise Recovery Unit in Nevada and California. The 1994 Desert Tortoise (Mojave Population) Recovery Plan identified six distinct desert tortoise populations west and north of the Colorado River.[1] These six populations were identified based on genetics, behavior, ecology, geographic isolation, and morphology. Five of these populations occur wholly or partly in California. The Recovery Team that wrote the plan clearly equated the term Recovery Unit with the terms "Evolutionary Significant Unit" and "Distinct Population Segment". [FWS 1994, at i and 19-22] The Recovery Plan also recognized that the desert tortoise populations within the different Recovery Units faced a suite of threats, the degree and quality of which varied between Recovery Units, and provided specific analysis by Recovery Unit. [FWS 1994, Appendix F] Since the Recovery Plan was published, a number of studies have compared tortoises between different Recovery Units and confirmed biological differences among the populations. Most recently, Murphy et al., 2007 published a comprehensive study of desert tortoise genetics.[2] They found additional, new evidence that the desert tortoises in the various Recovery Units constitute distinct populations and their analysis confirmed the validity of the 1994 Plan's six Desert Tortoise Recovery Units.

The conclusions reached in the DEIR/DEIS regarding the significance of the impacts of the proposed action on biological resources are unclear apparently due to lack of clarity in the project description. The DEIR/DEIS concludes, "For specific wildlife species, impacts would vary. After incorporation of recommended mitigation, impacts on desert tortoise due to construction of the project would be adverse, moderate, both short term and long term, and localized. <u>However, if a significant number or length of new access roads and spur roads were necessary for construction of the project, impacts on desert tortoise habitat could be considered major and extensive.</u>" . . . "In summary, the proposed project <u>would significantly affect</u> biological resources in an adverse manner". (DEIR/DEIS at 3.4-83) The proposed action should clearly describe the project including all required access and spur roads.

Horse Management Areas

The project will cross through areas used by burros and wild horses protected under the Free Roaming Wild Horse and Burro Act. Construction and maintenance could potentially impede the free movement of herds, especially if fencing, roads, piping, etc. are required. Construction would remove available forage. The transmission line could also increase the interaction and conflict between wild burros and people (especially during construction), as well as recreationalists and maintenance workers, and conflicts between burros and wildlife, rare plants and sensitive species.

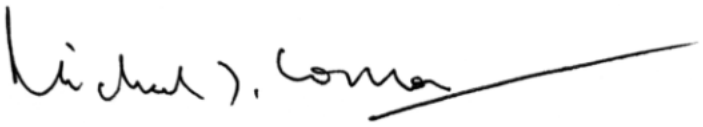
0021-3

[1] Fish and Wildlife Service. 1994. Desert Tortoise (Mojave Population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pages plus appendices.

[2] Murphy, R. W., Berry, K. H., Edwards, T. and Mcluckie, A. M. 2007. A Genetic Assessment of the Recovery Units for the Mojave Population of the Desert Tortoise, *Gopherus agassizii*. Chelonian Conservation and Biology 6(2): 229–251.

We thank you for the opportunity to comment on the DEIR/DEIS for this proposed transmission project. Please keep Western Watersheds Project on the list of interested public for this project at the address listed below. If we can be of any assistance or provide more information please feel free to contact me by telephone at (818) 345-0425 or by e-mail at <mjconnor@westernwatersheds.org>.

Sincerely,



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Attachment: Western Watersheds Project September 21, 20-09 letter RE: Proposed Eldorado–Ivanpah Transmission Project Environmental Impact Report/Environmental Impact Statement Scoping. 7 pp.

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Working to protect and restore Western Watersheds

September 21, 2009

Sent by E-mail to: < ivanpah@ene.com >

Monisha Gangopadhyay / Tom Hurshman
CPUC/BLM
c/o Ecology and Environment, Inc
130 Battery Street, 4th Floor
San Francisco, CA 94111

RE: Proposed Eldorado–Ivanpah Transmission Project Environmental Impact Report/Environmental Impact Statement Scoping

To Whom It May Concern,

The following comments are submitted by Western Watersheds Project in response to your request for scoping comments for preparation of the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Eldorado–Ivanpah Transmission Project proposed by Southern California Edison Company A.09-05-027.

The proposed Eldorado–Ivanpah Transmission Project will cross fragile desert lands and will have lasting, multiple direct, indirect and cumulative effects on sensitive desert resources. Minimizing these impacts and the development of appropriate mitigation strategies will require careful planning and environmental review.

We have identified the following potential issues and environmental concerns should be included and addressed in the EIR/EIS review process.

Alternatives

The selection and analysis of alternatives is the "heart" of the NEPA process. The EIR/EIS should consider alternatives that encourage and require utility companies to combine, consolidate and share transmission lines. Currently, thousands of miles of pipelines and transmission lines are tangling up western lands, fragmenting habitat, destroying scenic qualities, and causing impacts to wild species, rare plants and their habitats, and to entire vegetation communities. Running multiple, redundant lines is wasteful, and even when restricted to designated corridors is impairing of the public lands. 0021-4

Tall structures pose a threat to birds, including raptors, and even to low-flying aircraft. Pylons provide perches for predators in areas where there are no natural perches, and allow predators an unnatural advantage in finding prey species – thus disturbing the natural balance. 0021-5

The latter is a particular problem that would be affected by the proposed project which traverses through important habitat within the Northeastern Mojave Desert Tortoise Recovery Unit.

Alternatives should be reviewed to minimize disturbance of fragile wildlife habitat and all habitats which is used by sensitive, threatened, or endangered species. The EIR/EIS should consider alternatives that avoid occupied desert tortoise habitat within the Northeastern Mojave Desert Tortoise Recovery Unit, particularly in California. This would include full consideration of an alternative that does not require any construction outside existing utility corridors. 0021-6

Air Quality

Changes in air quality could result during construction when heavy equipment, support vehicles, and other machinery with internal combustion engines create fugitive dust and/or generate exhaust and particulate matter (PM10). Impacts would also result from fugitive dust generated from ground clearing, grading, vehicle traffic on the access roads, and vehicle traffic at the construction sites, and during operation and maintenance of the proposed transmission line. 0021-7

There would be potential temporary and long-term localized impacts from toxic air contaminants including diesel particulate matter. Desert tortoise populations in the area are known to be at risk of respiratory disease caused by infection with one or *Mycoplasma* species. Outbreaks of the respiratory disease may be context-dependent and triggered by changing environmental factors.[1] 0021-8

Biological Resources

Construction and operation of the proposed transmission projects will impact native wildlife, rare plants, and their habitats. Some resources will be permanently lost through development. Noise, dust, vibrations, and a host of other disturbances will accompany the construction and operation of the line. The transmission line will contribute to habitat fragmentation. Transmission lines increase the risk of bird electrocutions and collisions, particularly along wetlands, valleys, and narrow passes. The EIR/EIS should consider migratory bird routes as well as other bird habitat, wildlife migration and movement corridors, wintering habitat, and wildlife breeding behaviors to limit the level of disruption and disturbance. Placing towers in these areas could also increase predation in the area by predatory birds such as ravens as new perches and nesting sites are provided by the towers. Significant baseline information must be gathered on all biological and other values – such as the use of the area by birds, bats, bighorn sheep, desert tortoises and other biota. 0021-9

The proposed transmission project will impact desert tortoises within the Northeastern Mojave Desert Tortoise Recovery Unit in Nevada and California. The 1994 Desert Tortoise (Mojave Population) Recovery Plan identified six distinct desert tortoise populations west and north of the Colorado River.[2] These six populations were identified based on genetics, behavior, ecology, geographic isolation, and morphology. Five of these populations occur wholly or partly in California. The Recovery Team that wrote the plan clearly equated the term Recovery Unit 0021-10

[1] Sandmeier, F. C., Tracy, C. R., duPré, S. and Hunter. K. 2009. Upper respiratory tract disease (URTD) as a threat to desert tortoise populations: A reevaluation. Biological Conservation. 142: 1255-1268.

[2] Fish and Wildlife Service. 1994. Desert Tortoise (Mojave Population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pages plus appendices.

with the terms "Evolutionary Significant Unit" and "Distinct Population Segment". [FWS 1994, at i and 19-22] The Recovery Plan also recognized that the desert tortoise populations within the different Recovery Units faced a suite of threats, the degree and quality of which varied between Recovery Units, and provided specific analysis by Recovery Unit. [FWS 1994, Appendix F] Since the Recovery Plan was published, a number of studies have compared tortoises between different Recovery Units and confirmed biological differences among the populations. Most recently, Murphy et al., 2007 published a comprehensive study of desert tortoise genetics.[3] They found additional, new evidence that the desert tortoises in the various Recovery Units constitute distinct populations and their analysis confirmed the validity of the 1994 Plan's six Desert Tortoise Recovery Units. 0021-11

The California Endangered Species Act (CESA) allows the issuance of Incidental Take Permits but requires that this take be minimized and fully mitigated. The mitigation measures must be roughly proportional in extent to the impact of the take and be capable of successful implementation. Adequate funding must be provided to implement conditions of the permit. The range of the species must be maintained. The species or subspecies must not be jeopardized. The California Department of Fish and Game has long recognized the importance of the Desert Tortoise Recovery Units in determining if compensation is adequate to mitigate for impacts. For example, the mitigations for the Fort Irwin expansion all focused on the West Mojave Recovery Unit. Compensation measures adopted included habitat acquisition as well as habitat enhancement measures such as the buyout of the livestock grazing leases for BLM cattle grazing allotments located in desert tortoise habitat both within and outside the Superior-Cronese Desert Wildlife Management Area. 0021-12

The agencies must use the best scientific information available to them and specify that compensation activities focus on the relevant affected Desert Tortoise Recovery Unit, in this case the Northeastern Mojave Recovery Unit, and ensure full compliance with both the ESA and CESA.

Horse Management Areas

The project will cross through areas used by donkeys protected under the Wild Horse and Burro Act. Construction and maintenance could potentially impede the free movement of herds, especially if fencing, roads, piping, etc. are required. Construction would remove available forage. The transmission line could also increase the interaction and conflict between wild burros and people (especially during construction), as well as recreationalists and maintenance workers, and conflicts between burros and wildlife, rare plants and sensitive species. 0021-13

Invasive Species

The construction of linear corridors has contributed to the spread of exotic and invasive vegetation across the Mojave Desert. Invasive weeds grow easily wherever the natural 0021-14

[3] Murphy, R. W., Berry, K. H., Edwards, T. and Mcluckie, A. M. 2007. A Genetic Assessment of the Recovery Units for the Mojave Population of the Desert Tortoise, Gopherus agassizii. Chelonian Conservation and Biology 6(2): 229–251.

vegetation and biological soil crusts are disturbed. The disturbance to the soil and natural vegetation that will occur as a result of the construction and maintenance of this transmission project must not be allowed to establish a "weed corridor" across the landscape. Once established, weeds are almost impossible to remove permanently. 0021-14 Continued

Invasive plants and weeds are threats to native habitat, rare plants, and sensitive species. They pose an immense fire hazard. Using chemicals to kill weeds requires exposing the environment, species, and watershed area to a toxic substance which can be the source of further damage to environmental and human health. Manual weed control requires much human effort, machinery, and can cause even more disturbance, leading to erosion, disturbance, and, in some cases, more weeds. The EIR/EIS should carefully consider how invasive plants and weeds will be manages and controlled. 0021-15

Cultural & Paleontological Resources

The Mojave Desert is rich in structures and artifacts of significant cultural value that are irreplaceable once lost. The areas around dry lake beds are particularly rich in archaeological sites. Construction of new towers and access roads could damage or destroy historic and archaeological sites, traditional cultural properties, or areas containing paleontological resources. Temporary use of staging areas and conductor pull sites could damage or destroy historic and archaeological sites, traditional cultural properties, or areas containing paleontological resources. Building new transmission lines through previously undisturbed areas could cause physical damage to artifacts and sites, expose cultural resources to looters, and could increase fires due to soil disturbance and subsequent weed invasion placing these cultural resources at risk of future damage. New development projects facilitated by the transmission pose cumulative effects that also must be addressed. 0021-16

Hazards and Hazardous Materials

The EIR/EIS should disclose any potentially toxic or hazardous wastes that may be associated with project during project construction, operation, and maintenance including pesticides and herbicides. 0021-17

Fire Prevention and Suppression

Wildfires are becoming increasingly common in the Mojave Desert facilitated by the spread of invasive weeds and climate change. Wildfires can result in type conversion of large expanses of habitat. Wildfires could be caused by construction or operation of the transmission lines. Development of roads along transmission lines could encourage increased motorized vehicle access which increases fire risk especially when coupled with the spread of invasive weeds. 0021-18

Geology and Soils, Riparian Resources, Hydrology, and Water Quality

Construction has the potential to damage or disrupt the flows of springs, seeps, or other water sources. In desert regions, native wildlife and vegetation are especially dependant on these 0021-19

sources for their water needs, and degradation or disruption of these water resources is a serious concern. Construction of towers or facilities near a spring or seep can have a high level of impact by disrupting flows, contaminating water, etc. 0021-19 Continued

Soil erosion on low fill slopes and steeply graded areas could result in sedimentation of water bodies. Changes in hydrology and soil movements may impact rare plants and habitats for sensitive species, and may impact burrowing species such as the desert tortoise. 0021-20

Climate Change

Secretarial Order 3289 issued September 14, 2009 reinstates Order 3226 requiring significant projects to incorporate global climate change considerations. In addition to addressing climate change in the cumulative effects analysis, the EIR/EIS should address the carbon footprint of the project and losses to carbon storage and sequestration. 0021-21

Cumulative Effects

Transmission line projects have the potential to open up new lands to energy (or other) development, placing wide swaths of habitat at risk, and greatly increase degradation and fragmentation of habitats and important wild land areas. Transmission line projects have lasting and damaging impacts. The EIR/EIS must considered the cumulative effects of this project in combination with all the other consumptive uses that are occurring on these public lands including livestock grazing, off road vehicle activity, and mining. The project will also facilitate and will act cumulatively with the many other energy developments that are planned for the area including utility-scale solar energy plants. Other major projects underway or planned for the area include the joint Port of Entry along Highway 15 and the proposed Desert Express train. The cumulative effects analysis should also consider all the other linear energy projects that have crossed through the project area including the Kern gas pipeline. All these activities will impact the same biological, cultural, geologic, and visual resources as the proposed project. 0021-22

Mitigation

BLM is obligated under FLPMA to "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." [43 U.S.C. §1732(d)(2)(a)] Other laws, including the Endangered Species Act and the California Endangered Species Act also entail the need for mitigations to minimize impacts. BLM is required to consider measures to mitigate potential environmental consequences in its NEPA analysis. [40 C.F.R. § 1502.16] The NEPA implementing regulations define "Mitigation" to include:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.
[40 C.F.R. §1508.20]

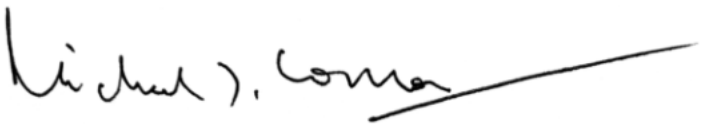
Available desert tortoise compensation habitat is limited within the California portion of the Northeastern Mojave Recovery Unit although some suitable lands in reasonable proximity to the project site may be available within the Ivanpah Valley. Other compensation actions should be considered such as buying out the Clark Mountain cattle-grazing lease, expanding the ACECs, and erecting barrier fencing along nearby roads to enhance the remaining desert tortoise habitat. 0021-23

Pylon/towers should be of designs that minimize opportunities for nesting and roosting by ravens and other predatory species. Fencing around constructions should be designed to minimize providing perching sites for ravens. 0021-24

The EIR/EIS should describe the restoration and rehabilitation activities that will be required for habitat disturbed during construction. For example, construction material yards will lose their native vegetation, have their soils compacted, and increase the amount of wind and water erosion while leaving these areas at an increased risk of weed invasion. Transporting materials, labor, and equipment in and out of construction areas will also have their own set of impacts that must be minimized. Construction may also require the use of "temporary" roads that will require extensive rehabilitation if they are not to become permanent intrusions on the landscape. Rehabilitation of desert habitat is a long, slow and uncertain process. This is typified in the project area by the highly visible, wide swath that cuts across the proposed transmission lines created by the Kern gas pipeline that was installed over a decade ago, where recovery of vegetation is still far from meeting desired plant community standards despite costly restoration efforts. 0021-25

We thank you for the opportunity to submit scoping comments for this proposed transmission project. Please keep Western Watersheds Project on the list of interested public for this project at the address listed below. If we can be of any assistance or provide more information please feel free to contact me by telephone at (818) 345-0425 or by e-mail at <mjconnor@westernwatersheds.org>.

Sincerely,



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STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
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June 29, 2010

File Ref: 2009071091

Monisha Gangopadhyay/Tom Hurshman
CPUC/BLM
c/o Ecology and Environment, Inc.
130 Battery Street, Suite 400
San Francisco, CA 94111

Subject: Southern California Edison's Eldorado-Ivanpah Transmission Line Project, SCH #2009071091

Dear Madam/Sir:

This letter is sent in response to the release of the draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Eldorado-Ivanpah Transmission Line Project (Project). Please accept our comments for consideration on the EIR/EIS even though it is past the official comment period.

As general background, school lands were granted to the State of California by the federal government under the Act of March 3, 1853 (10 Stat. 244), also known as the School Land Grant of 1853. The State Lands Commission (CSLC) manages 468,600± acres of school lands held in fee ownership by the State and the reserved mineral interests on 790,000± acres where the surface ownerships previously have been sold.

Based on the information and maps provided in the draft EIR/EIS, the Mountain Pass Telecommunications route (Alternative 2) will involve school lands located within Section 36, Township 17 North, Range 13 East, SBM. Please be advised that Southern California Edison Company will be required to obtain a lease from the Commission for the use of these or any other school lands for any part of the Project. 0022-1

Staff of the CSLC has reviewed the above referenced project and, depending on the Alternative that is selected, may be a Responsible and/or Trustee Agency under the California Environmental Quality Act (CEQA). The CSLC has the following comment on the greenhouse gas analysis section. Please incorporate "best practices" for Greenhouse Gas emissions reduction, either into the project description or as mitigation measures, as enumerated on the Attorney General's website, located at: 0022-2

http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf. This would include at a minimum: use of low sulfur fuels; reduced idle times; recently tuned engines; etc. 0022-2 Continued

Please contact Jim Porter, Land Management Division, at (916) 574-1865 or by e-mail at porterj@slc.ca.gov, for information concerning our jurisdiction and leasing requirements. If you have any questions on the environmental review, please contact Steven Mindt, at (916) -574-1497 or by e-mail at mindts@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
J. Porter, CSLC
S. Mindt, CSLC

CENTER *for* BIOLOGICAL DIVERSITY

VIA EMAIL AND U.S. MAIL

June 21, 2010

George R. Meckfessel
BLM Needles Field Office
1303 South U.S. Highway 95
Needles, California 92363–4228
E-mail: caeitp@blm.gov , subject line EITP

Eldorado-Ivanpah Transmission Project
130 Battery Street, 4th Floor
San Francisco, CA 94111
ivanpah@ene.com

Re: Draft Environmental Impact Report and Draft Environmental Impact Statement for the Southern California Edison Eldorado-Ivanpah Transmission Project, California and Nevada

Dear Mr. Meckfessel and EITP CPUC Project Lead:

These comments are submitted on behalf of the Center for Biological Diversity regarding the Draft Environmental Impact Report and Draft Environmental Impact Statement ("DEIR/DEIS") for the Southern California Edison Eldorado-Ivanpah Transmission Project, California and Nevada ("EITP" or "proposed project").

The Center for Biological Diversity ("Center") is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 255,000 members and activists throughout California and the United States, including members that live and/or visit the vicinity of the proposed Eldorado-Ivanpah Transmission Project and the solar generating projects to which it is linked. These scoping comments are submitted on behalf of our board, staff and members.

The development of renewable energy generation and adequate transmission capacity for that renewable energy is a critical component of efforts to reduce greenhouse gas emissions, to avoid the worst consequences of global warming, and to assist California in meeting emission reductions set by AB 32 and Executive Order S-03-05. The Center strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular and truly necessary transmission upgrades to support that power production.

However, like any project, proposed solar power projects and transmission projects to support that power generation must be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with

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extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

The need for the proposed Eldorado-Ivanpah Transmission Project (which also includes a new substation) is entirely based on the assumption that the public lands in the Ivanpah Valley area provide an appropriate site for extensive large-scale solar development. However, no land use planning has been completed by the BLM, the Counties, the CPUC, or any other agency that would support such a conclusion. Moreover, although none of the proposed large-scale solar projects in the Ivanpah Valley in California and near Primm, Nevada have as yet been approved or completed environmental review, the environmental review of each of those projects and the EITP are being undertaken separately and the analysis is therefore being segmented in violation of both CEQA and NEPA. These comments incorporate by reference comments and all other documents that the Center has provided to the BLM and the California Energy Commission ("CEC") regarding those connected projects including, but not limited to, the Ivanpah SEGS project, the Silver State solar projects, and the BLM Solar PEIS. 0023-2 0023-1

All of the proposed projects will have major impacts to the biological resources of the area, significantly affecting many sensitive plant and wildlife species, and eliminating broad expanses of relatively undisturbed Mojave Desert habitat on both sides of the border. Of particular concern to the Center, the proposed solar projects and this proposed transmission project taken together will have significant impacts to a suite of species including to the federally and state listed threatened desert tortoise and its critical habitat that are not being considered in a comprehensive way. Rather, the agencies are looking at connected projects in a piecemeal fashion, planning is lagging behind site-specific proposals, and the projects as proposed will sprawl across this desert landscape maximizing impacts from edge effects and habitat fragmentation in violation of the law and the most basic land use planning principles. 0023-4

The following comments address these issues as well as other inadequacies of the environmental review in the DEIR/DEIS.

I. Project Fails to Comply with NEPA, CEQA, and Planning Requirements

A. Project Description is Inaccurate: Connected, Cumulative, and Similar Actions Should Be Considered in the Same Environmental Review to Avoid Unlawful Segmentation

1. Legal Background

a. NEPA

The DEIR/DEIS does not consider the project as a whole and by analyzing connected projects piecemeal the BLM and the CPUC are undermining rational planning and unlawfully segmenting the environmental review. Attached are two maps produced by the Center: the first shows the Ivanpah Valley as it is now and the second shows the Ivanpah Valley with the proposed solar, wind and transmission facilities primarily on public lands. The change that 0023-2

would occur from a largely natural area to a largely industrial zone is both significant and unexamined by in the DEIR/DEIS.

NEPA's implementing regulations explain that agencies should consider connected, cumulative, and similar actions in the same impacts statement. "Connected actions" must "be considered together in a single EIS." *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985); 40 C.F.R. § 1508.25(a)(1). Connected actions are those actions that:

> i. Automatically trigger other actions which may require environmental impact statements.
> ii. Cannot or will not proceed unless other actions are taken previously or simultaneously.
> iii. Are interdependent parts of a larger action and depend on the larger action for their justification.

40 C.F.R. § 1508.25(a)(1). Where two actions are "inextricably intertwined" they are connected actions that must be considered together. *Thomas*, 753 F.2d at 759; *Save the Yaak Committee v. Block*, 840 F.2d 714, 720 (9th Cir. 1988). Likewise, cumulative actions "which when viewed with other proposed actions have cumulatively significant impacts [] should [] be discussed in the same impact statement." 40 C.F.R. § 1508.25(a)(2). Similar, reasonably foreseeable actions also should be considered together in the same environmental review document when the actions "have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography," and the "best way to assess adequately [their] combined impacts […] or reasonable alternatives" is to consider them together. 40 C.F.R. § 1508.25(a)(3).

The requirements that connected actions, cumulative, and/or similar actions be evaluated together prevents an agency from dividing a single project into segments that individually seem to have limited environmental impact, but as a whole have considerable impact. *See Thomas v. Peterson*, 753 F.2d at 758. It is important for federal agencies to consider connected actions together in a single NEPA process as opposed to segmenting review. *Daly v. Volpe*, 514 F.2d 1106, 1110 (9th Cir. 1975) (where actions are interconnected in terms of fulfilling a joint purpose it may be necessary to conduct a single NEPA review); *Sierra Club v. U.S. Dept. of Energy*, 255 F. 2d 1177, 1184 (D. Colo. 2002).

Here, the agencies should not proceed any further in the NEPA process for the proposed EITP without an analysis the direct and indirect impacts of the proposed project in conjunction with other proposed projects in this area, including at minimum the proposed Ivanpah SEGS project and the proposed Silver State solar project in Nevada along with the proposed Eldorado-Ivanpah Transmission Project ("EITP") transmission line upgrade and substations that are necessary for those industrial power plants. 0023-1

The EITP is necessary for this proposed project and it is clear that the EITP is both a cumulative and a connected project and that all of these projects should have been considered by BLM in a single environmental review. Indeed the stated purpose of the EITP is to facilitate access to the California energy market for the proposed Ivanpah project and solar projects in Southern Nevada. Although the purpose and need statement for BLM in the EITP is 0023-1

unreasonably narrow, it is clear that the purpose of the EITP project is to connect the proposed solar projects with the California market. As the EITP DEIR/DEIS states, an objective of the project is "[t]o connect renewable energy sources in the Ivanpah Valley area." EITP DEIR/DEIS at 1-11 (Joint State and Federal Objectives). Similarly, as the project proponent for the EITP, Southern California Edison ("SCE"), recently stated in a filing with the California Public Utilities Commission ("CPUC"): 0023-1 Cont.

> Project Overview
>
> 1. EITP, which primarily consists of a new substation and 35-mile transmission line upgrade, will interconnect up to 1,400 MW of new renewable generation (primarily solar) near the southern California-Nevada border, including Brightsource Energy's 400 MW Ivanpah Solar Energy Generating System (ISEGS), which is currently under regulatory review at the California Energy Commission (07-AFC-05).
> 2. EITP will provide the electrical facilities and capacity to facilitate access and delivery of new solar generation in California and Nevada.
> 3. EITP will allow new solar projects in southwestern Nevada to interconnect into the western states market.

SCE, Eldorado-Ivanpah Transmission Project (EITP) Backgrounder - May 2010, Submitted as Appendix A to SCE's (U 338-E) Notice of Ex Parte Communication filed May 28, 2010.

