Southern California Edison
A.21-08-009 – TLRR CSP PTC

DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Kashif Siddiqi
Job Title: Sr. Construction Project Engineer
Received Date: 8/30/2024

Response Date: 1/6/2025

Question 01.a-n:
Highway 6 Alternative Characteristics
Please provide detailed information on the Highway 6 Alternative components and construction process. To the extent feasible, this should be comparable to the level of detail provided for the Proposed Project in the PEA. However, where detailed engineering has not been performed, please estimate or provide a range while explaining your assumptions. If it is believed a higher operating voltage will be required (e.g., 115 kV), please confirm this to the extent feasible and/or make assumptions based on the highest possible voltage (i.e., with potential for greatest impacts). Please provide the following for the Highway 6 Alternative:

a. Subtransmission structure type and characteristics, including height, diameter, foundation type/depth, etc.

b. Subtransmission conductor characteristics, to the extent they differ from the Proposed Project.

c. Approximate subtransmission structure locations in GIS.

d. For portions of Segment 6 where existing distribution line parallels or overlaps the proposed alignment, indicate whether this distribution line would be underbuilt on new subtransmission structures.

e. Indicate the height of the existing distribution poles along portions of Segment 6.

f. Provide a potential (conceptual) layout for equipment and DERs (e.g., PV panels) at the White Mountain and Deep Springs substations, which would be necessary for implementing the PEA version of the Highway 6 Alternative.

g. Describe the substation modifications that would be necessary to support the alternative, including details (e.g., footprint size, likely equipment, etc.) on any new metering station/substation and modifications to existing substations (including to support a higher operating voltage).

h. Describe the easement requirements for the Highway 6 Alternative, including length of alignments requiring new permanent or modified right-of-way (ROW) or easements.

i. Describe the Highway 6 Alternative construction process, focusing on Segment 6 and any differences between the alternative (both variations; see footnote) and the Proposed Project for other segments, excluding portions within Nevada.

j. Describe construction access, again with a focus on Segment 6.

k. Provide a breakdown of temporary and permanent disturbance associated with the alternative, including the different types of temporary staging/work areas, similar to what was provided in PEA Table 3.5-3 for the Proposed Project.

l. Provide in GIS the anticipated staging and construction laydown areas (CLAs), access routes, temporary work pads, pull-and-tension/stringing sites, and other temporary disturbance areas for the alternative.

m. Indicate any additional equipment that may be required to construct the alternative, relative to that indicated for the Proposed Project in PEA Table 3.6-1.

n. Provide an estimated construction schedule, including phasing for Segment 6.

Response to Question 01.a-n:

Detailed information on the Highway 6 Alternative components and construction process, comparable to the level of detail provided for the Proposed Project in the PEA, is not readily available because preliminary engineering has not been performed for this alternative. All responses associated with this question will be estimated quantities or durations.

Based on system load flow and voltage stability studies recently performed by SCE, the additional length of line required to construct the Highway 6 Alternative would require a change in operating voltage of the circuitry between Control Substation and the eastern terminus of the Project from 55 kV to 115 kV. All of SCE's responses incorporate this technical requirement assumption.

a. Subtransmission structure types and characteristics, including height, diameter, foundation type/depth, etc., are substantially similar for both 55 kV and 115 kV construction. Therefore, the description of the subtransmission facilities described in the PEA Section 3.3.4.1.1 for the Proposed Project would generally apply to the construction of the Highway 6 Alternative. However, if the Highway 6 Alternative were selected, the proposed number of structures would likely increase by approximately 400 total poles for Segment 6 and approximately 1,000 total poles for Segment 7.

b. Subtransmission conductor characteristics are substantially similar for both 55 kV and 115 kV construction, therefore the description of the conductor that would be installed for the Proposed Project in PEA Section 3.3.4.1.2 would generally apply Highway 6 Alternative. However, if the Highway 6 Alternative were selected, the proposed quantities of conductors (e.g., ACCC/ACSR and OPGW), would increase by approximately 21 miles for Segment 6 and approximately 60 miles for Segment 7.

c. Identifying the approximate subtransmission structure locations for the Highway 6 Alternative route in GIS would require a preliminary engineering effort that has not yet begun. SCE estimates that it will take approximately 4-6 months to complete a preliminary engineering design for the Highway 6 Alternative at a cost of approximately $500k.