The proposed Silver State solar project is also a connected action that will have significant impacts on the same local biological resources in the Ivanpah Valley as the proposed Ivanpah project and the EITP. Moreover, both the Ivanpah and the Silver State solar projects are also connected projects both literally and figuratively because they will connect to the EITP lines and substations when they are upgraded and are both dependent on the EITP for access to the California markets. 0023-1

In light of the CEQ guidelines and the case law, the proposed solar power plants and the proposed EITP should have been considered together in a single environmental review. Had the agencies done so, the BLM would have properly framed the questions before it and have fully considered the impacts to the Ivanpah Valley from the *de facto* solar zone that is being created in this area on public lands without any land use planning being undertaken and without consideration of the overall impacts of the proposed wide-spread, sprawling, large-scale industrialization of the Valley as a whole. 0023-2

At minimum, the agencies should consider all of the impacts of the proposed project, along with impacts of the transmission upgrade and substations and the proposed Silver State project as direct impacts of connected projects. Even assuming for the sake of argument alone that the impacts could be described as indirect effects or "secondary" or "induced" effects attributable to the transmission line upgrade and the projects that are dependent on and facilitated by that upgrade, the need for adequate coordinated environmental review is no less. *See City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to

include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create).

By failing to combine or even coordinate this NEPA process with the approval process for all of the similar, cumulative, and connected actions the agencies have undermined full and fair public review of the impacts of the project in violation of NEPA. BLM must disclose and consider all of the connected, cumulative and similar projects' significant impacts together. To do otherwise would be unlawful. Cumulative impacts analysis in multiple EISs is not sufficient where projects are so closely connected as here and will result in a new industrial zone being created on public lands that now serve multiple uses including providing high-quality occupied habitat for a threatened species. 0023-1

b. CEQA

The DEIR/DEIS failed to consider the "project as a whole" and instead has unlawfully segmented environmental review by failing to analyze the impacts of the proposed solar power plants in conjunction with the proposed powerline upgrade, communications line, and two new substations that make up the Eldorado-Ivanpah Transmission Project ("EITP") which is necessary for the power plant proposals. Two of the proposed solar power plants are currently under review by BLM -- Ivanpah SEGS and Silver State/Nextlight—and the Ivanpah SEGS project is also under review by the California Energy Commission ("CEC"). Together these proposed projects would impact thousands of acres of high-quality occupied desert tortoise habitat and additional proposals are planned for this same area covering thousands of additional acres (See attached maps from CBD). The proposed power plant projects and the Eldorado-Ivanpah transmission project are clearly interrelated and, indeed, the power plant projects could not proceed without the transmission project upgrade. 0023-1

The definition of "project" is "given a broad interpretation in order to maximize protection of the environment." (*Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1180 (internal quotation omitted); see *also, Muzzy Ranch Co. v. Solano County Airport Land Use Com*. (2007) 41 Cal.4th 372, 381-83; Fullerton *Joint Union High Sch. Dist. v. State Bd. of Educ*. (1982) 32 Cal.3d 779, 796-97; *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 277-81.) A "project" is "the whole of an action" directly undertaken, supported, or authorized by a public agency "which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Public Resources Code § 21065; CEQA Guidelines § 15378(a).) Under CEQA, "the term 'project' refers to the underlying activity and not the governmental approval process." (*California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist*. (2009) 178 Cal.App.4th 1225, 1241, (quoting *Orinda Assn v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171-72.) (CEQA Guidelines, § 15378(c) ["The term 'project' refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term 'project' does not mean each separate governmental approval."].)

Thus, even assuming for the sake of argument alone that the regulatory structure may make it difficult for the CPUC and CEC to collaborate on a single coordinated environmental review, at minimum, the CPUC should have provided for coordinated environmental analysis of

the powerline upgrade and substations with the CEC and BLM. Instead the projects are being reviewed piecemeal. The cumulative impacts discussion of the power plant proposals cannot cure this omission.

It is well settled that CEQA forbids "piecemeal" review of the significant environmental impacts of a project. A public agency may not divide a single project into smaller individual projects in order to avoid its responsibility to consider the environmental impacts of the project as a whole. (*Orinda Assn. v. Board of Supervisors* (1986) 182 Cal. App. 3d 1145, 1171.) This rule derives, in part, from section 21002.1, subdivision (d), which requires the lead agency--in this case, the Commission--to "consider[] the effects, both individual and collective, *of all activities involved in [the] project.*" (Emphasis added.) Courts have considered separate activities as one CEQA project and required them to be reviewed together where, for example, the second activity is a reasonably foreseeable consequence of the first activity (*Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-84); or both activities are integral parts of the same project (*Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 414-415).

Because the DEIR/DEIS fails to properly consider the whole of the action, including the impacts from the large-scale industrial power plants that depend on the EITP upgrade, the direct and indirect impacts of the proposed project were underestimated from the outset and the DEIR/DEIS fails to provide adequate identification and analysis of environmental impacts of the project as a whole in violation of CEQA. 0023-1

2. Project Description is Inaccurate

Here, the BLM should not proceed any further in the NEPA process for the proposed transmission lines and substation without coordinating this NEPA process with the approval process for all of the connected actions. This would allow all of the projects' significant impacts to be fully considered together. 0023-1

In particular, the BLM should consider together the additive impacts to biological resources, including the desert tortoise and its habitat, from the proposed solar projects and the proposed transmission line and substation to ensure that the true extent of impacts are fully disclosed and analyzed. BLM should not treat this critical analysis as a cumulative impacts question alone. Because the currently proposed projects are linked and interdependent they should be evaluated together under NEPA. Most importantly, each of these projects will have significant direct impacts on desert tortoise populations in the Northeastern Mojave Recovery Unit. 0023-4

BLM must look at those impacts in a comprehensive way that would allow it to formulate meaningful alternatives that could avoid many of the impacts of these linked projects and where impacts remain that cannot be avoided through alternatives, provide for comprehensive minimization and mitigation measures that will ensure that impacts to this recovery unit are appropriately mitigated. Ultimately, BLM must ensure that the approval of these linked projects does not impair the recovery of the desert tortoise populations in the Northeastern Mojave Recovery Unit. 0023-3 0023-4

In comments during the scoping process, CBD requested that BLM conduct such a comprehensive analysis, but the DEIR/DEIS failed to do so. The DEIR/DEIS contains "whole of action / cumulative action" sections, but it simply summarizes findings made for the ISEGS projects. As the DEIR/DEIS executive summary notes, "these sections do not include a new analysis of impacts but rather a synopsis of the CEC's and the BLM's determinations." DEIR/DEIS ES-8. Including in the IETP DEIR/DEIS a synopsis of the ISEGS DEIS is not an acceptable substitute for an EIS which considers the impacts of all the Ivanpah Valley projects. Only an EIS analyzing the impacts of all connected projects together can outline their full additive impacts and develop a suitably wide range of alternative configurations of the projects. 0023-1

B. Purpose and Need Is Too Narrow

The BLM and the CPUC cannot base the need for this project on other proposed projects that have not been approved, may never be approved, and which are not consistent with any existing land use planning. To do so would not only violate the principle that the decisions on those proposed solar facilities must only be made *after* careful environmental review but could also result in much wasted time and effort and the premature approval of a transmission project that would simply be a "bridge to nowhere." Moreover, if approved as proposed without proper land use planning analysis, the result may be a sprawling industrial zone that maximizes rather than minimizes impacts to the environment. 0023-2

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a "hard look" at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply "going-through-the-motions." It is well established that NEPA review cannot be "used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) ("the comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.") 0023-2

The DEIR/DEIS simply assumes that new solar power generation will be approved and constructed in the Ivanpah Dry Lake Area and that therefore the transmission project is needed to service those new generation sites. DEIR/DEIS ES-1. Moreover, the DEIR/DEIS assumes the proposals will be approved without any change to the footprint and that alternative siting will not be adopted. 0023-3

However, those project approvals are not foregone conclusions, for example, the new Ivanpah substation, is intended to service and is proposed within the footprint of, the proposed Ivanpah SEGS although alternative configurations and off-site alternatives have also been proposed. As noted above neither the ISEGS, the proposed NextLight Silver State solar projects in Nevada, nor other potential projects in the area have yet been approved. The DEIR/DEIS notes that a "Purchase Power Agreement" has been executed to connect the ISEGS project to the IETP. DEIR/DEIS ES-8. However, although this indicates the intention of the project proponent, it does not mean that the project will be approved or constructed as proposed.

C. The Range of Alternatives Is Unlawfully Narrow

1. Legal Standards

a. CEQA

Pursuant to CEQA, the "policy of the state" is that projects with significant environmental impacts may not be approved "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects…" Pub. Res. Code § 21002; CEQA Guidelines § 15021(a)(2). A Project should not be approved if environmentally superior alternatives exist "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." CEQA Guidelines §§ 15021(a)(2), 15126.6; Pub. Res. Code § 21002. The Project must be rejected if an alternative available for consideration would accomplish "most [not all] of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." CEQA Guidelines § 15126.6(c).

Accordingly, the EIR/EIS must consider a range of alternatives that would achieve the basic objectives of the project while avoiding or substantially lessening significant environmental effects, and it is essential that the "EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." CEQA Guidelines § 15126.6(d). Alternative sites must also be considered where relocating the project would substantially lessen the significant impacts of the project. Guidelines Section 15126.6(f)(2). *See Citizens of Goleta Valley v County of Santa Barbara* (1988) 197 Cal.App.3d 1167, 1178; *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456 (whether an alternative site may be feasible even where it requires a change in land use designation; to determine feasibility requires detailed analysis of the alternatives; and even if an alternative is less profitable than the project as proposed it may still be a feasible alternative).

b. NEPA

NEPA similarly requires that a range of meaningful alternatives be explored in the environmental review process. 42 U.S.C. §§ 4332(C)(iii),(E). The agency must "study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E); *see also* CEQ Forty Questions, 46 Fed. Reg. at 18027 ("Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are *practical or feasible* from the technical and economic standpoint and using common sense, rather than simply *desirable* from the standpoint of the applicant." (emphasis in original)).

c. California Desert Conservation Area Plan

In addition, pursuant to the BLM's California Desert Conservation Area plan which covers much of the area the project impacts in California, impacts to wildlife from conflicting

land uses should be avoided. CDCA Plan at 28. Impacts to sensitive plant species recognized by BLM should also be avoided. CDCA Plan at 37. Avoidance can best be accomplished through alternative project siting and/or project design. Most importantly, in this instance, and as detailed below, the EIR/EIS must look at alternative sites that could avoid impacts to desert tortoises, critical habitat, DWMAs and other essential desert tortoise habitat. The EIR/EIS should also fully explore other alternatives that would achieve the same level of transmission reliability and support for solar energy production—which should be the basic objective of the project—but without the significant impacts of the proposed project and the projects that are linked to it.

2. Range of Alternatives is Too Narrow

a. DEIR/DEIS Purpose and Need Statement Unlawfully Cabins Alternatives

The statement of purpose and need and the alternatives are closely linked since "the stated goal of a project necessarily dictates the range of 'reasonable' alternatives." *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that "[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives" in violation of NEPA).

The reason for the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 349 (1989).

The agency should not attempt to limit its analysis or avoid robust public input but unduly narrowing the scope of the analysis, because "the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

As the Center pointed out in our comments on the Scoping Process the purpose and need statement in the Scoping was unlawfully narrow and thereby cabined the choice of alternatives. Unfortunately, the DEIR/DEIS fails to cure this error. As discussed above, the project description remains inaccurate, and the DEIR/DEIS still fails to comprehensively consider the connected impacts of the Ivanpah Valley projects. As a result, the DEIR/DEIS fails to analyze the full range of alternatives to the proposed project including alternative configurations for the projects. 0023-3

The BLM can, and indeed must, undertake full consideration of alternatives under NEPA when reviewing a plan amendment and proposed project and (as discussed extensively in the Center's 2/10/2010 comments to the ISEGS SDEIS), there are several potential feasible alternatives (several that would have fallen well within BLM's jurisdiction) including a plan amendment to promote conservation of the desert tortoise and protect the high-quality tortoise habitat in the Ivanpah Valley from industrial development. The BLM fails to adequately

consider any off site alternatives for solar renewable energy generation that could avoid impacts to the resources of these public lands.

b. DEIR/DEIS Does Not Analyze Any Alternative Which Would Avoid or Reduce Impacts to the Desert Tortoise

As the BLM is well aware, it is increasingly difficult to find intact, high quality desert tortoise habitat that could arguably "mitigate" for the loss of any high quality occupied desert tortoise habitat in the Northeastern Mojave Recovery Unit. Therefore, *avoiding* impacts to this essential habitat and maintaining the largest possible areas of intact, high quality habitat is absolutely critical for recovery of the species.

An important problem deriving from the DEIR/DEIS's failure to consider connected impacts is that the DEIR/DEIS does not analyze any alternative which would avoid or reduce impacts to the desert tortoise. DEIR/DEIS 4-8. The EIR/EIS must address the impacts of this project and other linked projects to the *survival and recovery* of desert tortoise in this recovery unit and take seriously the development of meaningful alternatives to this project and the linked solar generating projects that will avoid impacts to the species and its habitat. 0023-3

As described in the DEIR/DEIS, the EITP would cut through a high density desert tortoise habitat, causing adverse impacts "both short and long term, both localized and extensive." DEIR/DEIS 3.4-75. One of the key strategies for mitigating harm to the desert tortoise population in the Ivanpah valley project area is to relocate tortoises from the substation site as well as the Ivanpah solar project site. The DEIR/DEIS notes that the solar project proponent proposes to relocate at least 25 tortoises. DEIR/DEIS 3.4-102. However, the DEIR/DEIS notes that there will be "reduced survivorship for translocated individuals," due to fragmentation of habitation, increased road traffic, and increased predation from a raven and coyote presence increased by the construction process. DEIR/DEIS 3.4-102. This mitigation is inadequate, therefore, because it does not provide for mitigation of the threats posed to tortoises once relocated. 0023-4

Moreover, the EITP would contribute to a series of connected impacts deriving from the generating facilities the transmission line connects to. The DEIR/DEIS notes that "One potential impact from reasonably foreseeable future projects, including the EITP, could be habitat loss over a large area, approximately 120,000 acres of habitat disturbance/loss. DEIR/DEIS 5-47, 5-48.

However, as discussed above, EITP DEIR/DEIS fails to analyze these connected impacts in any depth, instead simply compiling a "synopsis" information from the environmental documents of other projects, rather than conducting analysis of the interconnected and interacting impacts of all the Ivanpah Valley projects together. As a result, the DEIR/DEIS fails to develop any alternatives to the current overall development scheme to avoid or reduce impacts to desert tortoise. DEIR/DEIS 5-18. 0023-1 0023-3

Similarly, the ISEGS Supplemental DEIS considered two additional alternatives but ignored other feasible alternatives including off site alternatives and an alternative plan 0023-3

amendment that would consider this area for protection as an ACEC or an addition to the existing DWMA. Such alternatives are clearly feasible. 0023-3 Cont.

The DEIS for the Silver State project provided even less analysis of alternatives and failed to consider avoiding or significantly reducing impacts to the Desert tortoise. The Silver State project is sited in excellent occupied tortoise habitat, and would result in significant impacts on tortoise populations. Yet despite the high stakes, the DEIS contains little analysis. An example of the frivolous and incomplete cumulative impacts analysis done for desert tortoise can be summed up by the incredulous statement, "One potential effect from future projects, including the Proposed Action, could be habitat loss over a large area." "*Potential"? "Could be"?* The DEIS fails miserably in fulfilling its obligations under the NEPA in this analysis.

Because the EITP, ISEGS, and Silver State environmental review documents fail to provide adequate identification and analysis of impacts, inevitably, they also fail to identify adequate mitigation alternatives. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52.

Although both the reduced footprint alternative and the I-15 alternative for the ISEGS project would likely reduce some on-site impacts to rare species, other alternatives are clearly available and feasible that would further and more significantly reduce the impacts of the Silver State project as well. The Center provided the BLM additional information on those alternatives in our comments on the ISEGS and the Silver State projects. Moreover, no alternatives are provide to the project as a whole, for example, re-locating all of these projects in areas of the Ivanpah valley that are less sensitive, relocating all of the projects to already disturbed lands, and/or relocating the projects closer to the end use for the energy. 0023-3

BLM must look at those impacts in a comprehensive way that would allow it to formulate meaningful alternatives that could avoid many of the impacts of these linked projects and where impacts remain that cannot be avoided through alternatives, provide for comprehensive minimization and mitigation measures that will ensure that impacts to this recovery unit are appropriately mitigated. Ultimately, BLM must ensure that the approval of these linked projects does not impair the recovery of the desert tortoise populations in the Northeastern Mojave Recovery Unit.

c. DEIR/DEIS Ignores Distributed Generation Alternatives

Related to the CPUC and the BLM's unlawful segmentation of project analyses is the agencies' failure to assess distributed generation alternatives. Since the IETP DEIR/DEIS ignores the connected impacts of the Ivanpah Valley projects and focuses narrowly on the impacts of the proposed transmission line and substations, it neglects discussion of distributed generation alternatives to the Valley projects. 0023-3

As the CPUC and the BLM are well aware, a distributed solar energy alternative is also a feasible alternative.[1] Indeed, the most recent data and information available also shows that a distributed solar energy alternative would be comparable in terms of cost and capacity factor — indeed it may be less costly than the proposed project. *See* RETI 2B Final Report 7-23. As detailed in the attached Comments of Bill Powers, P.E., distributed alternatives are feasible and should have been evaluated in the DEIR/DEIS.[2] 0023-3

There are many opportunities for development of renewable energy in closer proximity to urban load center where there are areas appropriately zoned for industrial development. Moreover, additional opportunities are emerging every day for siting large-scale industrial renewable energy projects on previously damaged or disturbed lands. Indeed, approximately 30,000 acres of former agricultural lands in the Westlands Water District may soon be available to provide 5,000 MW of utility-scale solar development.

Alternative renewable energy projects are being proposed, built, and brought on line in many areas beyond of the California desert as well. While clearly some solar development will go forward in the California desert, hopefully it will be approved after appropriate land use planning and environmental review have been completed. Even if some large-scale solar development will occur in the Ivanpah Valley in the future, this area should not bear a disproportionate burden of the impacts of these industrial-scale solar facilities going forward.

Under CEQA, none of these projects can go forward without appropriate consideration of other feasible alternatives that could avoid the significant impacts of the projects such as a distributed renewable energy alternative which could avoid significant impacts to desert tortoise and occupied habitat, rare plants, soils, and other resources of these public lands. Other alternatives such as alternative siting configurations for the EITP and proposed large scale solar projects that could avoid or minimize habitat fragmentation must also be explored.

Importantly, analyzing a distributed PV alternative to this proposed project does not preclude cost-effective central station (industrial) solar projects being sited in any way. Indeed, some large-scale industrial solar projects that are appropriately sited on disturbed or degraded lands served by existing transmission lines may very well be comparable to distributed PV when looked at in a robust alternatives analysis.

However, the DEIR/DEIS completely fails to analyze these issues. In the discussion of alternatives, the DEIR/DEIS simply notes that if the IETP is not completed, "the applicant would need to identify alternate renewable generation sources." DEIR/DEIS 4-3. The DEIR/DEIS does not discuss distributed generation, but comments that "depending on the alternate sources identified, could result in greater environmental impacts than the proposed project, as they might require creation of a new ROW or might require ground disturbance in previously undisturbed 0023-3

[1] *See, e.g.,* RETI Final Report 2B 7-23, CBD Comments on DEIS for ISEGS 39.
[2] COMMENTS OF BILL POWERS, P.E. ON ELDORADO-IVANPAH TRANSMISSION PROJECT DRAFT EIR/EIS ON BEHALF OF CENTER FOR BIOLOGICAL DIVERSITY, June 21, 2010 (attached; Mr. Powers' comments provide an update of earlier testimony provided in the CEC process and to the BLM for the Ivanpah SEGS project and the Genesis solar project).

areas." DEIR/DEIS 4-3. These conclusory comments are completely unsubstantiated and cannot substitute for analysis of distributed generation options, which the CPUC itself has recognized elsewhere as a priority. 0023-3 Cont.

II. Project Fails to Adequately Analyze and Propose Mitigations for Impacts on Biological Resources

A. Threatened and Endangered Wildlife

1. Desert tortoise (Gopherus agassizii)

a. Background

Tortoises living in southern California, southern Nevada, southwestern Utah, and extreme northern Arizona comprise the Mojave population of desert tortoise, and were afforded protection under the Endangered Species Act as a threatened species in 1990. The desert tortoise lives in valleys, flat areas, and dry alluvial fans and washes. In the Mojave and Colorado deserts, tortoises are generally found below 4,000 feet in Joshua tree-Mohave yucca communities, creosote bush-saltbush scrub habitats, and some ocotillo-creosote habitats. They may live in a variety of soil types, including those of sand dunes, rocky hillsides, washes, sandy soils, and desert pavements.

Desert tortoises are found throughout the proposed project area, with the possible exception of the mountain passes. The proposed project lies within the Northeastern Mojave Recovery Unit and impacts the Ivanpah (CA) and Piute-Eldorado (NV) recovery units. Murphy et al. undertook extensive genetic analysis across the range of the desert tortoise and identified genetically unique populations within the larger listed population.[3] The desert tortoises in the project area represent a unique genetic group – the northeastern Mojave group. The uniqueness of this population is also recognized both in the 1994 Desert Tortoise Recovery Plan[4] and the draft Revised Recovery Plan as the North Eastern Mojave Recovery Unit and the Murphy et al. paper again confirms the uniqueness of this population.[5]

In California, the Ivanpah area is the only location of this unique genotype of desert tortoise in California. Because these animals represent such a unique occurrence in California, adequate avoidance, minimization and mitigation must be applied to this project pursuant to CEQA taking into account the connected and cumulative projects including the Ivanpah SEGS project.

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[3] Murphy R.W., K.H. Berry, T. Edwards and A.M. McLuckie. 2007. A Genetic Assessment of the Recovery Units for the Mojave Population of the Desert Tortoise, Gopherus agassizii. Chelonian Conservation and Biology, 2007, 6(2): 229–251.

[4] U.S. Fish and Wildlife Service (USFWS). 1994. Desert Tortoise Recovery Plan. Desert tortoise (Mojave population). http://ecos.fws.gov/docs/recovery_plans/1994/940628.pdf

[5] U.S. Fish and Wildlife Service (USFWS). 2008. Draft Revised Recovery Plan. Desert tortoise (Mojave population).http://www.fws.gov/nevada/desert_tortoise/documents/recovery_plan/DraftRevRP_Mojave_Desert_Tortoise.pdf

Several of the Path 2 sections and alternatives fall within desert tortoise critical habitat in California which is part of the Ivanpah DWMA. Prior to 2002, the area to the north of the I-15 in California in the Ivanpah Valley was designated by BLM as Category 1 habitat for desert tortoise – the best desert tortoise habitat. The Northern and Eastern Mojave Plan changed that designation, not based on any site specific science, but on the establishment of Desert Wildlife Management Areas (DWMA's) elsewhere.[6] All critical habitat and occupied desert tortoise habitat should be avoided and the EIR/EIS should explore a more robust range of alternatives providing at least one alternative that does not impact any critical habitat.

b. Analysis of Impacts, Alternatives, and Mitigation Efforts are Inadequate

The EITP would cut through a high density desert tortoise habitat, causing adverse impacts "both short and long term, both localized and extensive." DEIR/DEIS 3.4-75. While the DEIR/DEIS provides some identification of the impacts to the desert tortoise it fails to adequately analyze the direct, indirect and cumulative impacts to the population in this area and the species as a whole. While the segmentation issue is discussed in detail above in these comments, in addition, another glaring omission is the failure to analyze the effects of the project as a whole and the resulting habitat fragmentation on the desert tortoise population. 0023-3

The proposed Ivanpah Substation would occupy a total area of 38.5 acres, "the largest project-related loss of desert tortoise habitat in a single area." DEIR/DEIS 3.4-76. Over all, construction of ISEGS project will result in the loss of approximately 4,073 acres of desert tortoise habitat. DEIR/DEIS 3.4-102.

In Nevada, the entire proposed route of the 220 kV transmission line and proposed telecommunication route Path 2 falls within the proposed Piute-Eldorado Desert Wildlife Management Area (DWMA) as outlined in the 1994 desert tortoise recovery plan. Further, the majority of Path 2, segment 1 from the Boulder City limits to highway 164 falls within designated critical habitat.

One of the key strategies for mitigating harm to the desert tortoise population in the Ivanpah valley project area is to relocate tortoises from the substation site as well as the Ivanpah solar project site. The DEIR/DEIS notes that the solar project proponent proposes to relocate at least 25 tortoises. DEIR/DEIS 3.4-102. However, the DEIR/DEIS notes that there will be "reduced survivorship for translocated individuals," due to fragmentation of habitation, increased road traffic, and increased predation from a raven and coyote presence increased by the construction process. DEIR/DEIS 3.4-102. This mitigation is inadequate, therefore, because it does not provide for mitigation of the threats posed to tortoises once relocated. 0023-3

Overall, as discussed above, the EIR/EIS must address the impacts of this project and other linked projects to the *survival and recovery* of desert tortoise in this recovery unit and take seriously the development of meaningful alternatives to this project and the linked solar generating projects that will avoid impacts to the species and its habitat and in particular increase habitat fragmentation in the Ivanpah valley. The desert tortoise is continuing to decline throughout its range despite being under federal and state Endangered Species Acts protection as 0023-3

[6] Bureau of Land Management. 2002. The Northern and Eastern Mojave Plan.

threatened.[7] Avoiding impacts to this essential habitat and maintaining the largest possible areas of intact, high quality habitat is absolutely critical for recovery of the species.

2. Desert bighorn sheep (Ovis Canadensis nelson)

a. Background

Desert bighorn sheep are listed as a BLM sensitive species, and have a California state threat ranking of S3 (21–100 EOs, or 3,000–10,000 individuals, or 10,000–50,000 acres). DEIR/DEIS 3.4-29. In California, desert bighorn sheep are found both in the Clark Mountains and within the Mojave National Preserve. In Nevada, desert bighorn sheep are found in the McCullough and Highland Ranges, crucial bighorn sheep habitat, which both are affected by components of the proposal. There is ongoing concern regarding the fragmentation of bighorn habitat and the loss of critical movement corridors across the I-15, which this project may exacerbate by further industrializing the area. The project should look at ways to minimize any impacts to bighorn movement. 0023-3

b. Analysis of Impacts and Mitigation Efforts is Inadequate

i. Bighorn Water Sources

The proposed route of the 220 kV transmission line crosses the McCullough Range, and while it does so through a highly disturbed and roaded pass, there is a critical watering guzzler located north of the pass. This watering source is critically important to the bighorn during the hot and dry periods of the year. Construction activities could disrupt the movements of bighorn north and south of the pass and result in critical stresses on the herd.

Work in this area should be conducted outside of periods where access to this guzzler is important to the bighorn. The DEIR/DEIS fails to discuss this mitigation measure. DEIR/DEIS 3.4-95. Other proposed mitigation measures, such as conducting a survey of bighorn in the area prior to construction and reporting the figure to NDOW, and halting construction if bighorn appear within 500 feet of construction until the sheep vacate, are insufficient. DEIR/DEIS 3.4-95. Construction itself may have a highly disruptive effect on the area, such that bighorn will not approach so close as 500 feet. Moreover, the measure does not specify that bighorn will be allowed to cross the construction site, only that construction stop until they vacate, which would appear to allow construction crews to chase the bighorn away which is unacceptable. 0023-3

ii. Bighorn Movement

Another concern is the proposed telecommunications route Path 2 section 1, which is sited in a narrow valley between the two ranges. Bighorn movement between these ranges is routine and construction would impact around ten miles of bighorn crossing areas.

[7] U.S. Fish and Wildlife Service (USFWS). 2008. Draft Revised Recovery Plan. Desert tortoise (Mojave population).http://www.fws.gov/nevada/desert_tortoise/documents/recovery_plan/DraftRevRP_Mojave_Desert_Tortoise.pdf

Again, timing and segmenting work on the telecommunications line may be useful in mitigating impacts to the sheep. As with mitigation of effects on bighorn watering, the DEIR/DEIS fails to discuss this mitigation measure. DEIR/DEIS 3.4-95. As discussed above, the proposed mitigation measures do not specify that bighorn will be allowed to cross the construction site, only that construction stop until they vacate, which would appear to allow construction crews to chase the sheep away. 0023-3

iii. Bighorn Lambing

Also of concern are the impacts of construction and helicopter support on bighorn lambing. The BLM and proponent should consult with the Nevada Department of Wildlife (NDOW) on how best to mitigate these and other impacts. While MM BIO-13 does require avoiding construction activities in lambing areas from January to May, DEIR/DEIS 3.4-95, further analysis is need to determine if other mitigation efforts could be effective in reducing impacts to bighorn lambing and survival. 0023-3 0023-2

B. Rare Plants

Many rare plants have been identified within the project area. In California these plants include but are not limited to the Rusby's desert mallow (*Spheralcea rusbyi* var. *eremicola*), Cave evening primrose (*Oenothera cavernae*), Mojave milkweed (*Asclepias nyctaginifolia*), and Desert pincushion (*Coryphantha chlorantha*). In addition, there are several rare plants found in Nevada within the project area:

1. White-margined penstemon (Penstemon albomarginatus)

a. Legal Standards

The white-margined penstemon is a rare plant known from only five general locales, two in southwest Nevada, including the Jean-Roach Lake area, two in southeast California, and one in Arizona near Kingman. The Jean-Roach Lake population is central and likely to be important for the transport of genetic material among populations and other ecological functions.[8] This plant is generally restricted to deep, loose deposits of aeolian sandy soils between 2560 and 3570 feet elevation.

A 2001 field survey reported finding at least 68,164 plants on 6734 acres in Nevada.[9] While the plant is not federally listed, its unique and limited habitat makes it rare and imperiled. The Nature Conservancy report summarizes the threats to the Jean-Roach Lake population as "very high". Because of the limited distribution, unique habitat and very high level of threats, the Natural Heritage Program ranks it globally as "G2", imperiled, while in Nevada and Arizona it is

[8] The Nature Conservancy. 2007. A conservation management strategy for nine low elevation rare plants in Clark County, Nevada. At: http://www.accessclarkcounty.com/depts/daqem/epd/dcp/Pages/dcp_reports.aspx .

[9] Smith, Frank J. 2001. Current knowledge and conservation status of Penstemon albomarginatus M.E. Jones (Scrophulariaceae), the white-margined penstremon. 29 pages + 3 appendices. Nevada Natural Heritage Program. Carson City, NV.

state ranked as imperiled, and in California it is state ranked as critically imperiled and very threatened.[10]

b. Analysis of Impacts and Mitigation Efforts

The proposed route of the 220 kV passes through the Jean-Roach Lake area and poses a potential threat to populations 10 and 12 as identified by Smith.[11] These roughly correspond to the area between mile markers 12-15, and 21-25 as shown on Project Overview Figure ES-1.

The DEIR/DEIS offers only scant attention to mitigation efforts for rare plants in the project area. For plants in general, the DEIR/DEIS proposes a preconstruction survey of plant life (MM BIO-1) and a recovery plan (MM BIO-2) designed to help foster revegetation. DEIR/DEIS 3.4-92. 0023-3

MM BIO-3 calls for relocation of special status plants and for reclamation efforts after the fact, but does not appear to call for specific measures to avoid harm to rare plants in the first place. As the Center commented during the scoping process, activities associated with tower construction or modification, line pulling and other potentially ground disturbing activities should be sited away from inventoried occupied sites whenever possible. 0023-3

2. Aven Nelson phacelia (Phacelia anelsonii)

a. Legal Standards

Aven Nelson phacelia occurs mostly in sheltered places, as along the northern side of cliffs and ledges, in rocky or sandy or gravelly soil, at elevations of up to 1500 m. There are only two known occurrences in Nevada, including one near the alignment of highway 164 along the proposed route of the telecommunications line near where path 2, sections 1 and 2 meet.[12]NatureServe ranks this plant as "G2" imperiled, while it is state ranked in Nevada as "critically imperiled".[13]

b. Analysis of Impacts and Mitigation Efforts

As discussed above, mitigation measures for harm to rare plants as currently analyzed in the DEIR/DEIS are inadequate. Activities associated with tower construction or modification, line pulling and other potentially ground disturbing activities should be sited away from inventoried occupied sites whenever possible. 0023-3

[10] Ibid, The Nature Conservancy.
[11] Ibid, Smith.
[12] http://heritage.nv.gov/atlas/atlasndx.htm
[13]http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=156874&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=156874&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=156874

C. Special Status Lands

1. Mojave National Preserve

As the DEIR/DEIS notes, "National Preserves are defined as protected areas having characteristics associated with national parks but where Congress has permitted continued public hunting, trapping, and oil/gas exploration and extraction." DEIR/DEIS 3.9-10, citing NPS 2000.

The DEIR/DEIS observes that "The proposed project directly borders, but is not in, the Mojave National Preserve." DEIR/DEIS 3.4-56. The Path 2 and alternatives run along the border of the Mojave National Preserve which is home to many rare and imperiled species including the desert tortoise and bighorn sheep. In this area the project is also within the critical habitat for the desert tortoise.

All the potential impacts of the EITP and the solar zone being created and facilitated by the EITP in the Ivanpah Valley on the resources within the Mojave National Preserve must be identified and fully considered. Yet the DEIR/DEIS fails to discuss these impacts in even a preliminary fashion, confining itself to the conclusory assertion that the propose project simply "borders" the preserve. DEIR/DEIS 3.4-56. There is no discussion in the DEIR/DEIS of impacts on the Preserve and the resources therein. DEIR/DEIS 3.4-56. 0023-3

2. Wee Thump Joshua Tree Forest Important Bird Area

Important Bird Areas, or IBAs, are sites that provide essential habitat for one or more species of bird. IBAs include sites for breeding, wintering, and/or migrating birds. IBAs may be a few acres or thousands of acres, but usually they are discrete sites that stand out from the surrounding landscape.[14] The Wee Thump Joshua Tree IBA was designated because of the important and unique habitat it provides for desert cavity nesting birds.

The ancient Joshua trees, estimated to be over 250 years old, offer cavities and habitat which are largely absent from much of the surrounding regional landscape.[15] The proposed Path 2 segment 1 for the telecommunications line borders, and at places, slightly enters this IBA. The DEIR/DEIS states that the project could cause "adverse impacts" to "nesting birds within the Wee Thump Joshua Tree Wilderness Area." DEIR/DEIS 3.4-66. The DEIR/DEIS helpfully provides for work stoppages during bird breeding season if required by NDOW. 3.4-95. Further consultation with NDOW should be conducted to determine if other mitigation measures may be appropriate. 0023-3

3. Unusual Plant Assemblages and Riparian Areas

The DEIR/DEIS should identify and analyze impacts to all Unusual Plant Assemblages and riparian areas throughout the project area and these resources should be fully protected. Within the CDCA all riparian areas are considered Unusual Plant Assemblages and must be fully protected. CDCA Plan at 38, 42. To the extent that the proposed project may affect any riparian 0023-3

[14] http://www.audubon.org/bird/iba/iba_intro.html
[15] http://iba.audubon.org/iba/stateIndex.do?state=US-NV

areas or other UPA's alternatives must be explored that would avoid all impacts to these rare desert resources. 0023-3

III. Project Fails to Adequately Analyze Greenhouse Gas Emissions

A. Legal Standard

Federal courts have held squarely that NEPA requires federal agencies to analyze climate change impacts. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9th Cir. 2007). As most relevant here, NEPA requires consideration of greenhouse gas emissions ("GHG emissions") associated with all projects and, in order to fulfill this requirement the agencies should look at all aspects of the project which may create greenhouse gas emissions including operations, construction, and life-cycle emissions from materials. Where a proposed project will have significant GHG emissions, the agency should identify alternatives and/or mitigation measures that will lessen such effects.

As part of the NEPA analysis federal agencies must assess and, wherever possible, quantify or estimate GHG emissions by type and source by analyzing the direct operational impacts of proposed actions. Assessment of direct emissions of GHG from on-site combustion sources is relatively straightforward. CEQA also requires analysis of GHG emissions as part of the environmental review. Recent amendments to the CEQA Guidelines require that the impacts of a proposed project's greenhouse gas emissions be determined and assessed. (CEQA Guidelines § 15064.4.) Any analysis regarding the Project's greenhouse gas emissions must be rigorous, site-specific, and inclusive of both short-term and long-term effects.[16]

For many projects, as with the proposed project, energy consumption will be the major source of GHGs. The indirect effects of a project may be more far-reaching and will require careful analysis. Within this category, for example, the agencies should evaluate, GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building materials (lifecycle analysis), and land conversion. *See* Cal. Nat. Res. Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97* (Dec. 2009) at p. 72 [discussing lifecycle emissions calculations and noting that "projects may spur the manufacture of certain materials, and in such cases, consideration of the indirect effects of a project resulting from the manufacture of its components may be appropriate. A lead agency must determine whether certain effects are indirect effects of a project, and where substantial evidence supports a fair argument that such effects are attributable to a project, that evidence must be considered."].)

Moreover, because many projects may undermine or destroy the value of carbon sinks, including desert soils, projects may have additional indirect effects from reduction in carbon

[16] *See* Cal. Nat. Res. Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97* (Dec. 2009) at 83-84 available at www.ceres.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.)

sequestration, therefore both the direct and quantifiable GHG emissions as well as the GHG effects of destruction of carbon sinks should be analyzed.

B. Analysis of Sources of Greenhouse Gases and Mitigation Efforts

1. Construction

The DEIR/DEIS notes that the construction of the proposed project will generate approximately 7,000 MTCO2e (Metric Ton Carbon Dioxide Equivalent) of GHG emissions. DEIR/DEIS 3.3-15. The primary sources of GHGs during construction will be emissions from vehicles associated with construction. DEIR/DEIS 3.3-15. However, there is no discussion of avoiding or reducing these emissions by using alternative fuel for equipment or vehicles. There is also no discussion of off-setting the GHG emissions that are identified. 0023-5

2. Project Operation

The DEIR/DEIS states that annual GHG emissions from project operation are estimated to be 190 MTCO2e. DEIR/DEIS 3.3-15. There will be emissions from maintenance vehicles which are estimated to be negligible, but there may also be leaks of SF6 from substation/transmission equipment. DEIR/DEIS 3.3-15.

Importantly, the DEIR/DEIS fails to state the actual amount of SF6 that is estimated to leak from equipment and provides only that 190 MTCO2E is expected in GHG emissions each year from project operation. No information is provided on the calculation. BLM has also failed to include the loss of carbon sequestration from soils in its GHG calculations or to provide a lifecycle analysis of GHG emissions that include manufacturing and disposal of project components and equipment. Moreover, as discussed above, in order to comply with NEPA and CEQA the agencies should also have included analysis of the GHG emissions from the proposed solar projects that are connected actions. The Ivanpah project in particular has significant GHG emission of approximately 25,000 MTCO2e annually which should be fully considered in this DEIR/DEIS and avoided where feasible, and minimized to the extent possible, and the remaining impacts mitigated or off-set. 0023-5

The DEIR/DEIS does not analyze any alternatives to avoid or minimize the long-term emissions of SF6 from EITP operations and no mitigation measures are provided. Potential leakage of SF6 is of particular concern as it is many times more potent a greenhouse gas than CO2—indeed, its potential as a GHG has been estimated at 23,900 times that of CO2 (for a 100 year time horizon) and it can persist in the atmosphere far longer than CO2 as well—up to 3,200 years.[17] 0023-5

The indirect or lifecycle effects of the EITP (as well as the connected actions—the project as a whole) may be far-reaching and require careful analysis as well. Within this 0023-5

[17] P. Forster et al., *Changes in Atmospheric Constituents and in Radiative Forcing, in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Solomon, S., et al. eds., Cambridge University Press 2007) at p. 212, Table 2.14.

category, for example, the agencies should evaluate both GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building materials (lifecycle analysis), and land conversion..

0023-5 Cont.

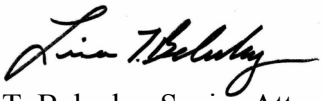
Moreover, because the project may undermine or destroy the value of carbon sinks found in desert soils, the project may have additional indirect effects from reduction in carbon sequestration, therefore both the direct and quantifiable GHG emissions as well as the indirect effects resulting from the destruction of carbon sinks should be analyzed.

IV. Conclusion

Thank you for your consideration of these comments. In light of the inadequacy of the environmental review to date, we urge the BLM and the CPUC to revise and re-circulate the DEIR/DEIS or prepare and circulate a supplemental DEIR/DEIS before making any decision regarding the proposed EITP and the connected projects—the project as a whole.

Further, in light of the inadequacy of the DEIR/DEIS, the statement in the CPUC's Joint Assigned Commissioner and Administrative Law Judge's Scoping Memo Ruling which assumed that the DEIR/DEIS and FEIR/FEIS would adequately address all of the significant environmental impacts of the project such that all of the issues regarding the environmental impacts of the project could be resolved without the need for evidentiary hearings or further evidence appears to have been premature. [18] In the event that the agencies choose not to revise the DEIR/DEIS to provide adequate analysis, the agencies should not approve the proposed project. Please feel free to contact me if you have any questions about these comments or the documents provided.

Sincerely,



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Attachments:

Comments of Bill Powers, P.E. ON ELDORADO-IVANPAH TRANSMISSION PROJECT DRAFT EIR/EIS ON BEHALF OF CENTER FOR BIOLOGICAL DIVERSITY, June 21, 2010

Center for Biological Diversity Maps: Ivanpah Valley and Ivanpah Valley Proposed Projects

[18] *See* JOINT ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S SCOPING MEMO RULING, filed May 28, 2009, at 9.

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ON BEHALF OF CENTER FOR BIOLOGICAL DIVERSITY

COMMENTS OF BILL POWERS, P.E.

ON ELDORADO-IVANPAH TRANSMISSION PROJECT DRAFT EIR/EIS

June 21, 2010

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I. Introduction

My comments address: 1) the inadequate analysis of the distributed photovoltaic (PV) alternative to Eldorado-Ivanpah Transmission Project (EITP) project in the EITP Draft EIR/EIS and 2) the proposed Westlands Water District Competitive Renewable Energy Zone, located on retired farmland in the Central Valley and served by 5,000 MW of existing transmission capacity, as a superior location for 370 MW of Ivanpah Solar Electric Generating Station (ISEGS) solar power that would eliminate the need for the EITP project. 0024-1

The EITP Draft EIR/EIS makes no pretense of evaluating a non-transmission alternative to the EITP. The Draft EIR/EIS simply states:

> "Non-Transmission System Alternative (System Alternative 1): This alternative would not meet the project's purpose, need, or objectives since it would not interconnect solar resources in the Ivanpah Dry Lake area with the SCE transmission system. In addition, new sources of in-basin generation would need to be identified, evaluated, and built. Transmission upgrades may also be required to integrate new in-basin generation sources into the transmission system. These new sources of in-basin generation would result in site-specific impacts associated with construction and operation of new power plants. This could result in air quality, biology, cultural resources, land use, noise, and visual impacts, among others."

This is the extent of the analysis of non-transmission alternatives in the EITP Draft EIR/EIS. In contrast, the Draft and October 2008 Final EIR/EIS prepared by the California Public Utilities Commission (CPUC) and Bureau of Land Management (BLM) for San Diego Gas & Electric's proposed Sunrise Powerlink transmission line includes voluminous analysis of multiple non-transmission alternatives to the proposed project. See the complete Sunrise Powerlink Final EIS/EIS at: http://www.cpuc.ca.gov/environment/info/aspen/sunrise/toc-feir.htm. The conclusion of the CPUC/BLM Final EIR/EIS was that either of the two non-transmission in-basin alternatives to the Sunrise Powerlink were environmentally superior to the proposed project or any transmission alternative to the proposed project. The EITP Draft EIR/EIS avoids a similar conclusion by failing to analyze in detail any non-transmission alternative to the EITP. 0024-1

The brief list of reasons given in the EITP Draft EIR/EIS for rejecting non-transmission alternatives are unsupported and incorrect. This comment letter addressed why the reasons given are incorrect using the CEC's June 2010 Revised Staff Assessment (RSA) for the Genesis Solar Energy Project (GSEP) as a case study. 0024-1

I am a registered professional mechanical engineer in California with over 25 years of experience in the energy and environmental fields. I have permitted five 50 MW peaking turbine installations in California, as well as numerous gas turbine, microturbine, and engine cogeneration plants around the state. I organized conferences on permitting gas turbine power plants (2001) and dry cooling systems for power plants (2002) as chair of the San Diego Chapter of the Air & Waste Management Association. I am the author of the October 2007 strategic energy plan for the San Diego region titled "San Diego Smart Energy 2020." The plan uses the state's Energy Action Plan as the framework for accelerated introduction of local renewable and cogeneration distributed resources to reduce greenhouse gas emissions from power generation in the San Diego region by 50 percent by 2020. I am the author of several 2009 articles in Natural Gas & Electricity Journal on use of large-scale distributed solar PV in urban areas as a cost-effective substitute for new gas turbine peaking capacity.

II. Rooftop PV Is at the Top of the Energy Action Plan Loading Order

The California Energy Commission (CEC), in discussing the conservation and demand-side management alternative to solar thermal projects in the Mojave Desert such as ISEGS and GSEP, that cost-effective energy efficiency is the resource of first choice in meeting California's energy needs (p. B.2-84, GSEP Revised Staff Assessment - RSA):

> "Conservation and demand-side management consist of a variety of approaches to reduce of electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution. In 2005 the Energy Commission and CPUC's Energy Action Plan II declared cost effective energy efficiency as the resource of first choice for meeting California's energy needs."

The CEC and the CPUC developed the "Energy Action Plan" in 2003 to guide strategic energy decisionmaking in California. The Energy Action Plan establishes the energy resource "loading order," or priority list that defines how California's energy needs are to be met. Energy Action Plan I was published in May 2003.[1] Energy Action Plan I describes the loading order in the following manner (p. 4):

> "The Action Plan envisions a "loading order" of energy resources that will guide decisions made by the agencies jointly and singly. First, the agencies want to optimize all strategies for increasing conservation and energy efficiency to minimize increases in electricity and natural gas demand. Second, recognizing that new generation is both necessary and desirable, the agencies would like to see these needs met first by renewable energy resources and distributed generation. Third, because the preferred resources require both sufficient investment and adequate time to "get to scale," the agencies also will support additional clean, fossil fuel, central-station generation. Simultaneously, the agencies intend to improve the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation."

Energy Action Plan I, Under "Optimize Energy Conservation and Resource Efficiency," states (p. 5):

> "Incorporate distributed generation or renewable technologies into energy efficiency standards for new building construction."

Energy Action Plan I identifies rooftop PV as a de facto energy efficiency measure with this statement. As noted in the GSEP RSA (p. B.2-84), energy efficiency is at the top of the loading order. Energy Action Plan I also states, Under "Promote Customer and Utility-Owned Distributed Generation," (p. 7):

> "Distributed generation is an important local resource that can enhance reliability and provide high quality power, without compromising environmental quality. The state is promoting and encouraging clean and renewable customer and utility owned distributed generation as a key component of its energy system. Clean distributed generation should enhance the state's environmental goals. This determined and aggressive commitment to efficient, clean and renewable energy resources will provide vision and leadership to others

[1] Energy Action Plan I: http://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF

seeking to enhance environmental quality and moderate energy sector impacts on climate change. Such resources, by their characteristics, are virtually guaranteed to serve California load. With proper inducements distributed generation will become economic.

- Promote clean, small generation resources located at load centers.
- Determine system benefits of distributed generation and related costs.
- Develop standards so that renewable distributed generation may participate in the Renewable Portfolio Standard program."

Energy Action Plan I prioritizes rooftop PV as the preferable renewable resource, but indicates obliquely that it is costly and that in any case distributed PV is not eligible to participate in the Renewable Portfolio Standard (RPS) program. Therefore investor-owned utilities have no incentive to develop distributed PV resources. Since Energy Action Plan I was approved in 2003, PV cost has dropped dramatically. Commercial distributed PV is half the cost it was in 2003 and costs continue to drop. Residential PV is following quickly behind. Distributed PV is also now eligible for the RPS program.[2]

Energy Action Plan II was adopted in September 2005.[3] The purpose of Energy Action Plan II is stated as (p. 1): "EAP II is intended to look forward to the actions needed in California over the next few years, and to refine and strengthen the foundation prepared by EAP I." Energy Action Plan II reaffirms the loading order stating (p. 2):

"EAP II continues the strong support for the loading order – endorsed by Governor Schwarzenegger – that describes the priority sequence for actions to address increasing energy needs. The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost-effective efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation."

The CEC's *2009 Integrated Energy Policy Report (IEPR) – Final Committee Report* (December 2009), underscores the integration of building PV as a critical component of "net zero" energy use targets for new residential and commercial construction, under the heading "Energy Efficiency and the Environment," explaining:[4]

"With the focus on reducing GHG emissions in the electricity sector, energy efficiency takes center stage as a zero emissions strategy. One of the primary strategies to reduce GHG emissions through energy efficiency is the concept of zero net energy buildings. In the 2007 IEPR, the Energy Commission recommended increasing the efficiency standards for buildings so that, when combined with on-site generation, newly constructed buildings could be zero net energy by 2020 for residences and by 2030 for commercial buildings.

A zero net energy building merges highly energy efficient building construction and state-of-the-art appliances and lighting systems to reduce a building's load and peak requirements and

[2] CPUC Press Release – Docket A.08-03-015, *CPUC Approves Edison Solar Roof Program*, June 18, 2009. "The energy generated from the project will be used to serve Edison's retail customers and the output from these facilities will be counted towards Edison's RPS goals."
[3] Energy Action Plan II: http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF
[4] CEC, *2009 Integrated Energy Policy Report (IEPR) – Final Committee Report*, December 2009, p. 56.

includes on-site renewable energy such as solar PV to meet remaining energy needs. The result is a grid-connected building that draws energy from, and feeds surplus energy to, the grid. The goal is for the building to use net zero energy over the year."

The GSEP RSA acknowledges the state's commitment to net zero residential and commercial buildings, stating (RSA, p. B.2-84):

"The CPUC, with support from the Governor's Office, the Energy Commission, and the California Air Resources Board, among others, adopted the California Long-Term Energy Efficiency Strategy Plan for 2009 to 2020 in September 2008 (CPUC 2008). The plan is a framework for all sectors in California including industry, agriculture, large and small businesses, and households. Major goals of the plan include:

- All new residential construction will be zero net energy by 2020;
- All new commercial construction will be zero net energy by 2030;
- Heating, ventilation, and air conditioning industries will be re-shaped to deliver maximum performance systems;
- Eligible low-income customers will be able to participate in the Low Income Energy Efficiency program and will be provided with cost-effective energy efficiency measures in their residences by 2020."

The GSEP RSA is flawed in its failure to identify rooftop PV as a higher priority in the Energy Action Plan loading order, and California's long-term energy efficiency strategy plan, than utility-scale remote solar resources like GSEP. Rooftop (or parking lot) distributed PV is an integral component of the long-term energy efficiency strategy plan adopted by the CPUC in 2008. Energy Action Plan II declares cost-effective energy efficiency as the resource of first choice for meeting California's energy needs. The CEC rejection of distributed PV as a superior alternative to the proposed GSEP solar thermal projects ignores the integral role of distributed PV in the CEC's own definition of energy efficiency and net zero buildings in the 2009 IEPR.

III. GSEP RSA Rationale for Eliminating Rooftop PV is Flawed

The GSEP RSA correctly describes that a distributed rooftop PV alternative has essentially no environmental impact, stating (p. B.2-68):

- Distributed solar PV is assumed to be located on already existing structures or disturbed areas so little to no new ground disturbance would be required and there would be few associated biological impacts.
- Relatively minimal maintenance and washing of the solar panels would be required.
- Because most PV panels are black to absorb sun, rather than mirrored to reflect it, glare would be minimal relative to reflective technologies (like GSEP)
- Additionally, the distributed solar PV alternative would not require the additional operational components, such as dry-cooling towers, substations, transmission interconnection, maintenance and operation facilities with corresponding visual impacts.

The GSEP RSA then eliminates distributed PV, citing a number of reasons why achieving 250 MW of distributed PV is not a feasible substitute for GSEP (RSA, p. B.2-69):

- Would require accelerated deployment of distributed PV at more than double the historic rate of deployment under the California Solar Initiative.
- Would require lower PV cost - distributed PV is higher cost than central station solar thermal.
- Integrating large amounts of distributed PV on distribution systems throughout California presents challenges – will require development of a new transparent distribution planning framework.