d. There are existing distribution lines located along the proposed Segment 6 alignment, running north from Zack Substation for approximately 15 miles. A Highway 6 Alternative design would likely incorporate those lines in an underbuild configuration to reduce visual congestion of multiple pole lines in the same area. To incorporate the distribution lines the structures in Segment 6 would need to be approximately 15-feet taller than the heights above

ground for the poles described in Table 3.3-2 in the PEA for the segments included in the Proposed Project.

e. SCE has not performed a full inventory and analysis of the existing distribution poles along the proposed Segment 6 alignment, but based on SCE's construction standards for distribution facilities, it is reasonable to assume that the existing poles range in height from approximately 40-feet above ground line (AGL) to approximately 75-feet AGL.

f. Conceptually, the Standalone Power Supply (SPS) systems that would be necessary to implement the PEA version of the Highway 6 Alternative would consist of the following elements:

Renewable Energy Source (Photovoltaic or Wind): A solar photovoltaic system that is generally designed with a nameplate capacity that is seven times larger than the average daily load of the connected customer(s) to ensure that enough energy is generated during the daylight hours to provide 24 hours of energy.

Battery Energy Storage System (BESS): The BESS is a battery energy storage system that is sized to meet the customer 24-hour average load demand. The BESS would be located inside a high-security fenced area in one or more metal shipping container(s) co-located with control and communications equipment, including a station light and power (SL&P) transformer, communications equipment (e.g., microwave tower), step-up transformer, pad mounted switches, etc.

Back-up conventional propane-fired generators: Two propane-fueled generators would be installed inside the high-security fenced area to provide back-up power to meet customer peak load, recharge the BESS as needed, and provide SL&P during those cloudy and/or snowy conditions where inverter-based power from the renewable energy source is not available. (Note: Only one generator would typically be required to run during periods when back-up power is required. The other is required for redundancy). Fuel for the propane-fired generators would be stored in a storage tank that is also located inside the high-security fenced area.

For those customers currently served from the White Mountain Substation, SCE estimates that a solar photovoltaic array sized at approximately 1.5 acres to satisfy the necessary nameplate capacity needed for the SPS. In addition, 0.5 additional acres would be needed to house the high-security fenced area for the balance of the system equipment (e.g., BESS, generators, etc.). The SPS would cost approximately $5 million to install and would take approximately 2.5 years to design and construct. In addition, because of the regular amounts of snow experienced annually at the 10,000-foot elevation of White Mountain Substation,

SCE anticipates that the back-up generators would run extensively, and often exclusively, for several winter months, requiring the storage tank to be refilled often. This could dramatically increase the number of annual vehicle trips to the White Mountain Substation location and create a much greater annual O&M expense impact than the Proposed Project. In addition, it may not be possible for a propane refueling truck to access the site in some weather conditions, which could result in a loss of power to the critical communications facilities that are served from the substation.

The customer load currently served by Deep Springs Substation is approximately ten times greater than the White Mountain Substation load. Therefore, SCE estimates that an SPS at that location would require a solar photovoltaic array sized at approximately 10 acres to satisfy the necessary nameplate capacity. The high-security fenced area for the balance of the system equipment (e.g., BESS, generators, etc.) would be approximately 0.5 additional acres. This system would cost approximately $15 million to install and would take approximately 2.5 years to design and construct. However, because of better weather conditions at the Deep Springs Substation location compared to White Mountain Substation, SCE anticipates the annual O&M expense impact would be much lower in comparison to the potential O&M expenses associated with an SPS installed at the White Mountain Substation area.

g. Both new substations and modifications to existing substations will be required for the Highway 6 Alternative to increase the system voltage from 55kV to 115kV. Details regarding the necessary substation modifications and construction will not be known until preliminary engineering is completed. However, based on SCE's existing knowledge, modifications/construction are likely to include the following:
    i. **Control Substation**: Expand the substation footprint by approximately 0.5 acres beyond the existing perimeter fence line to allow for extending the existing 115kV bus by two additional line positions, equip those positions with four new 115 kV circuit breakers and associated wiring, and update relay protection in the MEER.
    ii. **Zack Substation**: Construct a new 115-12kV substation, approximately 1.5 acres in area, adjacent to existing substation, including a new 115kV switchrack with six circuit breakers and associated wiring, two new 115-12kV substation transformers feeding the existing 12kV switchrack, and new relay protection in the MEER. When the new station is energized, the removal of the existing 55-12kV substation equipment can take place.
    iii. **Fish Lake Valley Substation**: Construct a new 115-55kV substation, approximately 4 acres in area, adjacent to the existing metering station, including a new 115kV switchrack with six circuit breakers and associated wiring, two new 115-55kV substation transformers, a new 55kV switchrack with six circuit breakers and associated wiring, and new relay protection in a new MEER. Four new 55kV circuits

would be created to reconnect to the existing 55kV circuits serving Valley Electric Authority (VEA) and Deep Springs College, as well as reconnecting to the two 55kV lines interconnecting with NVEnergy heading towards Silver Peak Substation.