Each of these justifications for elimination of distributed PV is flawed, as explained in the following paragraphs.

A. Distributed PV Is Already Being Deployed at a Much Faster Rate in California than Central Station Solar Thermal

The GSEP RSA notes that more than 540 MW of distributed PV was in operation in California through May 2009, and that the PV installation rate doubled between 2008 and 2007. California has approximately 360 MW of installed solar thermal capacity as of June 2010. With the exception of the 5 MW eSolar power tower demonstration project that came online in 2009 (p. B.2-68), all of this solar thermal capacity was installed between 1984 and 1990.[5]

The GSEP RSA correctly describes that both SCE and PG&E, the two largest investor-owned utilities (IOU) in California, are constructing large distributed PV projects (p. B.2-67). SDG&E has a much smaller distributed PV project in development. The 500 MW SCE urban PV project was approved by the CPUC in June 2009. The 500 MW PG&E distributed PV project was approved by the CPUC in April 2010. These projects are RPS-eligible and will consist of a 250 MW IOU-owned component and a 250 MW third-party component. The power purchase agreement (PPA) between GSEP and SDG&E is same type of contract mechanism that will be used by SCE and PG&E to contract for the 250 MW third-party component of their respective distributed PV projects.

Progress in distributed PV installation rates under the California Solar Initiative (CSI) program provides no insight into the ability of the solar industry to carry-out multiple large-scale distributed PV projects simultaneously, in the range of 250 to 500 MW each, in California. The CSI program is not the vehicle that will be used to build these projects. These projects will be built under long-term PPAs between the distributed PV project developer and a utility within the framework of the RPS program.

An example is the PPA between PG&E and Sempra Generation for 10 MW of fixed thin-film PV in Nevada.[6] Sempra Resources is the holding company that owns both Sempra Generation and SDG&E. The PG&E/Sempra PPA is a technology-differentiated renewable energy contract at a price incrementally higher than the market price referent (MPR) to assure that the project developer, Sempra Generation, makes a reasonable return on its investment. The contract is in effect the equivalent of a technology differentiated feed-in tariff for solar power. No incentives beyond the federal investment tax credit and accelerated depreciation available to any solar

[5] CEC, Large Solar Energy Projects webpage: http://www.energy.ca.gov/siting/solar/index.html
[6] CPUC Resolution E-4240, *Approval of a power purchase agreement (PPA) for generation from a new solar photovoltaic facility between PG&E and El Dorado Energy*, LLC (Sempra Generation), May 18, 2009.

energy project were necessary. No incentives beyond those already available would be necessary to build 250 MW of distributed PV under a long-term PPA to substitute for GSEP.

Sempra Generation touts the cost of power generated by its 10 MW PV installation in Nevada as "the lowest cost solar energy in the world."[7] The company specifically mentions solar thermal projects like GSEP as producing higher-cost solar energy and being commercially unproven, stating:[8]

> "Sempra has also evaluated solar thermal power technologies, which use a field of mirrors to concentrate the sunlight to produce heat for electricity generation. The company has found that using solar panels is the cheaper option, (CEO) Allman said. He noted that some of the solar thermal power technologies, such as the use of a central tower for harvesting the heat and generating steam, have yet to be proven commercially."

SCE has a similar RPS-eligible PPA with NRG for the output of a 21 MW fixed thin-film PV array in Blythe, California.[9] This project began operation in December.

B. IOUs and California's Energy Policy Makers Acknowledge the Obvious Benefits of Large-Scale Distributed PV Projects as a Direct Complement/Substitute for Remote Central Station Renewable Energy and Associated Transmission

SCE expressed confidence in its March 2008 application to the CPUC for a 250 to 500 MW urban PV project that it can absorb thousands of MW of distributed PV without additional distribution substation infrastructure, stating "SCE's Solar PV Program is targeted at the vast untapped resource of commercial and industrial rooftop space in SCE's service territory"[10] and "SCE has identified numerous potential (rooftop) leasing partners whose portfolios contain several times the amount of roof space needed for even the 500 MW program."[11]

SCE stated it has the ability to balance loads at the distribution substation level to avoid having to add additional distribution infrastructure to handle this large influx of distributed PV power.[12] SCE explains:

> "SCE can coordinate the Solar PV Program with customer demand shifting using existing SCE demand reduction programs on the same circuit. This will create more fully utilized distribution circuit assets. Without such coordination, much more distribution equipment may be needed to increase solar PV deployment. SCE is uniquely situated to combine solar PV Program generation, customer demand programs, and advanced distribution circuit design and operation into one unified system. This is more cost-effective than separate and uncoordinated deployment of each element on separate circuits."[13]

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[7] GreenTech Media, *Sempra Wants 300 MW Plus of Solar in Arizona*, April 22, 2009. "The electricity we are getting out of the 10-megawatt is the lowest cost solar energy ever generated from anywhere in the world." (CEO Michael Allman).
[8] Ibid.
[9] First Solar press release, *First Solar Sells California Solar Power Project to NRG*, November 23, 2009.
[10] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Application*, March 27, 2008, p. 6.
[11] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Testimony*, March 27, 2008, p. 44.
[12] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Application*, March 27, 2008, pp. 8-9.
[13] Ibid, p. 9.

SCE also notes that it will be able to remotely control the output from individual PV arrays to prevent overloading distribution substations or affecting grid reliability:[14]

> "The inverter can be configured with custom software to be remotely controlled. This would allow SCE to change the system output based on circuit loads or weather conditions."

As SCE states, "Because these installations will interconnect at the distribution level, they can be brought on line relatively quickly without the need to plan, permit, and construct the transmission lines."[15] This statement was repeated and expanded in the CPUC's June 18, 2009 press release regarding its approval of the 500 MW SCE urban PV project:[16]

> Added Commissioner John A. Bohn, author of the decision, "This decision is a major step forward in diversifying the mix of renewable resources in California and spurring the development of a new market niche for large scale rooftop solar applications. Unlike other generation resources, these projects can get built quickly and without the need for expensive new transmission lines. And since they are built on existing structures, these projects are extremely benign from an environmental standpoint, with neither land use, water, or air emission impacts. By authorizing both utility-owned and private development of these projects we hope to get the best from both types of ownership structures, promoting competition as well as fostering the rapid development of this nascent market."

The CPUC made a similar observation with its approval of the PG&E 500 MW distributed PV project in April 2010:[17]

> "This solar development program has many benefits and can help the state meet its aggressive renewable power goals," said CPUC President Michael R. Peevey. "Smaller scale projects can avoid many of the pitfalls that have plagued larger renewable projects in California, including permitting and transmission challenges. Because of this, programs targeting these resources can serve as a valuable complement to the existing Renewables Portfolio Standard program."

The use of the term "smaller scale" in the CPUC press release is a misnomer. Clearly a 500 MW distributed PV project is larger-scale than the 250 MW GSEP solar thermal project. Individual rooftop PV arrays in a large distributed PV project are functionally equivalent to single rows of reflective mirrors in a solar thermal project. Each rooftop or row is a small contributor to a much bigger whole.

C. IOUs Need Only Provide a Basic Level of Existing Information on Individual IOU Substation Capacities to PV Developers to Interconnect Over 13,000 MW of Distributed PV with Minimal Interconnection Cost

The CPUC has also calculated, for the entire inventory of approximately 1,700 existing IOU substations, the amount of distributed PV that could be accommodated with minimal interconnection cost based on the following reasoning:[18]

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[14] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Testimony*, March 27, 2008, p. 27.
[15] Ibid, p. 6.
[16] CPUC Press Release – Docket A.08-03-015, *CPUC Approves Edison Solar Roof Program*, June 18, 2009.
[17] CPUC Press Release – Docket A.09-02-019, *CPUC Approves Solar PV Program for PG&E*, April 22, 2010.

> "Rule 21 specifies maximum generator size relative to the peak load on the load at the point of interconnection at 15%. So, for example, if a generator is interconnected on the low side of a distribution substation bank with a peak load of 20 MW, the maximum Rule 21 interconnection criteria would allow a 3 MW system (3 MW = 15% * 20 MW).
>
> However, the 15% criterion, which is established for all generators regardless of type, was adjusted to 30% for the purposes of determining the technical potential of PV. The 15% limit is established at a level where it is unlikely the generator would have a greater output than the load at the line segment, even in the lowest load hours in the off-peak hours and seasons (such as the middle of the night and in the spring). Since the peak output for photovoltaics is during the middle of the day, PV is unlikely to have any output when loads are lowest. Therefore, a 30% criterion was used for technical interconnection potential estimates. The discussion was held with utility distribution engineers, however, we did not consider formal engineering studies or Rule 21 committee deliberation since the purpose of the analysis was only to define potential."

As a component of the DG FIT development process, the CPUC requested data on peak loads at all IOU substations from the IOUs and compiled that information graphically as shown in Figure 1. According to the CPUC, this data was obtained from IOU distribution engineers.[19] I calculate that approximately 13,300 MW of PV can be connected directly to IOU substation load banks based on the data in Figure 1. The supporting calculations for this estimate are provided in Table 1.

The IOUs provide about two-thirds of electric power supplied in California, with publicly-owned utilities like the Los Angeles Department of Water & Power and the Sacramento Municipal Utility District and others providing the rest.[20] Assuming the substation capacity pattern in Figure 1 is also representative of the non-IOU substations, the total California-wide PV that could be interconnected at substation low-side load banks with no substantive substation upgrades would be [13,300/(2/3)] = 19,950 MW.

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[18] CPUC Rulemaking R.08-08-009 – California RPS Program, Administrative Law Judge's Ruling on Additional Commission Consideration of a Feed-In Tariff, *Attachment A - Energy Division FIT Staff Proposal*, March 27, 2009, p. 15.

[19] CPUC Rulemaking R.08-08-009 – California RPS Program, Administrative Law Judge's Ruling on Additional Commission Consideration of a Feed-In Tariff, *Attachment A - Energy Division FIT Staff Proposal*, March 27, 2009, pp. 15-16.

[20] CEC, *2007 Integrated Energy Policy Report*, December 2007, Figure 1-11, p. 27.

Figure 1. IOU Substation peak loads, 30% of peak load, and 10 MW reference line

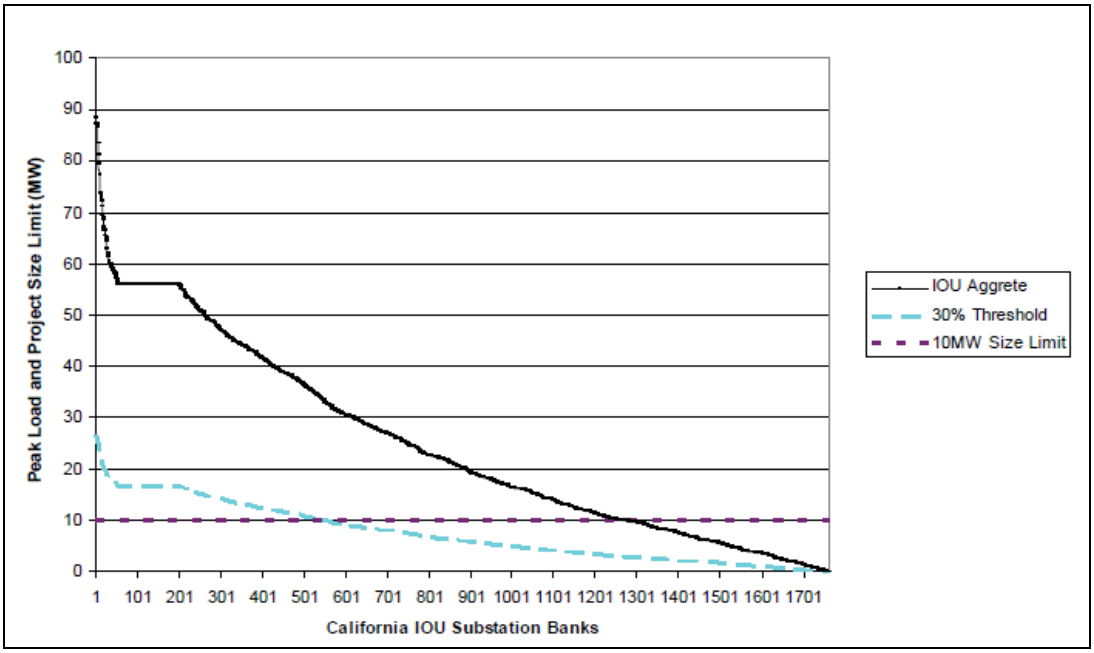

Table 1. Calculation of distributed PV interconnection capacity to existing IOU substations with minimal interconnection cost from data in Figure 1

Substation range	Number of substations	Calculation of distributed PV that could be interconnected with minimal substation upgrades (MW)	Total distributed PV potential (MW)
1-200	200	average peak ~60 MW x 0.30 = 18 MW	3,600
201-500	300	average peak ~45 MW x 0.30 = 13.5 MW	4,000
501-800	300	average peak ~30 MW x 0.30 = 9 MW	2,700
801-1,000	200	average peak ~20 MW x 0.30 = 6 MW	1,200
1,001-1,600	600	average peak ~10 MW x 0.30 = 3 MW	1,800
		Distributed PV total:	13,300

In sum, approximately 20,000 MW of distributed PV interconnection capacity is available now in California that would require little or no substation upgrading to accommodate the PV.

D. Cost to Upgrade Existing Distribution Substations and Associated Distribution Feeders to Maximize Distributed PV Deployment is Minimal

An upgrade at the substation would be necessary to accommodate the higher power flows in cases where distributed PV, concentrated on clusters of large rooftops, could provide up to 100 percent of a single substation's peak load. A typical 12 kV/69 kV substation can be upgraded to allow two-way (bidirectional) power flows for up to 100 MW of interconnected distributed PV. SDG&E estimates the cost to build a new 12 kV/69 kV substation is $25 million.[21]

[21] Ibid, p. 5.21.

The upgrades necessary to allow problem-free bidirectional power flow across an existing substation is far less than the cost of a new substation. The upgrade would consist of retrofitting substation metering and protective equipment from one-way power flow to bidirectional power flow. The cost of such an upgrade for a typical 100 MW distribution substation would be approximately $500,000.[22] This is well under 1 percent of the gross capital cost of 100 MW of state-of-the-art PV at 2010 prices.

Even the cost of a new 100 MW distribution substation, at $25 million, is less than 10 percent of the gross capital cost of 100 MW of state-of-the-art PV at 2010 prices. The substation upgrade cost would be relatively minor compared to the gross capital cost of 100 MW of PV arrays, and would not present a substantive financial hurdle to developing a 100 MW distributed PV resource concentrated in an area served by a single existing substation.

The 2007 IEPR makes clear that incorporating bidirectional capability into distribution substation is a commonsense need in a smart grid environment where higher-and-higher levels of distributed generation are encouraged and expected:[23]

> "Utilities spend approximately three-fourths of their total capital budgets on distribution assets, with about two-thirds spent on upgrades and new infrastructure in most years. These investments will remain for 20 to 30 or more years. As utilities throughout the state plan to build new distribution assets and replace old assets, the magnitude of these investments suggests that the state must understand what it is investing in and whether these investments will result in a distribution system that will serve customers in the future. Planning for investment in these assets should include requiring utilities, before undertaking investments in non-advanced grid technologies, to demonstrate that alternative investments in advanced grid technologies that will support grid flexibility have been considered, including from a standpoint of cost effectiveness."

The CPUC assumes that larger PV arrays will be connected directly to the substation low-side (12 kV) load bank. SDG&E estimated that the cost of a 10 MW feeder is $0.6 million per mile.[24] The cost of a 3-mile long dedicated feeder from multiple rooftop PV arrays with a combined capacity of 10 MW to the low-side bus of the substation would be less than $2 million based on SDG&E's cost estimate.

The current capital cost for state-of-the-art commercial rooftop PV is approximately $\$3{,}700/kW_{ac}$. The gross capital cost of 10 MW of rooftop PV at current prices would be $3,700/kW x (1,000 kW/MW) x 10 MW = $37 million. The cost to construct a dedicated feeder to interconnect 10 MW of rooftop PV would be approximately 5 percent of the gross project capital cost. This is a relatively minor cost and represents no financial impediment to developing urban rooftop PV resources.

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[22] E-mail from M. Martyak, PowerSecure (www.powersecure.com), to B. Powers, Powers Engineering, January 13, 2010. Approximate cost to upgrade older 100 MW distribution substation to full bidirectional flow, assuming four 25 MW load banks with four circuit breakers each (16 total), would be $400,000 to $450,000.

[23] CEC, *2007 Integrated Energy Policy Report*, December 2007, pp. 155-156.

[24] Application No. 06-08-010, Matter of the Application of San DiegoGas & Electric Company (U-902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project, *Chapter 5: Prepared Rebuttal Testimony of SDG&E in Response to Phase 2 Testimony of Powers Engineering*, March 28, 2008, p. 5.20.

E. There Is No Security Justification for IOU's Withholding Information on Substation Capacities and Locations from Private PV Developers, and No Economic or Technical Justification for Failure to Incorporate Smart Grid Features in New and Upgraded Distribution Substations

The GSEP RSA notes that accommodating large quantities of distributed generation PV located at customer sites efficiently and cost-effectively will require the development of a new, transparent distribution planning framework (p. B.2-70). Transparent distribution planning by the IOUs is a reasonable expectation. Lack of transparent distribution planning is not a credible justification by an IOU or the CEC to reject distributed PV as a substitute for GSEP.

The CEC is already on record advocating that IOUs must incorporate smart grid elements, including bidirectional power flow, into new and upgraded distribution substations.[25] It would likely come as a surprise to most California ratepayers that it is not already standard practice for California IOUs to incorporate bidirectional power flow capability into any new distribution substation or major upgrade of an existing substation. As noted, approximately 20,000 MW of distributed PV can flow into California distribution substations without retrofitting these substations for bidirectional power flow. The lack of bidirectional power flow capability on California distribution substations is not a short- or mid-term impediment to maximizing distributed PV deployment.

However, at some point over the operational lifetime of a new or upgraded distribution substation it is prudent to assume that failure to equip the substation to accommodate bidirectional power flow will act as an artificial brake on the quantity of distributed PV the substation can accept. Equipping a distribution substation for bidirectional power flow is not expensive, costing in the range of $500,000 for a typical 100 MW distribution substation. Failure of IOUs to incorporate smart grid features as standard elements in new and upgraded distribution substations is not a credible justification by an IOU or the CEC to reject distributed PV as a substitute for GSEP.

The rationale put forth for restricting information to private distributed PV project developers includes "Providing details on distribution system could compromise homeland security" and "Information on peak loads and system configuration may be considered commercially sensitive."[26] There is no sound basis for these two justifications.

In the first instance, climate change is seen as a major threat to national security by the U.S. defense establishment.[27] Withholding information that would allow rapid progress on addressing climate change on homeland security grounds is contrary to the national security interest. Secondly, all IOU expenditures are passed on to customers. The withholding of information on peak loads and system configuration by the IOU to protect unsubstantiated commercial sensitivity concerns, to the extent it prevents the rapid deployment of competitively-bid distributed PV in urban centers at or near the point-of-use, would have a potentially substantial negative impact on ratepayers and slow progress on addressing climate change.

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[25] CEC, *2007 Integrated Energy Policy Report*, December 2007, pp. 155-156.
[26] E3 and Black & Veatch, *Straw proposal of solution to address short-term problem of information gap*, presentation at CPUC Re-DEC Working Group Meeting, December 9, 2009, p. 9. Online at: http://www.cpuc.ca.gov/PUC/energy/Renewables/Re-DEC.htm
[27] New York Times, *Climate Change Seen as Threat to U.S. Security*, August 9, 2009.

Much of the necessary information is already in the public domain in some form and should be compiled and made available to distributed PV developers in a transparent and efficient format. For example, the CPUC already has the data on IOU substation interconnection limitations as shown in Figure 1. Another example is information on the location of IOU substations. Maps showing the location of all IOU substations are readily available for purchase from the CEC Cartography Unit.

The province of Ontario (Canada) makes publicly-available information on substation location and available capacity to facilitate the development of distributed PV in the province.[28] This same information protocol should be followed by California IOUs.

Finally, SCE must provide this type of information to third-party PV developers for the 250 MW private PV developer set-aside component of its 500 MW urban PV project approved by the CPUC in June 2009.

F. There is Sufficient Existing Large Commercial Roof Space in PG&E and SCE Territories to Build at Least Thirty GSEP Plants

The 2009 IEPR Final Committee Report recognizes the huge technical potential of rooftop distributed PV to meet California's renewable energy targets, stating:[29]

> "Recent studies indicate substantial technical potential for distribution-level generation resources located at or near load. A 2007 estimate from the Energy Commission suggests that there is roof space for over 60,000 MW of PV capacity, although the study did not factor in roof space that is shaded or being used for another purpose."

60,000 MW is approximately the peak summertime load for all of California, and 250 times the 250 MW capacity of GSEP. It is important to note that the 2009 IEPR document is incorrect in asserting the 2007 rooftop PV estimate did not factor in roof shading or other limitations. The 60,000 MW estimate assumes only 24 percent of the rooftop of a typical tilt-roof residential rooftop is available for PV, and only 60 to 65 percent of flat-roof commercial rooftops are available for PV. The rationale for these estimates is explained in the 2007 (Navigant) estimate.[30]

The 60,000 MW rooftop PV estimate by Navigant does not account for any of the distributed PV described in the Renewable Energy Transmission Initiative (RETI) process. RETI is California's ongoing renewable energy transmission siting process. RETI evaluated a distributed PV alternative that would produce 27,500 MWac from 20 MW increments of ground-mounted PV arrays at 1,375 non-urban substations around the state.[31] This is similar to the approach that PG&E is following. Constructing distributed PV arrays around substations is the primary focus of PG&E's 500 MW distributed PV project.[32]

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[28] E3 and Black & Veatch, *Straw proposal of solution to address short-term problem of information gap*, presentation at CPUC Re-DEC Working Group Meeting, December 9, 2009, p. 8.
[29] CEC, *2009 Integrated Energy Policy Report (IEPR) – Final Committee Report*, December 2009, p. 193.
[30] See: http://www.energy.ca.gov/2007publications/CEC-500-2007-048/CEC-500-2007-048.PDF
[31] Renewable Energy Transmission Initiative, *RETI Phase 1B Final Report*, January 2009, p. 6-25.
[32] PG&E Application A.09-02-019, *Application of Pacific Gas and Electric Company to Implement Its Photovoltaic Program*, February 24, 2009.

Black & Veatch is the engineering contractor preparing the RETI reports. Energy & Environmental Economics, Inc. (E3) is the engineering contractor that prepared the June 2009 CPUC preliminary analysis of the cost to reach 33 percent renewable energy by 2020. These two firms now lead the CPUC's renewable distributed generation ("Re-DEC") working group process. The presentation of E3 and Black & Veatch at the December 9, 2009 initial meeting of the Re-DEC Working Group included an estimate of over 8,000 MWac of large commercial roof space in SCE and PG&E service territories in close proximity to existing distribution substations.[33]

Black & Veatch used GIS to identify large roofs in California and count available large roof area. The criteria used to select rooftops included:

- Urban areas with little available land
- Flat roofs larger than ~1/3 acre
- Assume 65 percent usable space on roof
- Within 3 miles of distribution substation

The Black & Veatch estimate for PG&E territory is 2,922 MWac. The estimate for SCE territory is 5,243 MWac. This is a combined rooftop PV capacity of over 8,000 MWac. The combined large commercial rooftop capacity is more than 30 times the 250 MW capacity of GSEP.

Large commercial rooftop PV capacity is a subset of the universe of all commercial rooftop capacity, which includes medium and small commercial rooftops as well. A 2004 Navigant study prepared for the Energy Foundation estimated the 2010 commercial rooftop PV capacity in California at approximately 37,000 MWdc.[34] There is a tremendous amount of commercial roof space available for PV.

G. There is Sufficient Existing Commercial Roof Space in SDG&E Territory to Build at Least Six GSEP Plants

The GSEP RSA states that the output from GSEP will be sold to SDG&E under a long-term power purchase agreement if the project is built (p. B.2-41). SDG&E was co-author of a 2005 renewable energy potential assessment for San Diego County that includes a detailed inventory of rooftop PV potential.[35] The core of this inventory is an estimate of 769 MWac of commercial building PV potential in the City of San Diego based direct quantification of available roofspace on 15,157 commercial buildings using GIS analysis. This inventory was extrapolated to other cities in San Diego County, based on population, to calculate an estimated County-wide commercial building PV potential of 1,624 MWac in 2010. The analysis assumed a very conservative dc-to-ac conversion factor of 0.67. Use of a more realistic 0.80 dc-to-ac conversion

[33] E3 and Black & Veatch, *Summary of PV Potential Assessment in RETI and the 33% Implementation Analysis*, presentation at Re-DEC Working Group Meeting, December 9, 2009, p. 24. Online at: http://www.cpuc.ca.gov/PUC/energy/Renewables/Re-DEC.htm

[34] Navigant, *PV Grid Connected Market Potential under a Cost Breakthrough Scenario*, prepared for The Energy Foundation, September 2004, p. 83. California commercial rooftop PV potential estimated at approximately 37,000 MWp.

[35] San Diego Regional Renewable Energy Study Group, *Potential for Renewable Energy in the San Diego Region*, Chapter 2: Solar Photovoltaic Electric, August 2005.

factor results in a San Diego County adjusted 2010 commercial rooftop PV potential of 1,624 MWac × (0.80/0.67) = 1,939 MWac.

Commercial building rooftops are classified as Category 1 and Category 2 in the 2005 rooftop inventory. Category 1 means 80 percent or more of the rooftop is available for PV. See photographs of Category 1 and Category 2 commercial rooftops in Figure 2. Approximately eighty (80) percent of the commercial building PV potential in San Diego County is classified as Category 1.[36] This means there is over 1,500 MWac of PV potential on Category 1 commercial rooftops in San Diego County, sufficient for the equivalent capacity of six 250 MW GSEP projects.

Figure 2. Aerial photos of Category 1 and 2 commercial rooftops

H. GSEP RSA Uses Outdated PV Cost Assumption to Erroneously Assert GSEP is Lower Cost than Equivalent Distributed PV Capacity

There is no justification for the GSEP RSA using an obsolete cost assumption to eliminate large-scale distributed PV as an alternative to the GSEP. The GSEP RSA relies on the June 2009 CPUC *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results* assertion that the cost of a high distributed PV case is significantly higher than the other 33 percent RPS alternative cases (p. B2-69). The 33 percent reference case includes 10,000 MW of remote central station solar plants like GSEP. The assertion that the high distributed generation case is significantly higher cost than the reference case was incorrect in June 2009 and is definitively obsolete in June 2010.

The CPUC erroneously assumed a distributed PV cost of over $7/Wac in its June 2009 analysis. However, the CPUC also analyzed a sensitivity case with the capital cost of fixed thin-film PV at $3.70/Wac. The CPUC determined that at $3.70/Wac, the cost of the 33 percent standard remote

[36] Ibid, Table 2-9, p. 11.

case and the high DG alternative are similar. RETI has confirmed that the PV pricing cited by the CPUC in its sensitivity analysis is commercially available and not a projection, stating,"Thin film solar PV was previously treated as a sensitivity study, but due to falling costs and the increased prevalence of thin film, it is now being considered as one of the available commercial technologies in addition to tracking crystalline PV."[37]

Accurate PV pricing data has been available from the SCE urban solar PV application for over two years. SCE provided an installed cost of $3.50/Wdc (~$4/Wac) in its March 2008 application to the CPUC to build a 250 MW urban PV project. RETI states that the commercially available thin-film PV has a capital cost range of $3.60 to $4/Wac, and commercially available single-axis tracking polysilicon PV has a cost range of $4 to $5/Wac.[38]

These PV costs compare to a capital cost range for solar thermal, assumed to be dry-cooled, of $5.35 to $5.55/Wac. RETI indicates the capacity factor for thin-film PV is essentially the same as for dry-cooled solar thermal (assuming the same location). The capacity factor for single-axis tracking polysilicon PV is significantly better than that of dry-cooled solar thermal (assuming the same location). Operations and maintenance cost for either fixed thin-film PV or single-axis tracking polysilicon PV is lower than for dry-cooled solar thermal. This RETI data is summarized in Table 2 below.

Table 2. RETI capital cost, capacity factor, and O&M cost – dry-cooled solar thermal, fixed thin-film PV, and single-axis tracking polysilicon PV

Solar Technology	Capital Cost ($/kWac)	Capacity Factor (%)	O&M Cost ($/MWh)
Dry-cooled solar thermal	5,350 – 5,550	20 – 28	30
Fixed thin-film PV	3,600 – 4,000	20 - 27	20 - 27
Single-axis tracking polysilicon PV	4,000 – 5,000	23 - 31	17 - 25

The GSEP RSA comment on the capacity factors of solar thermal and rooftop PV is out-of-date (p. B.2-67): "The Renewable Energy Transmission Initiative (RETI) assumed a capacity factor of approximately 30 percent for solar thermal technologies and tracking solar PV and approximately 20 percent capacity factor for rooftop solar PV which is assumed to be non-tracking, for viable solar generation project locations (B&V 2008; CEC 2009)." As shown in Table 2, the RETI capacity factors of solar thermal and fixed (rooftop) solar PV are essentially the same assuming the same location.

The effect of the values in Table 2 on the levelized cost-of-energy (COE) for dry-cooled solar thermal, fixed thin-film PV, and single-axis tracking polysilicon PV is shown in Table 3.[39] The average levelized COE for either fixed thin-film PV or single-axis tracking polysilicon PV is significantly lower than the levelized COE of dry-cooled solar thermal plants.

[37] RETI, *Phase 2B Final Report*, May 2010, p. 4-6.
[38] Ibid, Tables 4-5, 4-7, 4-8, pp. 4-6 and 4-7.
[39] Ibid, Figure 4-1, p. 4-8.

Table 3. RETI cost-of energy (COE) comparison - dry-cooled solar thermal, fixed thin-film PV, and single-axis tracking polysilicon PV

Solar Technology	Levelized COE ($/MWh)
Dry-cooled solar thermal	$195 – 226 (mean: $210)
Fixed thin-film PV	$135 – 214 (mean: $175)
Single-axis tracking polysilicon PV	$138 – 206 (mean: $172)

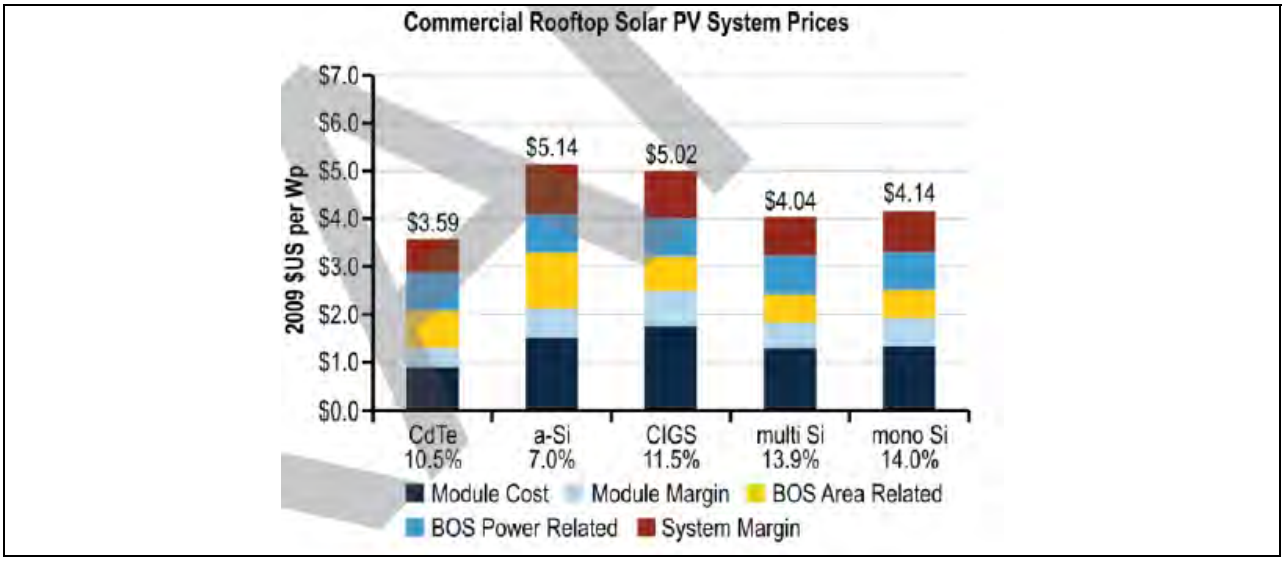
The CPUC determined that there would be little difference in the cost of meeting state renewable energy targets by relying predominantly on distributed PV, when current state-of-the-art pricing is assumed, instead of building 10,000 MW of remote solar capacity under the 33 percent RPS reference case.[40] This conclusion was reached despite a number of controversial cost assumptions by the CPUC that favored the 33 percent RPS reference case.[41] An additional controversial assumption is the low assumed cost of new transmission to realize the 33 percent reference case. The CPUC assumed the total cost of new transmission would be $12 billion. The current estimate is over $27 billion.[42] When current projections regarding the cost of new transmission and associated upgrades are used, the high distributed generation alternative is more cost-effective than the 33 percent reference case.

The RETI capital cost values for PV assume 20 MW systems located at distribution substations. However, even the cost of individual commercial rooftop PV installations is now lower than the RETI cost of $5.35 to $5.55/Wac for dry-cooled solar thermal plants.

The May 2010 DOE Solar Vision Study (draft) projection of current commercial rooftop PV capital cost is provided in Figure 3.[43] These capital cost values are provided in Wdc. As shown in Figure 2, the current capital cost of commercial rooftop polysilicon PV (multi Si and mono Si) is approximately $4/Wdc. RETI identifies the range of dc-to-ac conversion factors of 0.77 to 0.85.[44] Using an average dc-to-ac conversion factor of 0.80, the capital cost of commercial rooftop polysilicon PV is approximately $4/Wdc ÷ 0.80 = $5/Wac. This is incrementally less than the $5.35 to $5.55/Wac capital cost of dry-cooled solar thermal, and the commercial rooftop PV array could be as little as 1/1,000th the size of the solar thermal plant. The most common form of thin-film PV, CdTe (cadmium-telluride), is lower in cost than polysilicon PV at approximately $3.60/Wdc. This converts to $3.60/Wdc ÷ 0.80 = $4.50/Wac.

[40] CPUC, *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results*, June 2009, p. 31.
[41] RightCycle Inc. comment letter, working group member response to June 2009 *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results*, in response to CPUC request for comments, August 28, 2009.
[42] J. Firooz, P.E., CAISO: *How Its Transmission Planning Process has Lost Sight of the Public's Interest*, April 2010, Table 2, p. 10. Total new transmission and upgrades necessary to realize 33 percent RPS reference case as of September 2009 - $27.544 billion.
[43] DOE, *DOE Solar Vision Study – DRAFT*, May 28, 2010, Chapter 4, Figure 4-4, p. 7.
[44] RETI, *Phase 1A Final Report*, August 2008, Appendix B, p. 5-5.

Figure 3. Cost of commercial rooftop PV identified by DOE



a-Si: amorphous silicon thin-film PV; CIGS: copper-indium-gallium-selenide thin-film PV.

I. Market Price Referent with Adjustment for On-Peak Power Output Benefit of Distributed PV would be Sufficient Price to Assure Rapid Construction of 250 MW Distributed PV Alternative to GSEP

The MPR that renewable energy projects are currently compared to, the cost of power generation from a hypothetical new natural gas-fired baseload power plant, is $0.12126/kWh.[45] Solar PV produces a substantial amount of output during on-peak summer demand periods. The electric power tariff during summer on-peak periods is much higher than the average tariff over the course of a year. For example, SCE's tariff pays 3.13 times the base MPR for deliveries during the summer on-peak period.[46] SCE has determined that the adjusted MPR for a distributed PV system is 1.39 times the MPR for a baseload plant.[47] Multiplying the $0.12126/kWh MPR by 1.39 gives an adjusted MPR of $0.169/kWh. This price alone, based on my experience with the current pricing of distributed PV PPAs, may be a sufficient price signal for private developers to rapidly develop large-scale distributed PV in SCE and PG&E service territories.

However, the transmission & distribution benefits of distributed PV are real and have been quantified.[48] The estimated value range of the transmission and distribution benefits of distributed PV include $0.058/kWh in SDG&E territory and $0.023 to $0.037/kWh in SCE territory. The transmission & distribution benefits of distributed PV in PG&E territory vary widely. Some examples in PG&E territory include Fresno at $0.026/kWh and Stockton at

[45] CPUC Resolution E-4214, *2008 Market Price Referent values for use in the 2008 Renewable Portfolio Standard solicitations*, December 18, 2008. MPR, 2012 operational date, 20-yr PPA: $0.12126/kWh.
[46] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Supplemental Rebuttal Testimony*, October 14, 2008, p. 3, footnote 2. "ToD (time of day) adjustment estimate calculated as weighted average of (512 summer – on hours at 3.13, 768 summer – mid at 1.35, and 2,189 winter – mid hours at 1.00) = 1.39."
[47] Ibid.
[48] CPUC Rulemaking R.06-02-012, Develop Additional Methods to Implement California RPS Program, *Pre-Workshop Comments of GreenVolts, Cleantech America, and Community Environmental Council on the 2008 Market Price Referent*, March 6, 2008, p. 15.

$0.039/kWh. These estimates were developed using the E3 model for calculating transmission & distribution benefits.[49]

An MPR-adjusted price of $0.169/kWh, plus an average transmission & distribution benefit of approximately $0.030/kWh, is equivalent to an overall value to the IOU of approximately $0.20/kWh. Any price paid for distributed PV by an IOU below this price threshold should result in a net benefit to all of the IOU's ratepayers. A distributed PV price in the range $0.20/kWh would be more than sufficient to create a dynamic market for third party development of large-scale distributed PV in California urban areas.

J. Rooftop Commercial PV is More Space Efficient than GSEP and has None of the Environmental Impacts of GSEP

The GSEP RSA states, without citation: "However, based on SCE's use of 600,000-square-feet for 2 MW(ac) of energy, 75 million square feet (approximately 1,750 acres) would be required for 250 MW" (p. B2-67). SCE states in its March 2008 solar PV program testimony that 125,000 square feet of polysilicon panels are required to generate 1 MWdc.[50] This converts to about 150,000 square feet per MWac, or approximately 3.5 acres per MWac.[51] This is one-half the square-footage per MWac that the GSEP RSA erroneously attributes to SCE rooftop installations. SCE has signed contracts with SunPower and Trina Solar, both suppliers of polysilicon PV panels, to provide a combined total of 245 MW of the 250 MW of PV capacity that will be owned by SCE.[52,53]

Rooftop PV is also approximately twice as space efficient as the GSEP project. The GSEP RSA states that 1,800 acres will be developed to produce 250 MWac (p. B1-2). This is more than 7 acres per MWac.

The predominant advantage of rooftop (or parking lot) PV is that it represents a compatible dual use of existing developed structures with no environmental impacts. As the GSEP RSA correctly notes, "Distributed solar PV is assumed to be located on already existing structures or disturbed areas so little to no new ground disturbance would be required and there would be few associated biological impacts" (p. B.2-68).

K. GSEP RSA Concerns about Sufficient PV Panel Manufacturing Capacity Are Baseless

The concerns expressed in the GSEP RSA regarding the availability of distributed solar PV are without foundation. The GSEP RSA states (p. B.2-70): "While it will very likely be possible to achieve 250 MW of distributed solar energy over the coming years, the very limited number of existing facilities make it difficult to conclude with confidence that it will happen within the timeframe required for the GSEP. As a result, this technology is eliminated from detailed analysis in this GSEP RSA." Over 21,000 MW of PV systems, most of them distributed PV

[49] Ibid, p. 14.
[50] SCE Application A.08-03-015, *Solar Photovoltaic (PV) Program Testimony*, March 27, 2008, p. 32.
[51] There are 43,560 square feet per acre. Therefore, 150,000 square feet per MWac ÷ 43,560 square feet per acre = 3.44 acre/MWac.
[52] SNL Financial, *SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more*, March 10, 2010.
[53] SNL Financial, *SoCalEd taps Trina Solar to supply 45 MW of PV modules*, June 9, 2010.

systems, were operational worldwide by the end of 2009.[54] More than 7,000 MW of PV was installed worldwide in 2009 alone.[55] In contrast, only 127 MW of solar thermal plants were constructed in 2009.[56]

Thin-film PV manufacturing capacity is projected to reach 7,400 MW per year in 2010.[57] First Solar alone manufactured and shipped more than 1,000 MW of thin-film panels in 2009.[58]

Worldwide conventional polysilicon PV production capacity reached 13,300 MW a year in 2008.[59] It is projected to reach 20,000 MW a year in 2010. The 2010 projections were made just as the economic slump began in late 2008. It is likely there will be some scale-back on the 2010 capacity additions due to the state of the world economy. Nonetheless, there is a tremendous amount of available worldwide PV manufacturing capacity.

PV panel manufacturing capacity has greatly expanded worldwide in the last 2 to 3 years. The current estimated oversupply of PV panel manufacturing capacity for 2010 is 8,000 MW.[60] As a result of this oversupply, the cost of conventional polysilicon PV panels has dropped precipitously and is approaching the cost of thin-film PV panels (see Figure 3).

The GSEP RSA states that California added 158 MW of distributed PV in 2008 (p. B.2-66). California is a relatively minor player on the world PV stage. Spain added approximately 2,500 MW of primarily distributed ground-mounted PV resources in 2008.[61] Spain has a smaller economy than California. Germany, approximately the same size as California and with considerably lower solar intensity, added approximately 1,500 MW of distributed PV resources in 2008 and 3,800 MW in 2009.[62,63] Germany had an installed PV capacity of nearly 9,000 MW at the end of 2009 and has set a target PV installation rate of 3,500 MW per year.[64] The GSEP RSA expresses concerns regarding the feasibility of California doubling its 158 MW per year (2008) distributed PV installation rate as a substitute for GSEP, stating (p. B.2-69): "This would require an
even more aggressive deployment of PV at more than double the historic rate of solar
PV implementation than the California Solar Initiative program currently employs." This doubling of distributed PV deployment is equivalent to going from 1/20th to 1/10th the current

[54] Worldwatch Institute, *Record Growth in Photovoltaic Capacity and Momentum Builds for Concentrating Solar Power*, June 3, 2010.
[55] Ibid.
[56] Ibid.
[57] Schreiber, D. - EuPD Research, *PV Thin-film Markets, Manufacturers, Margins*, presentation at 1st Thin-Film Summit, San Francisco, December 1-2, 2008.
[58] First Solar press release, *First Solar Becomes First PV Company to Produce 1GW in a Single Year*, December 15, 2009.
[59] Schreiber, D. - EuPD Research, *PV Thin-film Markets, Manufacturers, Margins*, presentation at 1st Thin-Film Summit, San Francisco, December 1-2, 2008.
[60] B. Murphy – Fulcrum Technologies, Inc., *The Power and Potential of CdTe (thin-film) PV*, presented at 2nd Thin-Film Summit, San Francisco, December 1-2, 2009.
[61] PV Tech, *Worldwide photovoltaics installations grew 110% in 2008, says Solarbuzz*, March 16, 2009.
[62] PV Tech, *German market booming: Inverter and module supplies running out at Phoenix Solar*, November 15, 2009.
[63] Worldwatch Institute, *Record Growth in Photovoltaic Capacity and Momentum Builds for Concentrating Solar Power*, June 3, 2010.
[64] Chadbourne & Parke Project Finance Newswire, *Germany Cuts Solar Subsidy*, April 2010.

German distributed PV installation rate. The feasibility concern expressed in the RSA is unfounded in light of German success with a high rate of distributed PV deployment.

The high distributed PV alternative studied by the CPUC anticipates the installation of 15,000 MW of distributed PV by 2020.[65] RETI has gradually dropped the amount of new renewable energy resources needed to reach 33 percent by 2020, the "net short," from 74,650 gigawatt-hours (GWh) per year initially to a current "low load" net short of 36,926 MW.[66] The low load net short is one-half the net short used by the CPUC in June 2009 to estimate the cost of achieving 33 percent by 2020. 15,000 MW of distributed PV would provide about 30,000 GWh/yr.[67] 15,000 MW of distributed PV would provide over 80 percent of the low load net short of 36,926 MW.

California could easily install 15,000 MW of distributed PV by 2020 if it approached the annual distributed PV installation rates that have already been achieved in practice in Spain and Germany. Existing worldwide PV manufacturing capacity, either thin-film alone or thin-film and conventional polysilicon, could readily supply a PV demand of 1,500 to 2,500 MW a year in California.

L. Slight Reduction in Output from Distributed PV in Los Angeles, Central Valley, or Bay Area Is Offset by Transmission Losses from GSEP to These Load Centers

The GSEP RSA implies that the superior solar intensity at the GSEP location in the Mojave Desert is a substantive reason for eliminating distributed PV from consideration, stating (p. B.2-67):

> "The location of the distributed solar PV would impact the capacity factor of the distributed solar PV. Capacity factor depends on a number of factors including the insolation of the site. Because a distributed solar PV alternative would be located throughout the state of California, the insolation at some of these locations may be less than in the Mojave Desert."

The solar insolation at the GSEP site is about 10 to 15 percent better than the composite solar insolation for Los Angeles, the Central Valley, and Oakland.[68,69] However, the CEC estimates average transmission losses in California at 7.5 percent and peak transmission losses at 14 percent.[70] The incrementally better solar insolation at the GSEP site is almost completely negated

[65] CPUC, *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results*, June 2009.
[66] RETI discussion draft, *RETI Net Short Update - Evaluating the Need for Expanded Electric Transmission Capacity for Renewable Energy*, February 22, 2010. Low load scenario, net short = 36,926 MW.
[67] The CPUC reference case assumes 3,235 MW of solar PV will generate 6,913 GWh per year under ideal Southern California desert solar insolation conditions. This is a production ratio of 2,137 GWh per MWac. However, solar insolation in the Central Valley and California urban areas will on average be approximately 10 less than ideal desert sites. For this reason a production ratio of 2,000 GWh per year per MWac is assumed for the Central Valley and urban areas.
[68] U.S. DOE, *Stand-Alone Flat-plate Photovoltaic Systems: System Sizing and Life-Cycle Costing Methodology for Federal Agencies*, 1984, Appendix, p. A-27.
[69] NREL, *Solar Radiation Data Manual for Flat-Plate and Concentrating Collectors*, California cities data: http://rredc.nrel.gov/solar/pubs/redbook/PDFs/CA.PDF
[70] E-mail communication between Don Kondoleon, manager - CEC Transmission Evaluation Program, and Bill Powers of Powers Engineering, January 30, 2008.

by the losses incurred by transmitting GSEP solar power to California urban areas. In contrast, distributed PV has minimal losses between generation and user.

M. CEC Has Already Determined Distributed PV Can Compete Cost-Effectively with Other Forms of Generation

The CEC denied an application for a 100-megawatt natural-gas-fired gas turbine power plant, the Chula Vista Energy Upgrade Project (CVEUP), in June 2009 in part because rooftop solar PV could potentially achieve the same objectives for comparable cost.[71]

This June 2009 CEC decision implies that any future applications for gas-fired generation in California, or any other type of generation including remote central station renewable energy generation like GSEP that require public land and new transmission to reach demand centers, should be measured against using urban PV to meet the power need. The CEC's final decision in the CVEUP case stated:[72]

> "Photovoltaic arrays mounted on existing flat warehouse roofs or on top of vehicle shelters in parking lots do not consume any acreage. The warehouses and parking lots continue to perform those functions with the PV in place. (Ex. 616, p. 11.)….Mr. Powers (expert for intervenor) provided detailed analysis of the costs of such PV, concluding that there was little or no difference between the cost of energy provided by a project such as the CVEUP (gas turbine peaking plant) compared with the cost of energy provided by PV. (Ex. 616, pp. 13 – 14.)….PV does provide power at a time when demand is likely to be high—on hot, sunny days. Mr. Powers acknowledged on cross-examination that the solar peak does not match the demand peak, but testified that storage technologies exist which could be used to manage this. The essential points in Mr. Powers' testimony about the costs and practicality of PV were uncontroverted."

The CEC concluded in the CVEUP final decision that PV arrays on rooftops and over parking lots may be a viable alternative to the gas turbine project proposed in that case, and that if the gas turbine project proponent opted to file a new application a much more detailed analysis of the PV alternative would be required.

IV. Locating GSEP in the Proposed Westlands Water District CREZ would Avoid Environmental Impacts at the GSEP Site

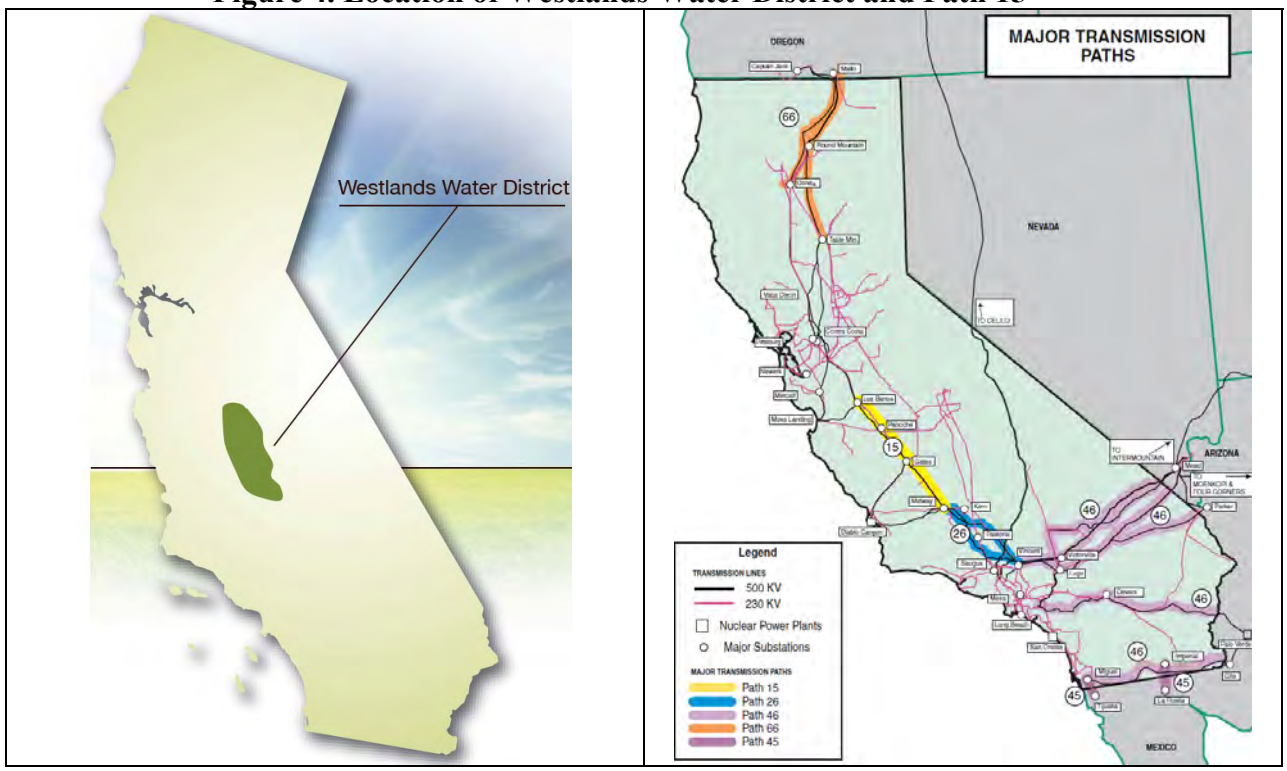
The Westlands Water District ("Westlands"), on the west side of the Central Valley, is undergoing study by RETI as a Competitive Renewable Energy Zone (CREZ) capable of providing 5,000 MW of utility-scale solar development. Westlands covers over 600,000 acres of farmland in western Fresno and Kings Counties. The proposed "Central California Renewable Master Plan" will utilize permanently retired farmlands in Westlands for solar development. An overview of this master plan is attached. As stated in the master plan overview, "Due to salinity contamination issues, a portion of this disturbed land has been set aside for retirement and will be taken out of production under an agreement between Westlands and the U.S. Department of

[71] CEC, Chula Vista Energy Upgrade Project - Application for Certification (07-AFC-4) San Diego County, *Final Commission Decision*, June 2009.
[72] Ibid, pp. 29-30.

Interior." Approximately 30,000 acres of disturbed Westlands land, equivalent to 5,000 MW of solar capacity, will be allocated for renewable energy development under the plan.