iv. **White Mountain Substation**: Extend an existing 12kV distribution circuit up Silver Canyon to a pole immediately outside of the White Mountain Substation fenceline and transfer the service of the existing communication site to this line extension. When that circuitry is completed, the removal of the existing 55-12kV substation equipment can take place.

h. Because SCE has not developed a preliminary design for the Highway 6 Alternative, SCE cannot describe what the easement requirements will be for the Alternative. At a minimum SCE anticipates needing new permanent rights-of-way for approximately 5 miles from the area north of Benton to the California-Nevada state border on Highway 6; 60 miles of new permanent rights-of-way within the State of Nevada along Highway 6 and turning south on Nevada Route 264; and approximately 5 linear miles of new permanent rights-of-way within California along California Route 266 to the new 115-55kV substation location near the existing Fish Lake Valley Metering Station.

i. In general, the construction process for the transmission line portions of the Highway 6 Alternative, in both California and Nevada, would be similar to what was described for the Proposed Project in the PEA sections 3.5 and 3.6, though the quantities of structures to be installed or removed, the details of construction material staging yard locations or wire pulling sites, or construction workforce details, would be likely to change. Specifics would not be available until the preliminary engineering efforts are completed. However, if the Highway 6 Alternative were to be selected, the construction processes described for the substation portions of the Proposed Project in PEA Sections 3.5 and 3.6 would require significant modification to capture the impacts of the scope of work in response (g) above.

j. SCE cannot determine specific details regarding construction access for the area between Zack Substation and the California-Nevada border until preliminary engineering efforts are complete. However, in general construction access would be similar to what is described in PEA Section 3.5.1. SCE expects that a majority of the access to the Highway 6 alignment would require new access and/or stub roads resulting from Caltrans easement restrictions. SCE expects that the disturbance values shown in Table 3.5-1 would be increased significantly due to the need for new access and spur roads.

k. SCE cannot determine specific acreages for temporary and permanent disturbances until preliminary engineering designs for the Highway 6 Alternative are completed. SCE anticipates preliminary engineering efforts will take approximately 4-6 months to complete. However, focusing only on the portion of the Highway 6 Alternative located in California, based on 300-foot-long average span lengths, and an assumption that there would be approximately 400 additional poles to be installed in the 35-mile-long segment from the Zack Tap to the California-Nevada border (Segment 6) under the Highway 6 Alternative, using similar average disturbance areas shown in Table 3.5-3 of the PEA, SCE estimates that disturbance areas for installation of wood pole-equivalent poles would be approximately 300 acres (temporary) and 30 acres (permanent). Additional disturbance areas would need to be calculated for staging areas, temporary guard structures, and stringing sites, all of which could be as much as twice the values currently shown in Table 3.5-3.

l. SCE cannot provide GIS versions of the staging areas, access routes, construction work areas, stringing sites, or other temporary disturbance areas until the preliminary engineering design efforts for the Highway 6 Alternative are completed. SCE anticipates preliminary engineering and design will take approximately 4-6 months to complete.

m. SCE expects that the construction equipment needed to construct the Highway 6 Alternative would be similar to that described in PEA Table 3.6-1 for the Proposed Project. However, as compared to the Proposed Project, either the duration of use of the equipment listed in PEA Table 3.6-1 would be much longer than the 33 months shown for Subtransmission Line Construction in PEA Table 3.6-2, because of the much longer length of the Highway 6 Alternative, or greater quantities of that same equipment would be utilized if the schedule shown in PEA Table 3.6-2 is maintained.

n. SCE estimates that the Subtransmission Line Construction Activity shown in PEA Table 3.6-2 for the Proposed Project would increase from approximately 33 months to approximately 50 months due to the increase in line length of the Highway 6 Alternative. Because detailed construction scheduling and phasing has not yet been determined, SCE cannot provide specific phasing details solely for the Segment 6 portion of the work.

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To: CPUC
Prepared by: Scott Lacy
Job Title: Sr. Construction Project Manager
Received Date: 8/30/2024

Response Date: 1/6/2025

Question 02:
Cost Estimate
In SCE's response (June 2023) to BLM's request regarding the technical feasibility of the Highway 6 Alternative, SCE estimated the cost of the BLM-modified version of the alternative:

"Overall, the preliminary estimates developed for this response show that the BLM's Hwy 6 Alternative would be expected to increase the project budget by $130M, or 50%, from approximately $260M to approximately $390M." Since that time, SCE has indicated that implementation of the Highway 6 Alternative could require increased operating voltage (e.g., 115 kV) due to the long line length. The higher voltage would then necessitate larger poles and conductor, as well as additional substation upgrades. Based on this, please provide a revised cost estimate for the Highway 6 Alternative that is reflective of the anticipated operating voltage.

Response to Question 02:
SCE provided approximate cost estimates for the Highway 6 Alternative in a June 2023 response to the BLM. SCE's June 2023 estimate assumed construction of the Highway 6 Alternative as a 55kV line. SCE anticipated that the Highway 6 Alternative would increase the cost of construction due to the added length of new infrastructure (inclusive of all line construction, additional structures, work areas, and access/stub roads, etc., for Segments 4, 6, and 7). Upon further analysis, however, SCE determined that if the Highway 6 Alternative were selected, the system would need to be converted from 55kV to 115kV.

Below, SCE provides a revised cost estimate for the Highway 6 Alternative as a 115kV system. This cost estimate is based on rough conceptual design of the Highway 6 Alternative. A more accurate cost estimate for the Highway 6 Alternative cannot be developed until a preliminary engineering design is completed. SCE expects that a preliminary engineering design would take at least 4-6 months to complete, then it would take another 2-4 months for SCE's Cost Estimating team to develop specific cost estimates based on that engineering detail. In total, SCE anticipates that it would be approximately 6-10 months before an estimate would be available.

Overall, when the updated values for the various cost elements below are combined, SCE's preliminary estimates show that the estimated cost for the Highway 6 Alternative would be approximately $300M greater than the estimate provided in the June 2023 response. This would result in a total project cost of approximately $690M.

With respect to direct construction costs of the transmission facilities[1], based on the updated requirements to convert the system to 115kV and the need to rebuild an additional 20 miles of existing facilities between Control and Zack Substations (e.g., Segments 1 and 2), SCE estimates that the cost to construct the Highway 6 Alternative as a 115 kV system results in a $90M increase to the cost estimate provided in SCE's June 2023 response to the BLM .

With respect to direct construction costs of the required additional substation facilities, based on the scope detailed in response to Question 1.g, SCE estimates that the cost for the substation work needed for the Highway 6 Alternative is approximately $150M. This is a new cost element that was not included in SCE's June 2023 response to the BLM.

With respect to real estate acquisition costs, the preliminary evaluation of ownership maps prepared for the June 2023 response remains valid for the updated scope. Therefore, the new cost estimate for the Highway 6 Alternative is the same as what was provided in SCE's June 2023 response to the BLM.

With respect to environmental costs, because of the updated requirements to convert the system to 115kV and the resultant need to rebuild an additional 20 miles of existing facilities between Control and Zack Substations there are additional costs are associated with the need for additional environmental surveying and reporting, as well as for monitoring and site restoration for the new route portions in Segments 1,2, and 4. Therefore, the new cost estimate for the Highway 6 Alternative would be approximately $10M more than the environmental costs described in SCE's June 2023 response to the BLM.

With respect to the variety of other categories of costs associated with the Project, such as project management, licensing, engineering, contingency, known risk, and other indirect charges, SCE's updated cost estimate for the Highway 6 Alternative is approximately $50M more than what was described in SCE's June 2023 response to the BLM.

Additionally, there may be costs that have not been included in these estimates, as further engineering and development is necessary to determine the level of impact. These costs may include but are not limited to: costs associated with line route alterations, relocation of existing distribution infrastructure, increased environmental costs identified after biological and cultural surveys are completed, and other unknown situations.

[1] All costs provided here are initial capital costs for project construction. Associated operations and maintenance costs for this line route are not detailed herein but are expected to be greater over time for the Highway 6 Alternative than they would be if the Proposed Project route was selected.