Transmission Pathway 15 passes through Westlands. Path 15 can transmit 5,400 MW from south-to-north.[73] The transmission capacity from north-to-south is 3,400 MW. The location of Westlands relative to Path 15 is shown in Figure 4.

Figure 4. Location of Westlands Water District and Path 15[74,75]



5,000 MW of solar power can be developed in Westlands with potentially no expansion of the existing Path 15 high voltage transmission capacity that serves Westlands now.

5,000 MW is half of the total remote in-state utility-scale solar contemplated in the June 2009 CPUC 33 percent reference case.[76] The remote in-state solar component of the reference case consists of 3,235 MW central station PV and 6,764 MW central station solar thermal. The anticipated energy output of 5,000 MW of fixed PV in Westlands would be about 10,000 GWh/yr.[77] This is approximately 30 percent of the RETI low load net short of 36,926 MW.

[73] Transmission & Distribution World, California bulks up to provide more transmission capacity, June 1, 2004.
[74] Anthem Group press release, Central California Renewable Master Plan, March 2010.
[75] CEC, *Strategic Transmission Investment Plan*, November 2005, p. 11.
[76] CPUC, *33% RPS Implementation Analysis Preliminary Results*, June 2009, Appendix C, p. 87.
[77] The CPUC reference case assumes 3,235 MW of solar PV will generate 6,913 GWh per year under ideal Southern California desert solar insolation conditions. This is a production ratio of 2,137 GWh per MWac. However, solar insolation in the Central Valley and California urban areas will on average be approximately 10 less than ideal desert sites. For this reason a production ratio of 2,000 GWh per year per MWac is assumed for the Central Valley and urban areas.

The GSEP RSA states that the Gabrych disturbed lands alternative near the GSEP site does not meet project objectives due to the inability to assure site control of multiple private parcels by the end of 2010 (p. B.2-53). Site control would not be an issue in the proposed Westlands CREZ. Westlands is actively marketing the 30,000-acre area for development of central station solar power plants. Development of solar projects on the Westlands property is intended (by Westlands) to serve as a source of income on land that has been permanently retired from agricultural production.

Prioritizing distributed PV projects, combined with the location of central station solar projects in Westlands, would allow California to achieve its 33 percent by 2020 renewable energy target with almost no environmental impacts related to the solar energy component of the renewable energy portfolio.

V. Conclusions

The EITP Draft EIR/EIS is inadequate for failure to conduct an in-depth analysis of non-transmission alternatives to the EITP. In contrast, the Draft and October 2008 Final EIR/EIS prepared by the California Public Utilities Commission (CPUC) and Bureau of Land Management (BLM) for San Diego Gas & Electric's proposed Sunrise Powerlink transmission line includes voluminous analysis of multiple non-transmission alternatives to the proposed project. See the complete Sunrise Powerlink Final EIS/EIS at: http://www.cpuc.ca.gov/environment/info/aspen/sunrise/toc-feir.htm. As noted, the conclusion of the CPUC/BLM Final EIR/EIS for the Sunrise Powerlink was that either of the two non-transmission in-basin alternatives were environmentally superior to the proposed project or any transmission alternative to the proposed project. The EITP Draft EIR/EIS avoids a similar conclusion by failing to analyze in detail any non-transmission alternative to the EITP.

The brief list of reasons given in the EITP Draft EIR/EIS for rejecting non-transmission alternatives are unsupported and incorrect. This comment letter addressed why the reasons given are incorrect using the CEC's RSA for the GSEP (Genesis Solar Energy Project) as a case study. The GSEP RSA analysis of the distributed PV alternative to GSEP uses flawed logic and outdated data to improperly eliminate distributed PV as an alternative. In fact, distributed PV is a fully viable and cost-effective alternative that eliminates the environmental impacts that would be caused by the GSEP project. The GSEP RSA should have concluded that distributed PV is a superior alternative to the GSEP project.

Beyond the issue of distributed PV being a superior alternative to GSEP on cost and environmental grounds, there are lower-impact sites in California for central station solar projects like IVESG and GSEP. The Westlands Water District is a low impact "shovel ready" alternative to the IVESG and GSEP sites for central station solar projects. Westlands requires no new high voltage transmission to move up to 5,000 MW of solar power to California load centers. This means solar projects located in Westlands will not face project delays due to lack of high voltage transmission capacity. The steadily declining renewable energy net short to achieve the 33 percent by 2020 target, now as low as 36,926 MW, means fewer renewable projects overall are necessary to meet the 33 percent target. The CEC should not approve solar projects with unmitigatable impacts like IVESG and GSEP, and associated transmission projects like EITP, when 5,000 MW of otherwise unusable disturbed land with no environmental issues and 5,000 MW of high voltage transmission capacity sits idle.

BILL POWERS, P.E.

PROFESSIONAL HISTORY

Powers Engineering, San Diego, CA 1994-
ENSR Consulting and Engineering, Camarillo, CA 1989-93
Naval Energy and Environmental Support Activity, Port Hueneme, CA 1982-87
U.S. Environmental Protection Agency, Research Triangle Park, NC 1980-81

EDUCATION

Master of Public Health – Environmental Sciences, University of North Carolina
Bachelor of Science – Mechanical Engineering, Duke University

PROFESSIONAL AFFILIATIONS

Registered Professional Mechanical Engineer, California (Certificate M24518)
American Society of Mechanical Engineers
Air & Waste Management Association

TECHNICAL SPECIALTIES

Twenty-five years of experience in:

- San Diego and Baja California regional energy planning
- Power plant technology, emissions, and cooling system assessments
- Combustion and emissions control equipment permitting, testing, monitoring
- Oil and gas technology assessment and emissions evaluation
- Latin America environmental project experience

SAN DIEGO AND BAJA CALIFORNIA REGIONAL ENERGY PLANNING

San Diego Smart Energy 2020 Plan. Author of October 2007 "San Diego Smart Energy 2020," an energy plan that focuses on meeting the San Diego region's electric energy needs through accelerated integration of renewable and non-renewable distributed generation, in the form of combined heat and power (CHP) systems and solar photovoltaic (PV) systems. PV would meet approximately 28 percent of the San Diego region's electric energy demand in 2020. CHP systems would provide approximately 47 percent. Annual energy demand would drop 20 percent in 2020 relative to 2003 through use all cost-effective energy efficiency measures. This target is based on City of San Diego experience. San Diego has consistently achieved energy efficiency reductions of 20 percent on dozens of projects. Existing utility-scale gas-fired generation would continue to be utilized to provide power at night, during cloudy whether, and for grid reliability support.

Photovoltaic technology selection and siting for SDG&E Solar San Diego project. Served as PV technology expert in California Public Utilities Commission proceeding to define PV technology and sites to be used in San Diego Gas & Electric (SDG&E) $250 million "Solar San Diego" project. Recommendations included: 1) prioritize use of roof-mounted thin-film PV arrays similar to the SCE urban PV program to maximize the installed PV capacity, 2) avoid tracking ground-mounted PV arrays due to high cost and relative lack of available land in the urban/suburban core, 3) and incorporate limited storage in fixed rooftop PV arrays to maximizing output during peak demand periods. Suitable land next to SDG&E substations capable of supporting 5 to 40 MW of PV (each) was also identified by Powers Engineering as a component of this project.

Photovoltaic arrays as alternative to natural gas-fired peaking gas turbines, Chula Vista. Served as PV technology expert in California Energy Commission (CEC) proceeding regarding the application of MMC Energy to build a 100 MW peaking gas turbine power plant in Chula Vista. Presented testimony that 100 MW of PV arrays in the Chula Vista area could provide the same level of electrical reliability on hot summer days as

an equivalent amount of peaking gas turbine capacity at approximately the same cost of energy. The preliminary decision issued by the presiding CEC commissioner in the case recommended denial of the application in part due to failure of the applicant or CEC staff to thoroughly evaluate the PV alternative to the proposed turbines. No final decision has yet been issued in the proceeding (as of May 2009).

San Diego Area Governments (SANDAG) Energy Working Group. Public interest representative on the SANDAG Energy Working Group (EWG). The EWG advises the Regional Planning Committee on issues related to the coordination and implementation of the Regional Energy Strategy 2030 adopted by the SANDAG Board of Directors in July 2003. The EWG consists of elected officials from the City of San Diego, County of San Diego and the four subareas of the region. In addition to elected officials, the EWG includes stakeholders representing business, energy, environment, economy, education, and consumer interests.

Development of San Diego Regional Energy Strategy 2030. Participant in the 18-month process in the 2002-2003 timeframe that led to the development of the San Diego Regional Energy Strategy 2030. This document was adopted by the SANDAG Board of Directors in July 2003 and defines strategic energy objectives for the San Diego region, including: 1) in-region power generation increase from 65% of peak demand in 2010 to 75% of peak demand in 2020, 2) 40% renewable power by 2030 with at least half of this power generated in-county, 3) reinforcement of transmission capacity as needed to achieve these objectives. The SANDAG Board of Directors voted unanimously on Nov. 17, 2006 to take no position on the Sunrise Powerlink proposal primarily because it conflicts the Regional Energy Strategy 2030 objective of increased in-region power generation. The Regional Energy Strategy 2030 is online at: http://www.energycenter.org/uploads/Regional_Energy_Strategy_Final_07_16_03.pdf

Imperial Valley Study Group. Participant in the Imperial Valley Study Group (IVSG), and effort funded by the CEC to examine transmission options for maximizing the development of geothermal resources in Imperial County. Advised the IVSG that no alternatives other than the Sunrise Powerlink or a similar variant were be considered to move Imperial Valley geothermal generation to San Diego. Initiated a dialogue on IVSG's failure to consider alternatives that was incorporated into the IVSG April 12, 2005 meeting minutes (see: http://www.energy.ca.gov/ivsg/documents/2005-04-12_meeting/2005-04-12_AMNDED_IVSG_MINUTES.PDF). Also co-authored with the Utility Consumers' Action Network an October 14, 2005 alternative letter report to the September 30, 2005 IVSG final report that documents numerous feasible transmission alternatives to the Sunrise Powerlink that were not considered by IVSG. The October 14, 2005 IVSG alternative letter report also served as a comment letter on the CEC's 2005 Integrated Energy Policy Report webpage is available at: http://www.energy.ca.gov/2005_energypolicy/documents/2005-10-11_DER_comments/10-14 05_Utility_Consumers_Action_Network_BPPWG.pdf

COMBUSTION AND EMISSIONS CONTROL EQUIPMENT PERMITTING, TESTING, MONITORING

EPRI Gas Turbine Power Plant Permitting Documents – Co-Author. Co-authored two Electric Power Research Institute (EPRI) gas turbine power plant siting documents. Responsibilities included chapter on state-of-the-art air emission control systems for simple-cycle and combined-cycle gas turbines, and authorship of sections on dry cooling and zero liquid discharge systems.

Air Permits for 50 MW Peaker Gas Turbines – Six Sites Throughout California. Responsible for preparing all aspects of air permit applications for five 50 MW FT-8 simple-cycle turbine installations at sites around California in response to emergency request by California state government for additional peaking power. Units were designed to meet 2.0 ppm NO_x using standard temperature SCR and innovative dilution air system to maintain exhaust gas temperature within acceptable SCR range. Oxidation catalyst is also used to maintain CO below 6.0 ppm.

Kauai 27 MW Cogeneration Plant – Air Emission Control System Analysis. Project manager to evaluate technical feasibility of SCR for 27 MW naphtha-fired turbine with once-through heat recovery steam generator. Permit action was stalled due to questions of SCR feasibility. Extensive analysis of the performance of existing oil-fired turbines equipped with SCR, and bench-scale tests of SCR applied to naphtha-fired turbines, indicated

that SCR would perform adequately. Urea was selected as the SCR reagent given the wide availability of urea on the island. Unit is first known application of urea-injected SCR on a naphtha-fired turbine.

Microturbines – Ronald Reagan Library, Ventura County, California. Project manager and lead engineer or preparation of air permit applications for microturbines and standby boilers. The microturbines drive the heating and cooling system for the library. The microturbines are certified by the manufacturer to meet the 9 ppm NO_x emission limit for this equipment. Low-NO_x burners are BACT for the standby boilers.

Hospital Cogeneration Microturbines – South Coast Air Quality Management District. Project manager and lead engineer for preparation of air permit application for three microturbines at hospital cogeneration plant installation. The draft Authority To Construct (ATC) for this project was obtained two weeks after submittal of the ATC application. 30-day public notification was required due to the proximity of the facility to nearby schools. The final ATC was issued two months after the application was submitted, including the 30-day public notification period.

Gas Turbine Cogeneration – South Coast Air Quality Management District. Project manager and lead engineer for preparation of air permit application for two 5.5 MW gas turbines in cogeneration configuration for county government center. The turbines will be equipped with selective catalytic reduction (SCR) and oxidation catalyst to comply with SCAQMD BACT requirements. Aqueous urea will be used as the SCR reagent to avoid trigger hazardous material storage requirements. A separate permit will be obtained for the NO_x and CO continuous emissions monitoring systems. The ATCs is pending.

Industrial Boilers – NO_x BACT Evaluation for San Diego County Boilers. Project manager and lead engineer for preparation of Best Available Control Technology (BACT) evaluation for three industrial boilers to be located in San Diego County. The BACT included the review of low NO_x burners, FGR, SCR, and low temperature oxidation (LTO). State-of-the-art ultra low NO_x burners with a 9 ppm emissions guarantee were selected as NO_x BACT for these units.

Peaker Gas Turbines – Evaluation of NO_x Control Options for Installations in San Diego County. Lead engineer for evaluation of NO_x control options available for 1970s vintage simple-cycle gas turbines proposed for peaker sites in San Diego County. Dry low-NO_x (DLN) combustors, catalytic combustors, high-temperature SCR, and NO_x absorption/conversion ($SCONO_x$) were evaluated for each candidate turbine make/model. High-temperature SCR was selected as the NOx control option to meet a 5 ppm NO_x emission requirement.

Hospital Cogeneration Plant Gas Turbines – San Joaquin Valley Unified Air Pollution Control District. Project manager and lead engineer for preparation of air permit application and BACT evaluation for hospital cogeneration plant installation. The BACT included the review of DLN combustors, catalytic combustors, high-temperature SCR and $SCONO_x$. DLN combustion followed by high temperature SCR was selected as the NO_x control system for this installation. The high temperature SCR is located upstream of the heat recovery steam generator (HRSG) to allow the diversion of exhaust gas around the HRSG without compromising the effectiveness of the NO_x control system.

Industrial Cogeneration Plant Gas Turbines – Upgrade of Turbine Power Output. Project manager and lead engineer for preparation of BACT evaluation for proposed gas turbine upgrade. The BACT included the review of DLN combustors, catalytic combustors, high-, standard-, and low-temperature SCR, and $SCONO_x$. Successfully negotiated air permit that allowed facility to initially install DLN combustors and operate under a NO_x plantwide "cap." Within two major turbine overhauls, or approximately eight years, the NO_x emissions per turbine must be at or below the equivalent of 5 ppm. The 5 ppm NO_x target will be achieved through technological in-combustor NO_x control such as catalytic combustion, or SCR or SCR equivalent end-of-pipe NO_x control technologies if catalytic combustion is not available.

Gas Turbines – Modification of RATA Procedures for Time-Share CEM. Project manager and lead engineer for the development of alternate CO continuous emission monitor (CEM) Relative Accuracy Test Audit (RATA) procedures for time-share CEM system serving three 7.9 MW turbines located in San Diego. Close interaction with San Diego APCD and EPA Region 9 engineers was required to receive approval for the alternate CO RATA standard. The time-share CEM passed the subsequent annual RATA without problems as a result of changes to some of the CEM hardware and the more flexible CO RATA standard.

Gas Turbines – Evaluation of NO_x Control Technology Performance. Lead engineer for performance review of dry low-NO_x combustors, catalytic combustors, high-, standard-, and low-temperature selective catalytic reduction (SCR), and NO_x absorption/conversion ($SCONO_x$). Major turbine manufacturers and major manufacturers of end-of-pipe NO_x control systems for gas turbines were contacted to determine current cost and performance of NO_x control systems. A comparison of 1993 to 1999 "$/kwh" and "$/ton" cost of these control systems was developed in the evaluation.

Gas Turbines – Evaluation of Proposed NO_x Control System to Achieve 3 ppm Limit. Lead engineer for evaluation for proposed combined cycle gas turbine NO_x and CO control systems. Project was in litigation over contract terms, and there was concern that the GE Frame 7FA turbine could not meet the 3 ppm NO_x permit limit using a conventional combustor with water injection followed by SCR. Operations personnel at GE Frame 7FA installatins around the country were interviewed, along with principal SCR vendors, to corroborate that the installation could continuously meet the 3 ppm NO_x limit.

Gas Turbines – Title V "Presumptively Approvable" Compliance Assurance Monitoring Protocol. Project manager and lead engineer for the development of a "presumptively approval" NO_x parametric emissions monitoring system (PEMS) protocol for industrial gas turbines. "Presumptively approvable" means that any gas turbine operator selecting this monitoring protocol can presume it is acceptable to the U.S. EPA. Close interaction with the gas turbine manufacturer's design engineering staff and the U.S. EPA Emissions Measurement Branch (Research Triangle Park, NC) was required to determine modifications necessary to the current PEMS to upgrade it to "presumptively approvable" status.

Environmental Due Diligence Review of Gas Turbine Sites – Mexico. Task leader to prepare regulatory compliance due diligence review of Mexican requirements for gas turbine power plants. Project involves eleven potential sites across Mexico, three of which are under construction. Scope involves identification of all environmental, energy sales, land use, and transportation corridor requirements for power projects in Mexico. Coordinator of Mexican environmental subcontractors gathering on-site information for each site, and translator of Spanish supporting documentation to English.

Development of Air Emission Standards for Gas Turbines - Peru. Served as principal technical consultant to the Peruvian Ministry of Energy in Mines (MEM) for the development of air emission standards for Peruvian gas turbine power plants. All major gas turbine power plants in Peru are currently using water injection to increase turbine power output. Recommended that 42 ppm on natural gas and 65 ppm on diesel (corrected to 15% O_2) be established as the NO_x limit for existing gas turbine power plants. These limits reflect NO_x levels readily achievable using water injection at high load. Also recommended that new gas turbine sources be subject to a BACT review requirement.

Gas Turbines – Title V Permit Templates. Lead engineer for the development of standardized permit templates for approximately 100 gas turbines operated by the oil and gas industry in the San Joaquin Valley. Emissions limits and monitoring requirements were defined for units ranging from GE Frame 7 to Solar Saturn turbines. Stand-alone templates were developed based on turbine size and NO_x control equipment. NO_x utilized in the target turbine population ranged from water injection alone to water injection combined with SCR.

Gas Turbines – Evaluation of NO_x, SO_2 and PM Emission Profiles. Performed a comparative evaluation of the NO_x, SO_2 and particulate (PM) emission profiles of principal utility-scale gas turbines for an independent power producer evaluating project opportunities in Latin America. All gas turbine models in the 40 MW to 240 MW range manufactured by General Electric, Westinghouse, Siemens and ABB were included in the evaluation.

Stationary Internal Combustion Engine (ICE) RACT/BARCT Evaluation. Lead engineer for evaluation of retrofit NO_x control options available for the oil and gas production industry gas-fired ICE population in the San Joaquin Valley affected by proposed Best Available Retrofit Control Technology (BARCT) emission limits. Evaluation centered on lean-burn compressor engines under 500 bhp, and rich-burn constant and cyclically loaded (rod pump) engines under 200 bhp. The results of the evaluation indicated that rich burn cyclically-loaded rod pump engines comprised 50 percent of the affected ICE population, though these ICEs accounted for only 5 percent of the uncontrolled gas-fired stationary ICE NO_x emissions. Recommended retrofit NO_x control strategies included: air/fuel ratio adjustment for rod pump ICEs, Non-selective catalytic reduction (NSCR) for rich-burn, constant load ICEs, and "low emission" combustion modifications for lean burn ICEs.

Development of Air Emission Standards for Stationary ICEs - Peru. Served as principal technical consultant to the Peruvian Ministry of Energy in Mines (MEM) for the development of air emission standards for Peruvian stationary ICE power plants. Draft 1997 World Bank NO_x and particulate emission limits for stationary ICE power plants served as the basis for proposed MEM emission limits. A detailed review of ICE emissions data provided in PAMAs submitted to the MEM was performed to determine the level of effort that would be required by Peruvian industry to meet the proposed NO_x and particulate emission limits. The draft 1997 WB emission limits were revised to reflect reasonably achievable NO_x and particulate emission limits for ICEs currently in operation in Peru.

Air Toxics Testing of Natural Gas-Fired ICEs. Project manager for test plan/test program to measure volatile and semi-volatile organic air toxics compounds from fourteen gas-fired ICEs used in a variety of oil and gas production applications. Test data was utilized by oil and gas production facility owners throughout California to develop accurate ICE air toxics emission inventories.

Ethanol Plant Dryer – Penn-Mar Ethanol, LLC. Lead engineer on BACT evaluation for ethanol dryer. Dryer nitrogen oxide (NO_x) emission limit of 30 ppm determined to be BACT following exhaustive review of existing and pending ethanol plant air permits and discussions with principal dryer vendors.

BARCT Low NO_x Burner Conversion – Industrial Boilers. Lead engineer for a BARCT evaluation of low NO_x burner options for natural gas-fired industrial boilers. Also evaluated methanol and propane as stand-by fuels to replace existing diesel stand-by fuel system and replacement of steam boilers with gas turbine co-generation system.

BACT Packed Tower Scrubber/Mist Eliminator Performance Evaluations. Project manager and lead engineer for Navy-wide plating shop air pollution control technology evaluation and emissions testing program. Mist eliminators and packed tower scrubbers controlling metal plating processes, which included hard chrome, nickel, copper, cadmium and precious metals plating, were extensively tested at three Navy plating shops. Chemical cleaning and stripping tanks, including hydrochloric acid, sulfuric acid, chromic acid and caustic, were also tested. The final product of this program was a military design specification for plating and chemical cleaning shop air pollution control systems. The hydrochloric acid mist sampling procedure developed during this program received a protected patent.

BACT Packed Tower Scrubber/UV Oxidation System Pilot Test Program. Technical advisor for pilot test program of packed tower scrubber/ultraviolet (UV) light VOC oxidation system controlling VOC emissions

from microchip manufacturing facility in Los Angeles. The testing was sponsored in part by the SCAQMD's Innovative Technology Demonstration Program, to demonstrate this innovative control technology as BACT for microchip manufacturing operations. The target compounds were acetone, methylethylketone (MEK) and 1,1,1-trichloroethane, and compound concentrations ranged from 10-100 ppmv. The single stage packed tower scrubber consistently achieved greater than 90% removal efficiency on the target compounds. The residence time required in the UV oxidation system for effective oxidation of the target compounds proved significantly longer than the residence time predicted by the manufacturer.

BACT Pilot Testing of Venturi Scrubber on Gas/Aerosol VOC Emission Source. Technical advisor for project to evaluate venturi scrubber as BACT for mixed phase aerosol/gaseous hydrocarbon emissions from deep fat fryer. Venturi scrubber demonstrated high removal efficiency on aerosol, low efficiency on VOC emissions. A number of VOC tests indicated negative removal efficiency. This anomaly was traced to a high hydrocarbon concentration in the scrubber water. The pilot unit had been shipped directly to the jobsite from another test location by the manufacturer without any cleaning or inspection of the pilot unit.

Pulp Mill Recovery Boiler BACT Evaluation. Lead engineer for BACT analysis for control of SO_2, NO_x, CO, TNMHC, TRS and particulate emissions from the proposed addition of a new recovery furnace at a kraft pulp mill in Washington. A "top down" approach was used to evaluate potential control technologies for each of the pollutants considered in the evaluation.

Air Pollution Control Equipment Design Specification Development. Lead engineer for the development of detailed Navy design specifications for wet scrubbers and mist eliminators. Design specifications were based on field performance evaluations conducted at the Long Beach Naval Shipyard, Norfolk Naval Shipyard, and Jacksonville Naval Air Station. This work was performed for the U.S. Navy to provide generic design specifications to assist naval facility engineering divisions with air pollution control equipment selection. Also served as project engineer for the development of Navy design specifications for ESPs and fabric filters.

POWER PLANT TECHNOLOGY, EMISSIONS, AND COOLING SYSTEM ASSESSMENTS

IGCC and Low Water Use Alternatives to Eight Pulverized Coal Fired 900 MW Boilers. Expert for cities of Houston and Dallas on integrated gasification combined cycle (IGCC) as a fully commercial coal-burning alternative to the pulverized coal (PC) technology proposed by TXU for eight 900 MW boilers in East Texas. Also analyzed East Texas as candidate location for CO_2 sequestration due to presence of mature oilfield CO_2 enhanced oil recovery opportunities and a deep saline aquifer underlying the entire region. Presented testimony on the major increase in regional consumptive water use that would be caused by the evaporative cooling towers proposed for use in the PC plants, and that consumptive water use could be lowered by using IGCC with evaporative cooling towers or by using air-cooled condensers with PC or IGCC technology. TXU ultimately dropped plans to build the eight PC plants as a condition of a corporate buy-out.

Assessment of CO_2 Capture and Sequestration for IGCC Plants. Author of assessment prepared for a public interest client of CO_2 capture and sequestration options for IGCC plants. The assessment focuses on: 1) CO_2 sequestration performance of operational large-scale CO_2 sequestration projects, specifically the Weyburn CO_2 enhanced oil recovery (EOR) project, and 2) CO_2 EOR as the vehicle to offset the cost of CO_2 capture and serve as the platform for an initial set of U.S. IGCC plants equipped for full CO_2 capture and storage.

Assessment of IGCC Alternative to Proposed 250 MW Circulating Fluidized Bed (CFB) Unit. Lead engineer to evaluate IGCC option to proposed 250 MW CFB firing Powder River Basin coal. Project site is in Montana, where CO_2 EOR opportunities exist in the eastern part of the state.

500 MW Coal-Fired Plant –Air Cooling and IGCC. Provided expert testimony on the performance of air-cooling and IGCC relative to the conventional closed-cycle wet cooled, supercritical pulverized coal boiler proposed by the applicant. Steam Pro™ coal-fired power plant design software was used to model the proposed plant and evaluate the impacts on performance of air cooling and plume-abated wet cooling. Results

indicated that a conservatively designed air-cooled condenser could maintain rated power output at the design ambient temperature of 90 ^{o}F. The IGCC comparative analysis indicated that unit reliability comparable to a conventional pulverized coal unit could be achieved by including a spare gasifier in the IGCC design, and that the slightly higher capital cost of IGCC was offset by greater thermal efficiency and reduced water demand and air emissions.