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Received Date: 8/30/2024

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Question 03:
Additional KOPs/Simulations
Please obtain additional key observation point (KOP) photos for the locations shown in the attached map (Exhibit A). Prepare visual simulations showing the anticipated features (subtransmission poles, lines) from these additional KOPs. Note that the locations are approximate – capture the KOP photos based on the detailed alternative information (e.g., specific pole/alignment locations) such as to reflect the maximum impact on aesthetics and public views. Additionally, to the extent higher voltage facilities (e.g., 115 kV) would be substantially taller/larger than the 55 kV facilities proposed under the Proposed Project, please provide updated visual simulations for KOPs along Segment 3. For example, please provide updated simulations for KOPs 3-1, 3-2, 3-4, 3-5, 3-6, 3-11, 3-12, 3-16, and 3-19, as designated in the POD materials.

Response to Question 03:
Visual simulations for the Highway 6 Alternative cannot be developed before a preliminary engineering design is completed. SCE expects that a preliminary engineering design for the Highway 6 Alternative would take at least 4-6 months to complete, then it would take another 2-4 months for the Project team to complete the new and revised simulations. SCE would also coordinate KOP locations with the BLM to improve the efficiency of producing new visual simulations. Overall, SCE anticipates it would take approximately 6-10 months to produce the requested visual simulations.

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To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
Received Date: 8/30/2024

Response Date: 12/31/2024

Question 04:
TLRR Sensitive Species and Habitat Report
Please provide a "TLRR Sensitive Species and Habitat Report," comparable to what was provided for the Proposed Project, for the Highway 6 Alternative. The report should include biological resources data for the Highway 6 Alternative, in particular for Segment 6, including vegetation mapping, habitat assessments, focused special-status wildlife surveys, botanical surveys, and known locations of special-status species. Please provide GIS or kmz files of all biological survey data for the Highway 6 Alternative.

Response to Question 04:
A sensitive species and habitat report specific for the Highway 6 Alternative will not be developed before a preliminary engineering design is completed. The information provided below is based on rough conceptual estimates and typical durations for field survey activities.

SCE expects that it will take at least 4-6 months to complete a preliminary engineering design for the Highway 6 Alternative. After preliminary engineering is complete SCE anticipates it would take another 14-16 months to perform biological field surveys, considering seasonal restrictions of the required surveys. Overall, it would take approximately 18-22 to complete the biological surveys and produce a final sensitive species and habitat survey report. (Note: this estimate does not include the potential for additional reviews, comments, revisions to the report, additional surveys, and approval cycles between SCE and the agencies).

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DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
Received Date: 8/30/2024

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Question 05:
Vegetation Communities
Provide calculations of temporary and permanent disturbance of each vegetation community that would be affected by the Highway 6 Alternative and include all areas of vegetation removal in the GIS database. Distinguish between disturbance that would occur in previously developed areas (i.e., paved, graveled, or otherwise urbanized) and naturally vegetated areas.

Response to Question 05:
The information provided below is based on rough conceptual estimates and typical durations for field survey activities because a calculation for temporary and permanent disturbances of each vegetation community affected by the Highway 6 Alternative cannot be developed before a preliminary engineering design is completed and a sensitive species and habitat report specific to the Highway 6 Alternative is drafted.

As presented in the answer to (4) above, SCE anticipates it would take approximately 18-22 months to complete the biological surveys and produce a sensitive species and habitat survey report. Following agency review and approval of the report, SCE anticipates that it would take approximately 1-2 months to calculate and summarize the temporary and permanent disturbances to vegetation communities. Overall, SCE anticipates that it would take approximately 19-24 months to generate the requested calculations (Note: this estimate does not include the potential for additional reviews, comments, revisions to the reports, additional surveys, and approval cycles between SCE and the agencies).

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To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
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Question 06:
Jurisdictional Waters
Please provide a report identifying potential Wetlands and Other Waters for the Highway 6 Alternative. This report does not need to be considered a formal jurisdictional delineation. Provide calculations of temporary and permanent disturbance of each jurisdictional water and include all areas of impacts in the GIS database.

Response to Question 06:
The information provided below is based on rough conceptual estimates and typical durations for field survey activities because a Wetlands and Other Waters Report specific for the Highway 6 Alternative will not be developed before a preliminary engineering design is completed.

SCE expects that it will take at least 4-6 months to complete a preliminary engineering design for the Highway 6 Alternative. After preliminary engineering is complete SCE anticipates it would take another 12-14 months to perform the needed surveys and data collection. Overall, SCE expects that it would take approximately 16-20 months to produce a Wetlands and Other Waters report for the Highway 6 Alternative. (Note: this estimate does not include the potential for additional reviews, comments, revisions to the reports, additional surveys, and approval cycles between SCE and the agencies).

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To: CPUC
Prepared by: Scott Lacy
Job Title: Sr. Construction Project Manager
Received Date: 8/30/2024

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Question 07:
Resource Agency Correspondence
Provide details of any important correspondence between SCE and the resource agencies regarding the Highway 6 Alternative. Provide any biological resource GIS data that has been received from the resource agencies.

Response to Question 07:
SCE provided the BLM with two documents regarding the Highway 6 Alternative, with copies provided to the Inyo National Forest (INF) and CPUC.

Those documents are listed below:

1) A "Technical and Economic Feasibility Analysis" dated June 21, 2023
2) A "Comparative Resource Analysis" dated April 12, 2024

SCE has not received any biological resource GIS data from any resource agencies specifically regarding the Highway 6 Alternative.

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To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
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Question 08:
Tree Removals
Identify the types, locations, approximate numbers, and sizes of trees that may need to be removed or trimmed substantially for the Highway 6 Alternative. Identify any potentially protected trees that may be removed or substantially trimmed for implementation of the alternative, such as but not limited to riparian trees, bristlecone pines, or other trees. Provide associated GIS data. Additionally, describe the types of equipment that would typically be used for tree removal.

Response to Question 08:
The information provided below is based on rough conceptual estimates and typical durations for field survey activities. SCE cannot provide the requested tree information until a preliminary engineering design for the Highway 6 Alternative is completed.

SCE expects that it will take at least 4-6 months to complete a preliminary engineering design for the Highway 6 Alternative. After preliminary engineering is complete SCE anticipates it would take another 12-14 months to perform a native tree survey along the Highway 6 Alternative route and to calculate and summarize the impacted trees. Overall, SCE anticipates that it would take a total of approximately 16-20 months to generate the requested information. (Note: this estimate does not include the potential for additional reviews, comments, revisions to the reports, additional surveys, and approval cycles between SCE and the agencies).

The type of equipment that would typically be used for tree removal would be the same as what is currently described in the PEA Section 3.5.4.4.4.

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To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
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Question 09:
Golden Eagle Data
The June 2023 Technical Feasibility Study on the Highway 6 Alternative (SCE's response to the BLM's data request) indicated that historic golden eagle nests have been documented along the Highway 6 Alternative alignment. Could you provide this data regarding golden eagle nests as it doesn't appear to be publicly available?

Response to Question 09:
Attached is a graphic (CPUC-SCE-Hwy6 Alt-002 Q.9_CSP Golden Eagle Nests.pdf) that shows the approximate locations of Golden Eagle nests, including 1-mile buffers, in the general area of the CSP project (both Proposed Project and Highway 6 Alternative route are shown). SCE acquired this eagle nest data as part of an unrelated July 2024 request to CDFW for GIS layers showing all known eagle nests within SCE's territory.

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Question 10:
Post-Construction Restoration and Revegetation
Provide a Habitat Restoration and Revegetation Plan that includes, or would apply to, the Highway 6 Alternative.

Response to Question 10:
A Habitat Restoration and Revegetation Plan (HRRP) for the Highway 6 Alternative will not be developed before a preliminary engineering design is completed. The information provided below is based on rough conceptual estimates and typical durations for preparing HRRPs.

SCE expects that it will take at least 4-6 months to complete a preliminary engineering design for the Highway 6 Alternative. After preliminary engineering is complete SCE anticipates it would take another 12-14 months to collect the data necessary to develop an HRRP. Overall, it would take approximately 16-20 months for the full process to be completed and a report to be generated. (Note: this estimate does not include the potential for additional reviews, comments, revisions to the reports, additional surveys, and approval cycles between SCE and the agencies).

Attached is the draft Habitat Restoration and Revegetation Plan (CPUC-SCE-Hwy6 Alt-002 Q.10_CSP Habitat Restoration Plan.pdf) for the Proposed Project. A revised HRRP with similar information would be prepared to address any and all new habitats identified along the Highway 6 Alternative alignment and impacts thereto.