Retrofit of SCR to Existing Natural Gas-Fired Units. Lead expert in successful representation of interests of the city of Carlsbad, California to prevent weakening of an existing countywide utility boiler NO_x rule. Weakening of NO_x rule would have allowed a 1,000 MW merchant utility boiler plant located in the city to operate without installing selective catalytic reduction (SCR) NO_x control systems. Ultimately the plant owner was compelled to comply with the existing NO_x rule and install SCR on all five boilers at the plant. This project required numerous appearances before the county air pollution control hearing board to successfully defend the existing utility boiler NO_x rule.

Proposed 1.500 MW Pulverized Coal Power Plant. Provided testimony challenge to air permit issued for Peabody Coal Company's proposed 1,500 MW pulverized-coal fired power plant in Kentucky. Presented case that IGCC is a superior method for producing power from coal, from both environmental and energy efficiency perspective, than the proposed pulverized-coal plant. Presented evidence that IGCC is technically feasible and cost-competitive with pulverized coal.

Presidential Permits to Two Border Power Plants – Contested Air and Water Issues. Provided testimony on the air emissions and water consumption impact of two export power plants, Intergen and Sempra, in Mexicali, Mexico, and modifications necessary to minimize these impacts, including air emission offsets and incorporation of air cooling. These two plants are located within 3 miles of the California border, are interconnected only to the SDG&E transmission grid, and under the local control of the California Independent System Operator. Provided evidence that the CAISO had restricted the amount of power these two plants could export when commercial operation began in June 2003 to avoid unacceptable levels of transmission congestion on SDG&E's transmission system. The federal judge determined that the DOE had conducted an inadequate environmental assessment before issuing the Presidential Permits for these two plants and ordered the DOE to prepare a more comprehensive assessment.

300 MW Coal-Fired Circulating Fluidized Bed Boiler Plant - Best Available NO_x Control System. Provided testimony in dispute in case where approximately 50 percent NO_x control using selective non-catalytic reduction (SNCR) was accepted as BACT for a proposed 300 MW circulating fluidized bed (CFB) boiler plant in Kentucky. Presented testimony that SNCR was capable of continuous NO_x reduction of greater than 70 percent on a CFB unit and that low-dust, hot side selective catalytic reduction (SCR) and tail-end SCR were technically feasible and could achieve greater than 90 percent NO_x reduction.

Conversion of Existing Once-Through Cooled Boilers to Wet Towers, Parallel Wet-Dry Cooling, or Dry Cooling. Prepared preliminary design for the conversion of four natural gas and/or coal-fired utility boilers (Unit 4, 235 MW; Unit 3, 135 MW; Unit 2, 65 MW; and Unit 1,65 MW) from once-through river water cooling to wet cooling towers, parallel wet-dry cooling, and dry cooling. Major design constraints were available land for location of retrofit cooling systems and need to maintain maximum steam turbine backpressure at or below 5.5 inches mercury to match performance capabilities of existing equipment. Approach temperatures of 12 ^{o}F and 13 ^{o}F were used for the wet towers. SPX Cooling Technologies F-488 plume-abated wet cells with six feet of packing were used to achieve approach temperatures of 12 ^{o}F and 13 ^{o}F. Annual energy penalty of wet tower retrofit designs is approximately 1 percent. Parallel wet-dry or dry cooling was determined to be technically feasible for Unit 3 based on straightforward access to the Unit 3 surface condenser and available land adjacent to the boiler.

Utility Boiler – Assessment of Closed-Cycle Cooling Retrofit Cost for 1,200 MW Oil-Fired Plant. Prepared an assessment of the cost and feasibility of a closed-cycle wet tower retrofit for the 1,200 MW

Roseton Generating Station in New York. Determined that the cost to retrofit the Roseton plant with plume-abated closed-cycle wet cooling was well established based on cooling tower retrofit studies performed by the original owner (Central Hudson Gas & Electric Corp.) and subsequent regulatory agency critique of the cost estimate. Also determined that elimination of redundant and/or excessive budgetary line items in owners cost estimate brings the closed-cycle retrofit in line with expected costs for comparable new or retrofit plume-abated cooling tower applications. Closed-cycle cooling has been accepted as an issue that will be adjudicated.

2,000 MW Nuclear Power Plant – Closed-Cycle Cooling Retrofit Feasibility. Prepared assessment of the cost and feasibility of a closed-cycle wet tower retrofit for the 2,000 MW Indian Point Generating Station in New York. Determined that the most appropriate arrangement for the hilly site would be an inline plume-abated wet tower instead of the round tower configuration analyzed by the owner. Use of the inline configuration would allow placement of the towers at numerous sites on the property with little or need for blasting of bedrock, greatly reducing the cost of the retrofit. Also proposed an alternative circulating cooling water piping configuration to avoid the extensive downtime projected by the owner for modifications to the existing discharge channel.

Best Available NO_x Control System for 525 MW Coal-Fired Circulating Fluidized Bed Boiler Plant. Provided testimony in dispute over whether 50 percent NO_x control using selective non-catalytic reduction (SNCR) constituted BACT for a proposed 525 MW circulating fluidized bed (CFB) boiler plant in Pennsylvania. Presented testimony that SNCR was capable of continuous NO_x reduction of greater than 70 percent on a CFB unit and that tail-end selective catalytic reduction (SCR) was technically feasible and could achieve greater than 90 percent NO_x reduction.

Evaluation of Correlation Between Opacity and PM_{10} Emissions at Coal-Fired Plant. Provided testimony on whether correlation existed between mass PM_{10} emissions and opacity during opacity excursions at large coal-fired boiler in Georgia. EPA and EPRI technical studies were reviewed to assess the correlation of opacity and mass emissions during opacity levels below and above 20 percent. A strong correlation between opacity and mass emissions was apparent at a sister plant at opacities less than 20 percent. The correlation suggests that the opacity monitor correlation underestimates mass emissions at opacities greater than 20 percent, but may continue to exhibit a good correlation for the component of mass emissions in the PM_{10} size range.

Emission Increases Associated with Retrofit of SCR Existing Coal-Fired Units. Provided testimony in successful effort to compel an existing coal-fired power plant located in Massachusetts to meet an accelerated NO_x and SO_2 emission control system retrofit schedule. Plant owner argued the installation of advanced NO_x and SO_2 control systems would generate > 1 ton/year of ancillary emissions, such as sulfuric acid mist, and that under Massachusetts Dept. of Environmental Protection regulation ancillary emissions > 1 ton/year would require a BACT evaluation and a two-year extension to retrofit schedule. Successfully demonstrated that no ancillary emissions would be generated if the retrofit NO_x and SO_2 control systems were properly sized and optimized. Plant owner committed to accelerated compliance schedule in settlement agreement.

1,000 MW Coastal Combined-Cycle Power Plant – Feasibility of Dry Cooling. Expert witness in on-going effort to require use of dry cooling on proposed 1,000 MW combined-cycle "repower" project at site of an existing 1,000 MW utility boiler plant in central coastal California. Project proponent argued that site was two small for properly sized air-cooled condenser (ACC) and that use of ACC would cause 12-month construction delay. Demonstrated that ACC could easily be located on the site by splitting total of up to 80 cells between two available locations at the site. Also demonstrated that an ACC optimized for low height and low noise would minimize or eliminate proponent claims of negative visual and noise impacts.

CONTINUOUS EMISSION MONITOR (CEM) PROJECT EXPERIENCE

Process Heater CO and NO_x CEM Relative Accuracy Testing. Project manager and lead engineer for process heater CO and NO_x analyzer relative accuracy test program at petrochemical manufacturing facility. Objective of test program was to demonstrate that performance of onsite CO and NO_x CEMs was in compliance

with U.S. EPA "Boiler and Industrial Furnace" hazardous waste co-firing regulations. A TECO Model 48 CO analyzer and a TECO Model 10 NO_x analyzer were utilized during the test program to provide ±1 ppm measurement accuracy, and all test data was recorded by an automated data acquisition system. One of the two process heater CEM systems tested failed the initial test due to leaks in the gas conditioning system. Troubleshooting was performed using O_2 analyzers, and the leaking component was identified and replaced. This CEM system met all CEM relative accuracy requirements during the subsequent retest.

Performance Audit of NO_x and SO_2 CEMs at Coal-Fired Power Plant. Lead engineer on system audit and challenge gas performance audit of NO_x and SO_2 CEMs at a coal-fired power plant in southern Nevada. Dynamic and instrument calibration checks were performed on the CEMs. A detailed visual inspection of the CEM system, from the gas sampling probes at the stack to the CEM sample gas outlet tubing in the CEM trailer, was also conducted. The CEMs passed the dynamic and instrument calibration requirements specified in EPA's Performance Specification Test - 2 (NO_x and SO_2) alternative relative accuracy requirements.

AIR ENGINEERING/AIR TESTING PROJECT EXPERIENCE – GENERAL

Reverse Air Fabric Filter Retrofit Evaluation – Coal-Fired Boiler. Lead engineer for upgrade of reverse air fabric filters serving coal-fired industrial boilers. Fluorescent dye injected to pinpoint broken bags and damper leaks. Corrosion of pneumatic actuators serving reverse air valves and inadequate insulation identified as principal causes of degraded performance.

Pulse-Jet Fabric Filter Performance Evaluation – Gold Mine. Lead engineer on upgrade of pulse-jet fabric filter and associated exhaust ventilation system serving an ore-crushing facility at a gold mine. Fluorescent dye used to identify bag collar leaks, and modifications were made to pulse air cycle time and duration. This marginal source was in compliance at 20 percent of emission limit following completion of repair work.

Pulse-Jet Fabric Filter Retrofit - Gypsum Calciner. Lead engineer on upgrade of pulse-jet fabric filter controlling particulate emissions from a gypsum calciner. Recommendations included a modified bag clamping mechanism, modified hopper evacuation valve assembly, and changes to pulse air cycle time and pulse duration.

Wet Scrubber Retrofit – Plating Shop. Project engineer on retrofit evaluation of plating shop packed-bed wet scrubbers failing to meet performance guarantees during acceptance trials, due to excessive mist carryover. Recommendations included relocation of the mist eliminator (ME), substitution of the original chevron blade ME with a mesh pad ME, and use of higher density packing material to improve exhaust gas distribution. Wet scrubbers passed acceptance trials following completion of recommended modifications.

Electrostatic Precipitator (ESP) Retrofit Evaluation – MSW Boiler. Lead engineer for retrofit evaluation of single field ESP on a municipal solid waste (MSW) boiler. Recommendations included addition of automated power controller, inlet duct turning vanes, and improved collecting plate rapping system.

ESP Electric Coil Rapper Vibration Analysis Testing - Coal-Fired Boiler. Lead engineer for evaluation of ESP rapper effectiveness test program on three field ESP equipped with "magnetically induced gravity return" (MIGR) rappers. Accelerometers were placed in a grid pattern on ESP collecting plates to determine maximum instantaneous plate acceleration at a variety of rapper power setpoints. Testing showed that the rappers met performance specification requirements.

Aluminum Remelt Furnace Particulate Emissions Testing. Project manager and lead engineer for high temperature (1,600 ^oF) particulate sampling of a natural gas-fired remelt furnace at a major aluminum rolling mill. Objectives of test program were to: 1) determine if condensable particulate was present in stack gases, and 2) to validate the accuracy of the in-stack continuous opacity monitor (COM). Designed and constructed a customized high temperature (inconel) PM_{10}/Mtd 17 sampling assembly for test program. An onsite natural gas-fired boiler was also tested to provide comparative data for the condensable particulate portion of the test program. Test results showed that no significant levels of condensable particulate in the remelt furnace exhaust

gas, and indicated that the remelt furnace and boiler had similar particulate emission rates. Test results also showed that the COM was accurate.

Aluminum Remelt Furnace CO and NO_x Testing. Project manager and lead engineer for continuous week-long testing of CO and NO_x emissions from aluminum remelt furnace. Objective of test program was to characterize CO and NO_x emissions from representative remelt furnace for use in the facility's criteria pollution emissions inventory. A TECO Model 48 CO analyzer and a TECO Model 10 NO_x analyzer were utilized during the test program to provide $\pm$1 ppm measurement accuracy, and all test data was recorded by an automated data acquisition system.

OIL AND GAS PRODUCTION AIR ENGINEERING/TESTING EXPERIENCE

Air Toxics Testing of Oil and Gas Production Sources. Project manager and lead engineer for test plan/test program to determine VOC removal efficiency of packed tower scrubber controlling sulfur dioxide emissions from a crude oil-fired steam generator. Ratfisch 55 VOC analyzers were used to measure the packed tower scrubber VOC removal efficiency. Tedlar bag samples were collected simultaneously to correlate BTX removal efficiency to VOC removal efficiency. This test was one of hundreds of air toxics tests performed during this test program for oil and gas production facilities from 1990 to 1992. The majority of the volatile air toxics analyses were performed at in-house laboratory. Project staff developed thorough familiarity with the applications and limitations of GC/MS, GC/PID, GC/FID, GC/ECD and GC/FPD. Tedlar bags, canisters, sorbent tubes and impingers were used during sampling, along with isokinetic tests methods for multiple metals and PAHs.

Air Toxics Testing of Glycol Reboiler – Gas Processing Plant. Project manager for test program to determine emissions of BTXE from glycol reboiler vent at gas processing facility handling 12 MM/cfd of produced gas. Developed innovative test methods to accurately quantify BTXE emissions in reboiler vent gas.

Air Toxics Emissions Inventory Plan. Lead engineer for the development of generic air toxics emission estimating techniques (EETs) for oil and gas production equipment. This project was performed for the Western States Petroleum Association in response to the requirements of the California Air Toxics "Hot Spots" Act. EETs were developed for all point and fugitive oil and gas production sources of air toxics, and the specific air toxics associated with each source were identified. A pooled source emission test methodology was also developed to moderate the cost of source testing required by the Act.

Fugitive NMHC Emissions from TEOR Production Field. Project manager for the quantification of fugitive Nonmethane hydrocarbon (NMHC) emissions from a thermally enhanced oil recovery (TEOR) oil production field in Kern County, CA. This program included direct measurement of NMHC concentrations in storage tank vapor headspace and the modification of available NMHC emission factors for NMHC-emitting devices in TEOR produced gas service, such as wellheads, vapor trunklines, heat exchangers, and compressors. Modification of the existing NMHC emission factors was necessary due to the high concentration of CO_2 and water vapor in TEOR produced gases.

Fugitive Air Emissions Testing of Oil and Gas Production Fields. Project manager for test plan/test program to determine VOC and air toxics emissions from oil storage tanks, wastewater storage tanks and produced gas lines. Test results were utilized to develop comprehensive air toxics emissions inventories for oil and gas production companies participating in the test program.

Oil and Gas Production Field – Air Emissions Inventory and Air Modeling. Project manager for oil and gas production field risk assessment. Project included review and revision of the existing air toxics emission inventory, air dispersion modeling, and calculation of the acute health risk, chronic non-carcinogenic risk and carcinogenic risk of facility operations. Results indicated that fugitive H_2S emissions from facility operations posed a potential health risk at the facility fenceline.

PETROLEUM REFINERY AIR ENGINEERING/TESTING EXPERIENCE

Criteria and Air Toxic Pollutant Emissions Inventory for Proposed Refinery Modifications. Project manager and technical lead for development of baseline and future refinery air emissions inventories for process modifications required to produce oxygenated gasoline and desulfurized diesel fuel at a California refinery. State of the art criteria and air toxic pollutant emissions inventories for refinery point, fugitive and mobile sources were developed. Point source emissions estimates were generated using onsite criteria pollutant test data, onsite air toxics test data, and the latest air toxics emission factors from the statewide refinery air toxics inventory database. The fugitive volatile organic compound (VOC) emissions inventories were developed using the refinery's most recent inspection and maintenance (I&M) monitoring program test data to develop site-specific component VOC emission rates. These VOC emission rates were combined with speciated air toxics test results for the principal refinery process streams to produce fugitive VOC air toxics emission rates. The environmental impact report (EIR) that utilized this emission inventory data was the first refinery "Clean Fuels" EIR approved in California.

Air Toxic Pollutant Emissions Inventory for Existing Refinery. Project manager and technical lead for air toxic pollutant emissions inventory at major California refinery. Emission factors were developed for refinery heaters, boilers, flares, sulfur recovery units, coker deheading, IC engines, storage tanks, process fugitives, and catalyst regeneration units. Onsite source test results were utilized to characterize emissions from refinery combustion devices. Where representative source test results were not available, AP-42 VOC emission factors were combined with available VOC air toxics speciation profiles to estimate VOC air toxic emission rates. A risk assessment based on this emissions inventory indicated a relatively low health risk associated with refinery operations. Benzene, 1,3-butadiene and PAHs were the principal health risk related pollutants emitted.

Air Toxics Testing of Refinery Combustion Sources. Project manager for comprehensive air toxics testing program at a major California refinery. Metals, Cr^{+6}, PAHs, H_2S and speciated VOC emissions were measured from refinery combustion sources. High temperature Cr^{+6} stack testing using the EPA Cr^{+6} test method was performed for the first time in California during this test program. Representatives from the California Air Resources Board source test team performed simultaneous testing using ARB Method 425 (Cr^{+6}) to compare the results of EPA and ARB Cr^{+6} test methodologies. The ARB approved the test results generated using the high temperature EPA Cr^{+6} test method.

Air Toxics Testing of Refinery Fugitive Sources. Project manager for test program to characterize air toxic fugitive VOC emissions from fifteen distinct process units at major California refinery. Gas, light liquid, and heavy liquid process streams were sampled. BTXE, 1,3-butadiene and propylene concentrations were quantified in gas samples, while BTXE, cresol and phenol concentrations were measured in liquid samples. Test results were combined with AP-42 fugitive VOC emission factors for valves, fittings, compressors, pumps and PRVs to calculate fugitive air toxics VOC emission rates.

LATIN AMERICA ENVIRONMENTAL PROJECT EXPERIENCE

Preliminary Design of Ambient Air Quality Monitoring Network – Lima, Peru. Project leader for project to prepare specifications for a fourteen station ambient air quality monitoring network for the municipality of Lima, Peru. Network includes four complete gaseous pollutant, particulate, and meteorological parameter monitoring stations, as well as eight PM_{10} and TSP monitoring stations.

Evaluation of Proposed Ambient Air Quality Network Modernization Project – Venezuela. Analyzed a plan to modernize and expand the ambient air monitoring network in Venezuela. Project was performed for the U.S. Trade and Development Agency. Direct interaction with policy makers at the Ministerio del Ambiente y de los Recursos Naturales Renovables (MARNR) in Caracas was a major component of this project.

Evaluation of U.S.-Mexico Border Region Copper Smelter Compliance with Treaty Obligations – Mexico. Project manager and lead engineer to evaluate compliance of U.S. and Mexican border region copper smelters with the SO_2 monitoring, recordkeeping and reporting requirements in Annex IV [Copper Smelters] of

the La Paz Environmental Treaty. Identified potential problems with current ambient and stack monitoring practices that could result in underestimating the impact of SO_2 emissions from some of these copper smelters. Identified additional source types, including hazardous waste incinerators and power plants, that should be considered for inclusion in the La Paz Treaty process.

Development of Air Emission Standards for Petroleum Refinery Equipment - Peru. Served as principal technical consultant to the Peruvian Ministry of Energy in Mines (MEM) for the development of air emission standards for Peruvian petroleum refineries. The sources included in the scope of this project included: 1) SO_2 and NO_x refinery heaters and boilers, 2) desulfurization of crude oil, particulate and SO_2 controls for fluid catalytic cracking units (FCCU), 3) VOC and CO emissions from flares, 4) vapor recovery systems for marine unloading, truck loading, and crude oil/refined products storage tanks, and 5) VOC emissions from process fugitive sources such as pressure relief valves, pumps, compressors and flanges. Proposed emission limits were developed for new and existing refineries based on a thorough evaluation of the available air emission control technologies for the affected refinery sources. Leading vendors of refinery control technology, such as John Zink and Exxon Research, provided estimates of retrofit costs for the largest Peruvian refinery, La Pampilla, located in Lima. Meetings were held in Lima with refinery operators and MEM staff to discuss the proposed emission limits and incorporate mutually agreed upon revisions to the proposed limits for existing Peruvian refineries.

Development of Air Emission Limits for ICE Cogeneration Plant - Panamá. Lead engineer assisting U.S. cogeneration plant developer to permit an ICE cogeneration plant at a hotel/casino complex in Panama. Recommended the use of modified draft World Bank NO_x and PM limits for ICE power plants. The modification consisted of adding a thermal efficiency factor adjustment to the draft World Bank NO_x and PM limits. These proposed ICE emission limits are currently being reviewed by Panamanian environmental authorities.

Mercury Emissions Inventory for Stationary Sources in Northern Mexico. Project manager and lead engineer to estimate mercury emissions from stationary sources in Northern Mexico. Major potential sources of mercury emissions include solid- and liquid-fueled power plants, cement kilns co-firing hazardous waste, and non-ferrous metal smelters. Emission estimates were provided for approximately eighty of these sources located in Northern Mexico. Coordinated efforts of two Mexican subcontractors, located in Mexico City and Hermosillo, to obtain process throughput data for each source included in the inventory.

Translation of U.S. EPA Scrap Tire Combustion Emissions Estimation Document – Mexico. Evaluated the Translated a U.S. EPA scrap tire combustion emissions estimation document from English to Spanish for use by Latin American environmental professionals.

Environmental Audit of Aluminum Production Facilities – Venezuela. Evaluated the capabilities of existing air, wastewater and solid/hazardous waste control systems used by the aluminum industry in eastern Venezuela. This industry will be privatized in the near future. Estimated the cost to bring these control systems into compliance with air, wastewater and solid/hazardous waste standards recently promulgated in Venezuela. Also served as technical translator for team of U.S. environmental engineers involved in the due diligence assessment.

Assessment of Environmental Improvement Projects – Chile and Peru. Evaluated potential air, water, soil remediation and waste recycling projects in Lima, Peru and Santiago, Chile for feasibility study funding by the U.S. Trade and Development Agency. Project required onsite interaction with in-country decisionmakers (in Spanish). Projects recommended for feasibility study funding included: 1) an air quality technical support project for the Santiago, Chile region, and 2) soil remediation/metals recovery projects at two copper mine/smelter sites in Peru.

Air Pollution Control Training Course – Mexico. Conducted two-day Spanish language air quality training course for environmental managers of assembly plants in Mexicali, Mexico. Spanish-language course manual prepared by Powers Engineering. Practical laboratory included training in use of combustion gas analyzer, flame ionization detector (FID), photoionization detector (PID), and occupational sampling.

Renewable Energy Resource Assessment Proposal – Panama. Translated and managed winning bid to evaluate wind energy potential in Panama. Direct interaction with the director of development at the national utility monopoly (IRHE) was a key component of this project.

Comprehensive Air Emissions Testing at Assembly Plant – Mexico. Project manager and field supervisor of emissions testing for particulates, NO_x, SO_2 and CO at turbocharger/air cooler assembly plant in Mexicali, Mexico. Source specific emission rates were developed for each point source at the facility during the test program. Translated test report into Spanish for review by the Mexican federal environmental agency (SEMARNAP).

Air Pollution Control Equipment Retrofit Evaluation – Mexico. Project manager and lead engineer for comprehensive evaluation of air pollution control equipment and industrial ventilation systems in use at assembly plant consisting of four major facilities. Equipment evaluated included fabric filters controlling blast booth emissions, electrostatic precipitator controlling welding fumes, and industrial ventilation systems controlling welding fumes, chemical cleaning tank emissions, and hot combustion gas emissions. Recommendations included modifications to fabric filter cleaning cycle, preventative maintenance program for the electrostatic precipitator, and redesign of the industrial ventilation system exhaust hoods to improve capture efficiency.

Comprehensive Air Emissions Testing at Assembly Plant – Mexico. Project manager and field supervisor of emissions testing for particulates, NO_x, SO_2 and CO at automotive components assembly plant in Acuña, Mexico. Source-specific emission rates were developed for each point source at the facility during the test program. Translated test report into Spanish.

Fluent in Spanish. Studied at the Universidad de Michoacán in Morelia, Mexico, 1993, and at the Colegio de España in Salamanca, Spain, 1987-88. Have lectured (in Spanish) on air monitoring and control equipment at the Instituto Tecnológico de Tijuana. Maintain contact with Comisión Federal de Electricidad engineers responsible for operation of wind and geothermal power plants in Mexico, and am comfortable operating in the Mexican business environment.

PUBLICATIONS

Bill Powers, "*San Diego Smart Energy 2020 – The 21st Century Alternative*," San Diego, October 2007.

Bill Powers, "*Energy, the Environment, and the California – Baja California Border Region*," Electricity Journal, Vol. 18, Issue 6, July 2005, pp. 77-84.

W.E. Powers, *"Peak and Annual Average Energy Efficiency Penalty of Optimized Air-Cooled Condenser on 515 MW Fossil Fuel-Fired Utility Boiler,"* presented at California Energy Commission/Electric Power Research Institute Advanced Cooling Technologies Symposium, Sacramento, California, June 2005.

W.E. Powers, R. Wydrum, P. Morris, *"Design and Performance of Optimized Air-Cooled Condenser at Crockett Cogeneration Plant,"* presented at EPA Symposium on Technologies for Protecting Aquatic Organisms from Cooling Water Intake Structures, Washington, DC, May 2003.

P. Pai, D. Niemi, W.E. Powers, *"A North American Anthropogenic Inventory of Mercury Emissions,"* to be presented at Air & Waste Management Association Annual Conference in Salt Lake City, UT, June 2000.

P.J. Blau and W.E. Powers, *"Control of Hazardous Air Emissions from Secondary Aluminum Casting Furnace Operations Through a Combination of: Upstream Pollution Prevention Measures, Process Modifications and End-of-Pipe Controls,"* presented at 1997 AWMA/EPA Emerging Solutions to VOC & Air Toxics Control Conference, San Diego, CA, February 1997.

W.E. Powers, et. al., *"Hazardous Air Pollutant Emission Inventory for Stationary Sources in Nogales, Sonora, Mexico ,"* presented at 1995 AWMA/EPA Emissions Inventory Specialty Conference, RTP, NC, October 1995.

W.E. Powers, *"Develop of a Parametric Emissions Monitoring System to Predict NO_x Emissions from Industrial Gas Turbines,"* presented at 1995 AWMA Golden West Chapter Air Pollution Control Specialty Conference, Ventura, California, March 1995.

W. E. Powers, et. al., *"Retrofit Control Options for Particulate Emissions from Magnesium Sulfite Recovery Boilers,"* presented at 1992 TAPPI Envr. Conference, April 1992. Published in *TAPPI Journal*, July 1992.

S. S. Parmar, M. Short, W. E. Powers, *"Determination of Total Gaseous Hydrocarbon Emissions from an Aluminum Rolling Mill Using Methods 25, 25A, and an Oxidation Technique,"* presented at U.S. EPA Measurement of Toxic and Related Air Pollutants Conference, May 1992.

N. Meeks, W. E. Powers, *"Air Toxics Emissions from Gas-Fired Internal Combustion Engines,"* presented at AIChE Summer Meeting, August 1990.

W. E. Powers, *"Air Pollution Control of Plating Shop Processes,"* presented at 7th AES/EPA Conference on Pollution Control in the Electroplating Industry, January 1986. Published in *Plating and Surface Finishing* magazine, July 1986.

H. M. Davenport, W. E. Powers, *"Affect of Low Cost Modifications on the Performance of an Undersized Electrostatic Precipitator,"* presented at 79th Air Pollution Control Association Conference, June 1986.

AWARDS

Engineer of the Year, 1991 – ENSR Consulting and Engineering, Camarillo
Engineer of the Year, 1986 – Naval Energy and Environmental Support Activity, Port Hueneme
Productivity Excellence Award, 1985 – U. S. Department of Defense

PATENTS

Sedimentation Chamber for Sizing Acid Mist, Navy Case Number 70094

SAN GORGONIO CHAPTER

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Regional Groups Serving Riverside and San Bernardino Counties: Big Bear, Los Serranos, Mojave, Moreno Valley, Mountains, Santa Margarita, Tahquitz.

July 2, 2010 Via Email and U.S. Mail

George R. Meckfessel
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Re: **Draft Environmental Impact Report and Draft Environmental Impact Statement for the Southern California Edison Eldorado-Ivanpah Transmission Project**

Dear Mr. Meckfessel and CPUC Project Lead:

This is to endorse the June 21, 2010 comments submitted by the Center for Biological Diversity regarding the Draft Environment Impact Report and Draft Environmental Impact Statement (Draft EIR/EIS) for the proposed Eldorado-Ivanpah Transmission Project. Specifically, the San Gorgonio Chapter endorses the Center's comments that the environmental review of the Project (1) fails to comply with NEPA, CEQA, and planning requirements, (2) fails to adequately analyze and propose mitigation for impacts on biological resources, and (3) fails to adequately analyze greenhouse gas emissions. 0025-1 0025-2 0025-3

The Eldorado-Ivanpah Transmission Project and the industrial-scale solar developments proposed in the Ivanpah Valley – of which the Project is an integral component – will result in major impacts to the biological resources of the area. Among these are impacts to the threatened Mojave desert tortoise, as the San Gorgonio Chapter noted its August 21, 2009 scoping letter. In that letter, the Chapter expressed its conviction that the future of the desert tortoise in the Ivanpah Valley is at risk from the combined impact of the Project and these large-scale solar developments. We recommended, therefore, that the environmental documents incorporate a comprehensive and inclusive review of the Project and the solar developments. 0025-4 0025-5

Given the lack of a comprehensive review in the Draft EIR/EIS and the inadequacies of the environmental review as enumerated above, we join the Center in urging that the Bureau of Land Management and California Public Utilities Commission revise and re-circulate the Draft EIR/EIS or prepare and circulate a supplemental Draft EIR/EIS before making any decision on the proposed Eldorado-Ivanpah Transmission Project and the connected solar developments. 0025-6

Sincerely,

Sidney Silliman/s/
Conservation Committee

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desert conservation
PROGRAM

July 1, 2010

Monisha Gangopadhyay
EIR Project Manager
Eldorado-Ivanpah Transmission Project
130 Battery Street, 4th Floor
San Francisco, CA 94111

Re: Draft Environmental Impact Report/Environmental Impact Statement for the Eldorado-Ivanpah Transmission Project, California Public Utility Commission application #A.09-05-027

Dear Ms. Gangopadhyay:
Thank you for the opportunity to comment on the subject document. Clark County has reviewed the document and offers the following comments. Please don't hesitate to contact me if further clarification is needed.

Position on the Project
Clark County has no opposition to the proposed project provided all applicable rules, regulations and requirements are met in good faith by Southern California Edison.

Description of Multiple Species Habitat Conservation Plan (MSHCP)
The Clark County MSHCP is one of the earliest landscape-scale multiple species habitat conservation plans (HCPs) for which a Section 10 (a)(1)(B) Incidental Take Permit was approved, and it has an unusual mitigation strategy. As such, it is sometimes difficult to summarize the MSHCP for documents such as the subject DEIS. Clark County noted several incorrect statements in the DEIS, and offers the following corrections to assist in your analysis. Page 3.4-64, lines 38-40 contain the following incorrect statement: "Under the MCHSP, tree removal is allowed only for insect and disease control or in emergencies, and tree improvement activities may not impair wilderness values (Clark County 2000)." The MSHCP does not regulate tree removal, and this statement should be removed. 0026-1

Page 3.4-64, lines 42-50 are incorrect. The MSHCP is a mitigation plan. For projects that occur on non-federal lands, property owners/developers pay a one- time mitigation and land disturbance fee of $550.00 per acre fee at the time a grading permit issued, regardless of the location of the non-federal lands being developed. This fee is then used to implement the mitigation strategy described in the MSHCP. In exchange for take of habitat on non-federal lands, the permit holders mitigate by funding a wide variety of mitigation activities on both federal and non-federal lands. The MSHCP conservation reserve is categorized based upon the underlying land management designations, and those categories (Intensively Managed Areas, Less Intensively Managed Areas, Multiple Use Management Areas and Unmanaged Areas) convey no binding management regulation upon the land owners. Thus, the MSHCP does not 0026-2

regulate or govern the land uses within much of conservation reserve design and land owners, such as the Bureau of Land Management (BLM), retain that authority. 0026-2 Continued

Page 3.4-65, lines 2-4 are incorrect. Implementation of MSHCP and prior Habitat Conservation Plan (HCP) mitigation actions has occurred over much of the project site described in the subject document. For example, to implement the Desert Conservation Plan, Short-Term Habitat Conservation Plan and MSHCP, Clark County has funded 1) acquisition and relinquishment of grazing allotments on BLM lands, including the Jean Lake and McCullough Mountains Grazing Allotments, 2) research projects focusing on the white margined penstemon found in the Ivanpah Valley, 3) restoration projects in the Eldorado and Piute Valleys, including restoration activities within the Piute Eldorado Area of Critical Environmental Concern (ACEC), 4) provision of law enforcement funding for both the Piute Eldorado ACEC and on the Boulder City Conservation Easement and 5) other mitigation activities in the project area. Thus, the project as proposed impacts both potential take areas as well as areas within the MSHCP's conservation reserve. 0026-3

Description of Boulder City Conservation Easement (BCCE) & Relation to MSHCP

Page 3.4-65, lines 7-8 are incorrect. Clark County purchased the BCCE from the City of Boulder City in July 1995. The goal of the BCCE is maintenance of natural resource values for desert tortoise and other native species. Much of the BCCE is designated as critical habitat for the desert tortoise by the U.S. Fish and Wildlife Service (USFWS), and Clark County considers all parts of the BCCE to be equal in importance to the formally designated critical habitat. 0026-4

The maintenance of the BCCE is part of Clark County's obligation under the BCCE agreement, and the USFWS monitors both parties' compliance with the terms of the BCCE agreement. In addition, the MSHCP includes the BCCE as part of the reserve design and mitigation strategy for the current Section 10(a)(1)(B) Incidental Take Permit. Thus, the BCCE has land use restrictions described in the easement agreement, and the MSHCP relies upon that area as part of the mitigation and reserve design, but the MSHCP does not regulate the BCCE area, nor does the MSHCP document supersede the BCCE agreement. This correction should also be made to the text on page 3.4-64, lines 42-50. 0026-5

Section 7 versus Section 10 of the Endangered Species Act (ESA)

The proposed project seeks ESA compliance through Section 7 of the Act. Thus, the document needs to be clear that it will achieve its compliance with the ESA through the Section 7 consultation process and not through the Clark County MSHCP and Section 10(a)(1)(B) incidental take permit. Therefore, it is not necessary for this project to pay the Section 10 mitigation and land disturbance fee of $550 per acre if it will be achieving ESA compliance through Section 7 and can demonstrate that compliance through payment of Section 7 mitigation fees. Table 2.1 should be updated to reflect this fact. 0026-6

Impacts of proposed project and alternatives on BCCE

As you are aware, the project applicant (Southern California Edison: SCE) is in discussions with the City of Boulder City and Clark County to address concerns regarding the BCCE and Clark County's ability to concur with such a special use permit and/or new Rights of Way (ROW) within the BCCE The City of Boulder City and Clark County are actively pursuing an amendment to the BCCE agreement that would clarify the conditions, standards and process that would allow the City of Boulder City to grant new ROW for this purpose. Staff anticipates the Boulder City Council and Board of County Commissioners will review and consider the amendment in July 2010. If this amendment were approved by both board and council, the standards and conditions for a new ROW and/or special use permit within the BCCE would be in addition to those described in the proposed Applicant Proposed Measure and Mitigation Measures in the DEIS. While it is premature to include the proposed standards and conditions prior to adoption by the Council and Board, these can be made available upon Council and Board adoption. 0026-7

In several places, the document states that the applicant will submit a record of consultation with the County to the California Public Utility Commission (CPUC). Clark County respectfully requests copies of all such documentation and correspondence when they are received by CPUC, and any such documentation of consultation with Clark County already sent by the project applicant and consultants to the CPUC.

Are all proposed "Applicant Proposed Minimization (APM) and Mitigation Measures (MM)"consistent with the BCCE terms and conditions?

According to the BCCE agreement, any use of biocides/herbicides must be approved by USFWS for use within the BCCE. (APM BIO 10 or 11) 0026-8

Clark County supports USFWS and Nevada Department of Wildlife approved relocation of wildlife found within the BCCE to other suitable portions of the BCCE or adjacent habitat on BLM lands. (APM BIO 7, 11, 13, & 14) 0026-9

On page 3.4-71 lines 21-22, regarding temporary disturbance areas, the DEIS states: "Impacts to vegetation in these areas would be temporary, as communities would likely re-colonize these areas over time." Leaving temporary disturbance areas to re-colonize with vegetation after crushing and compacting of soil with heavy equipment is not likely to result in restoration of natural habitat structure or function within a decade. In the Eldorado Valley, where the BCCE is located, Clark County strongly suggests a more active approach to restoration, including soil decompaction, vertical mulch and reseeding with native species. 0026-10

All other APM and MM appear to be consistent with the BCCE agreement.

Additional analysis or clarification needed

Page 3.4-72, lines 6-8. The BCCE should be added to the list of areas that would be impacted by spread of noxious weeds. On page 3.4-24, the DEIS notes that BLM will receive notices of weed concentration areas. DCP requests copies of such notices within Nevada and particularly in areas within or adjacent to the BCCE area and Piute Eldorado ACEC. 0026-11

Page 3.4-74, lines 14-17. The BCCE should be added to the list of areas that would be impacted by loss and degradation of habitat. 0026-12

Table 3.4-6 would be more informative if it showed new versus old disturbances in relation to desert tortoise critical habitat. Alternative A would cause more new disturbance in desert tortoise critical habitat than the proposed project route. 0026-13

On page 3.4-85, lines 30-40, the statement is made that no impacts would occur to the MSHCP or BCCE. Based upon the corrections requested in this letter, this section needs to be reviewed for accuracy, particularly based upon several statements in the DEIS that acknowledge impacts to the MSHCP and BCCE and the need to mitigate those impacts, including but not limited to the following references: 0026-14

> Page 3.4-77 regarding compensation to be made to Clark County for impacts to the MSHCP. 0026-15
>
> In the analysis of alternative A, page 3.4-86, lines the DEIS states:
> "The alternative would result in impacts on the Clark County MSHCP and the BCCE, as the entire alternative lies outside a pre-existing ROW within lands preserved by these plans. Biological resources and species targeted for conservation and protection by these plans, particularly the desert tortoise, would be potentially impacted by the project. However, MM BIO-1 through BIO-16 would significantly reduce biological impacts. Furthermore, the applicant would be required to initiate discussions with Clark County and Boulder City concerning additional fee-based compliance and mitigation measures to ameliorate biological impacts. This compliance would be directly based on the provisions of the MSHCP and the BCCE. Impacts to provisions of the plans would be reduced to less than significant with the incorporation of results from biological mitigation and compliance discussions."
>
> Also, on page 3.4-77 lines 45-46, the statement is made that "... compensation to Clark County for impacts to the MSHCP prior to commencing any construction activities." The DCP is interested in further discussions to determine how the project applicant could mitigate for impacts or loss of MSHCP mitigation actions. It is not clear to us that monetary compensation is the only option available.

Page 3.9-10 describes how the BCCE agreement relates to Land Patent No. 27-95-0022 and Public Law 85-339 as amended. As Clark County has stated in correspondence to BLM, CPUC and SCE, the process and authority by which BLM claims to have designated and then reserved to the United States certain utility corridors in July 1995 is unclear, and Clark County looks forward to its clarification. The fact that Clark County points out this issue is not an indication of any opposition to the project. In anticipation of this clarification, the City of Boulder City and Clark County are actively pursuing an amendment to the BCCE agreement, which as described above would clarify the conditions, standards and process that would allow the City of Boulder City to grant new ROW for this purpose. 0026-16

In addition, a point of clarification is needed for Page 3.9 -10, line 18 and 21, as the BCCE agreement stipulates how the area is to be managed, while the MSHCP merely describes the terms and conditions found within the BCCE agreement. The BCCE agreement would be a better source to cite for the restrictions and allowable uses of the BCCE, rather than the MSHCP or unnamed County or DCP representatives (line 20). 0026-17

Page 3.9-18 describes the BCCE agreement and which party has the authority to grant new ROWs. In lines 7, 10 and 12, the roles of the Grantor (Boulder City) and the Grantee (Clark County) are reversed. 0026-18

Also, in this section (3.9), a discussion should be included which lists the Boulder City ordinances regarding speed limits and acceptable uses of the BCCE area, and how these will apply to portions of this project. These should be included in the Worker Environmental Awareness Program training for the subject project, if approved. Of particular interest to the County is assuring that all project workers and contractors are aware of the road designations, speed limits and restrictions on camping in the BCCE area. 0026-19

The recreation impact analysis should be clarified on page 3.12-5, line 46, to include that within the BCCE, all vehicular travel is limited to only designated open roads or private utility roads (travel off of roads or on closed roads is prohibited by the easement and Boulder City ordinances). All open and closed roads in the BCCE area have been posted. 0026-20

Cummulative Impact Analysis

An analysis of the proposed project's impacts to MSHCP covered species, the MSHCP's conservation reserve and prior MSHCP mitigation actions is appropriate and necessary. This could be accomplished by adding the BCCE and other areas where the DCP has funded mitigation activities on federal lands to those areas described as Special Management Areas within the subject document. 0026-21

The cumulative impact area for the proposed project includes a substantial amount of the MSHCP's mitigation/conservation reserve system. Section 5.3.3.2 should include a summary of 0026-22

the mitigation activities that have been funded by Clark County as mitigation for the MSHCP and precursor plans and incidental take permits, as described above. Spatial data are available depicting the geographic location of many of these activities. In addition, approximately 65,000 acres of take remain under the current MSHCP, which is not mentioned in this section, nor the section that discusses the additional 215,000 acres of take the permittees seek in the amendment of the MSHCP. A total of approximately 280,000 total acres under the current MSHCP plus the amendment to the MSHCP should be considered in the cumulative impacts analysis. 0026-22 Continued

Impacts to Biological Resources and Comparison of Project Alternatives

We note that Figure 1.2 of the subject document does not depict federal utility corridors or BLM reserved lands within the BCCE area, while several others figures in the subject document do depict these BLM corridors. Clark County continues to seek clarity regarding whether or not the BLM corridors were properly designated and reserved across and through the BCCE. Given this uncertainty, the comments below focus on the biological resources that might be impacted by the proposed action and the alternatives, without regard to legal jurisdictions of the agencies. 0026-23

In general, further minimization of new temporary and permanent disturbance for the construction, maintenance and operation of the utility line and associated telecommunication lines as proposed in the subject document is recommended. Reduction of the ROW width needed for crossing under or over existing utility lines is also preferable, particularly within the BCCE area, other areas of desert tortoise critical habitat and sensitive species habitat. 0026-24

Clark County prefers the proposed project route to either Alternative A or Alternative B, due to the substantially fewer impacts to the BCCE, desert tortoise habitat, desert tortoise critical habitat and the reduced acreage of new permanent disturbance in the BCCE area.

In comparing Alternative A and Alternative B, we prefer Alternative A due to lesser impacts to BCCE, desert tortoise habitat, desert tortoise critical habitat and the slightly reduced acreage of new permanent disturbance in the BCCE area. Alternative A would result in less new temporary and permanent disturbance than Alternative B, and thus B is the least preferred.

Finally, to ensure that Clark County and stakeholders understand exactly what activities have been permitted by BLM and the City of Boulder City, Clark County requests a copy of the Nevada portions of the Plan of Development. This will allow Clark County to better monitor actual impacts to the incidental take permit and our obligations to maintain the BCCE, and address any stakeholder questions we may receive. 0026-25

Thank you again for an opportunity to provide comments on the DEIS for the subject project application. I hope the above comments clarify the relationship between the MSHCP and the BCCE, and how the proposed project may impact both. Please do not hesitate to contact me or Sue Wainscott at (702) 455-3859 with any questions or requests for further information.

Sincerely,

Marci Henson

Marci Henson
Program Manager

MDH/ree

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June 14, 2010

Monisha Gangopadhyay / Tom Hurshman
CPUC / BLM
c/o Ecology and Environs Inc.
Eldorado-Ivanpah Transmission Project
130 Battery Street, 4th Floor
San Francisco, CA 94111

Subject: Draft EIS/EIR Eldorado-Ivanpah Transmission Project SCH#2009071091

Dear Ms. Gangopadhyay and Mr. Hurshamn:

The Department of Fish and Game (Department) has reviewed the Draft Environmental Impact Statement / Environmental Impact Report (DEIS/EIR) for the above referenced project. The proposed project is for upgrading approximately 35 miles of existing single-circuit 115-kV subtransmission line to double-circuit 230-kV transmission between the Ivanpah Dry Lake area and the existing Substation, construct a new substation (Ivanpah Substation), install upgrades within existing Eldorado Substation, and install a redundant telecommunications path between the Ivanpah and Eldorado substations. The redundant telecommunications path would be strung along the existing 500-kV Eldorado-Lugo line for approximately 25 miles before it would be installed in a new underground duct for approximately 5 miles along the northern edge of Nipton Road to a new microwave tower outside Nipton, CA. The project is located at in eastern San Bernardino County, California and western Clark County, Nevada near Primm Nevada. Approximately 465 acres will be impacted by this project.

The Department is providing comments on the DEIS/EIR as the State agency which has the statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish and Game Code §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). The Department's Fish and wildlife management functions are implemented through its administration and enforcement of Fish and Game Code (Fish and Game Code §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, 14 Cal. Code Regs. §15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

The Department has serious concerns with the potential impacts of this project on

desert tortoise, a State and federally-listed Threatened species, and burrowing owl, which is a state Species of Special Concern and protected under Fish and Game Code §3503.5, as well as with the adequacy of this environmental document under CEQA as it pertains to biological resources. In addition, the loss of the barn owl roost could be considered significant under Fish and Game Code §3503.5. This project is located within the range of the desert tortoise and burrowing owl. Impacts to these species from the proposed project have not been adequately disclosed in the document, nor have adequate mitigation measures been proposed to reduce those impacts to less than significant. 0027-1

The Department's responsibilities in regard to the biological resources potentially impacted by the proposed project fall into two categories. First, as Trustee agency for the state's fish and wildlife resources, the Department's role is to provide the County of San Bernardino with biological information and recommendations that the County can use to comply with its responsibilities, as CEQA Lead Agency, to disclose the impacts of the proposed project, and adopt mitigation measures which will reduce the impacts to those resources to below significance. Our second role, as a state Responsible Agency, is to issue permits, consistent with our authority, for the Incidental Take of state listed species; for the handling of wildlife species pursuant to research projects; and as appropriate, issue agreements for the alteration of state waters. (Lake and Streambed Alteration Agreements). As a Responsible Agency, we must also rely on the Lead Agency's CEQA document on which to base our permits. Our comments on this project will address both of these roles.

Introduction

Table 1-2 – State Agencies – CDFG – The project will require and Incidental Take Permit or Consistency Determination for desert tortoise impacts. 0027-2

Description of proposed project

Table ES-3

APM BIO-4 - When are Best Management Practices not applicable?
APM BIO-6 - The Worker Environmental Awareness Program will need to be approved by the Department. 0027-3
APM BIO-7 - The Department can not approve the taking of an active raptor nest. 0027-4
APM BIO-10 - The Invasive Plant Management Plan will need to be approved by the Department. 0027-5
AMP BIO-11 item 9 – Authorized biologists will be approved by USFWS and the CDFG. In addition, the Department also must approve the monitors. 0027-6
AMP BIO -11 items 12 & 13 – The 2009 USFWS protocols are the updated version of the 1999 Desert Tortoise Council. 0027-7
AMP BIO 11 – item 14 – This section should read all activities conducted in desert tortoise habitat will be monitored by a qualified or authorized biologist. 0027-8

0027-9

AMP BIO 11 – item 20 – The Department will also need a copy of the report regarding tortoise seen, injured, killed, excavated and handled. 0027-10

AMP BIO 11- This section should include replacement for desert tortoise habitat impacted. 0027-11

AMP BIO 12 – If bighorn sheep habitat is impacted in California, then the Department must be consulted. 0027-12

AMP BIO 14 – If Gila monsters are found within California the same methods will be used to move them as for ones found in Nevada. In addition, the Department will be notified as to the location. 0027-13

Biological Resources 3.4

Page 3.4-29 Table 3.4-4

1) Nelson's bighorn sheep are fully protected, except as provided for in DFG Code subdivision (b) section 4902. 0027-14

2) Burrowing owl is a CA Species of Special Concerns and is protect under DFG Code Section 3503.5 0027-15

3) The banded Gila monster is also a Species of Special Concerns and requires a special permit for take. 0027-16

Page 3.4-62 – The description of the State Endangered Species Act is not completely accurate. It states "A project applicant is responsible for consulting with the CDFG, if applicable, to preclude activities that are likely to jeopardize the continued existence of any CESA-listed threatened or endangered species or destroy or adversely affect habitat essential for any given species." It should be more accurate to state that if a project activities are likely to take a listed species, then an Incidental Take Permit (DFG Code Section 2081) will be required. 0027-17

Page 3.4-63 – Should include DFG Code Section 3503.5 which prohibits the take of raptors and their nests or eggs. 0027-18

See comments above for the AMPs 0027-19

Page 3.4-92 –95

MMBIO-2 - The Department will need to approve the Reclamation, Restoration and Revegetation Plan. 0027-20

MMBIO-7 - The Mitigation Monitoring Plan, where jurisdictional areas within established riparian areas will be affected, should also be submitted to the Department. 0027-21

MMBIO-9 - The trenches and/or holes need to be monitored a minimum of three times during the summer (hotter) months. 0027-22

This section also needs to include the compensation for habitat impact along with enhancement and endowment fees. Compensation will be at 3:1 for non critical habitat and 5:1 for critical habitat. In accordance with the American Recovery and Reinvestment Act (ARRA) funding, this project may also be eligible to use a Mitigation Account to satisfy mitigation requirements. 0027-23

MMBIO-12 - item 9 – The following can be deleted as it will be the same for Nevada. "For California portions of the project, in addition to adhering to the most current Desert Tortoise Council handling guidelines, the following guidelines will be adhered to:" 0027-24

MMBIO-13 – Please include the Clark Mountain Range. Also, the Department will need to be notified if bighorn sheep are seen. 0027-25

MMBIO-14 – During breeding season, burrows must be checked for young before the one way door is installed. If young are present during relocation efforts, all work will stop until the young have fledged. 0027-26

Page 3.4-99 Table 3.4.7 - Add bighorn sheep as fully protected and add FP to the State list. 0027-27

There was no mention of the fairy shrimp in Ivanpah Dry Lake in the biological section. Any impacts to these species should be addressed. 0027-28

Page 3.8-14 – Streambed and Lake Alteration Agreement, Code Section 1600 may need to be listed here. 0027-29

Page 3.8-29 – MMW-4 - The Department will want to review the Dry Lake Restoration Plan. 0027-30

Page 3.8 – 21 – Table 3.8-2 Need to include the Department Code Section 1600. 0027-31

Page 5.2 - Table 5-1 Several other projects in the area include the Kern River Pipeline and the Caltrans Truck Descending Lane on the I-15. 0027-32

Page 5-36 - Table 5.5 – Caltrans' Joint Point of Entry may need to be included on this Table. 0027-33

Page 5-45 – Lines 42-51 – The First Solar project discussed within this document should be included in this section. 0027-34

Page 5-50 – Lines 2-5 The Department concurs that the cumulative impacts from past, present and future proposed activities in this contribute to a significant loss of vegetation, wildlife and special status species in the Ivanpah Valley, but we do not feel that it can be mitigated to less than significant levels, when looking at the cumulative 0027-35

impacts to this area. As stated in the document cumulative impacts to special status plants will remain significant under CEQA even with compensatory mitigation. 0027-35 Continued

Page 6-1 Lines 20-22 Special status plant should be included under the section for significant unavoidable impacts. 0027-36

The Department appreciates the opportunity to comment on the proposed project. Questions regarding this letter and further coordination on these issues should be directed to Ms. Rebecca Jones, Environmental Scientist, at (661) 285-5867.

Sincerely,

Tonya Moore

Tonya Moore
Senior Environmental Scientist

cc: Ms. Rebecca Jones, CDFG
State Clearinghouse