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Job Title: Sr. Construction Project Manager
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Question 11:
Cost Estimate and Routing
SCE has indicated in a meeting with CPUC that a Southern Route Alternative (generally following the Highway 168 alignment to Big Pine, and then following Highway 395 to Bishop) would cost substantially more than the Proposed Project. Based on the meeting, this would be due to the need to establish a new sub transmission line route (and associated access roads) through rugged terrain, the longer length of the line, and the need to construct a new substation in Big Pine. Please provide a rough/conceptual cost estimate for a Southern Route Alternative and identify a proposed (conceptual) route in GIS. Additionally, please elaborate on the factors that could make construction of such an alternative technically challenging and/or costly, as well as the environmental impacts that SCE believes could be exacerbated by the alternative.

Response to Question 11:
During the 2017-2019 timeframe while developing the PEA, SCE evaluated a possible alternative route running south along Highway 395 from Control Substation to Big Pine, then turning east and running directly along Highway 168 to the Fish Lake Valley area. However, upon further analysis, SCE determined that this alternative would be much more costly and would be more environmentally impactful than the proposed project route. This is primarily because the approximately 12 mile stretch along Highway 168, between Highway 395 and White Mountain Road, traverses an extremely complex and dangerous portion of Highway 168 due to its narrow and winding path. The increased overall line length would also necessitate a system conversion from 55kV to 115kV (similar to the Highway 6 Alternative). In addition, it would require adding a new 16-mile long 115kV line south from Control Substation to Big Pine, which would parallel the double-circuited Ivanpah-Control 115kV project alignment, increasing the identified impacts along that corridor. For these reasons, this potential alternative was not moved forward to be discussed in the PEA.

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Question 12:
Alternative Characteristics
CPUC would like to consider and document an Undergrounding Alternative for the Alternatives Screening Report. This would involve rebuilding Segments 2 and 3 as underground (rather than overhead) subtransmission lines. At a conceptual level, please provide information on such an alternative:
a. Estimated route (to the extent it would differ from the Proposed Project overhead route for Segments 2 and 3); provide a figure and/or GIS files, as applicable.
b. Alternative components (e.g., duct bank dimensions/depth of installation; splice vaults [if needed]; transition stations [if needed], etc.).
c. Construction methods description (e.g., trenching, excavation for splice vaults, etc.), including any technical challenges of constructing an underground subtransmission line through steep/rugged terrain.
d. Estimated cost.
e. Operations and maintenance considerations (e.g., possible need to maintain alignment free of woody vegetation to protect underground facilities).

Responses to Question 12:

a. Based on the overall length of the Proposed Project and the extremely difficult terrain throughout the majority of the length of Segments 2 and 3, SCE is not able to determine a comprehensive underground route concept for these segments. While there may be subsets of each segment where undergrounding may be possible, it is too speculative in nature for SCE to identify potential undergrounding candidate locations compared to those that the CPUC may choose based on an intention to avoid significant impacts.

b. While SCE has not designed an underground alternative that would rebuild Segments 2 and 3 as underground subtransmission lines, SCE can provide a description of the various components of an underground system. Undergrounding typically requires installation of duct banks, splicing vaults, and riser poles. Duct banks that support two separate subtransmission circuits consist of eight 5-inch conduits installed in a trench approximately 20 inches wide and 60 inches deep. Splicing vaults, sized 10-feet wide by 20-feet long and 8-feet deep, are typically installed every 1,000-2,000 linear feet, or sometimes less, depending on how many horizontal and/or vertical bends there are in that distance (to avoid over stressing the electrical cables when being pulled in for installation). Riser poles (TSPs) are installed at the locations where the underground cables transition to an overhead position. (No transition stations are

necessary for 55kV underground construction.)

c. While SCE has not designed an underground alternative that would rebuild Segments 2 and 3 as underground subtransmission lines, SCE can provide a general description of the construction methods typically used to build an underground system. Trenching and structure excavations are usually performed with a backhoe or larger excavator, with associated dump trucks collecting the spoils for offsite disposal. When completed, the ducts and structures are usually encased within a 2-sack slurry material for additional stability and heat dissipation. In steep/rugged terrain, the number of pulling structures would increase dramatically due to the increased number of horizontal and vertical bends required to follow the terrain, which would result in significantly more ground disturbing impact overall.

d. SCE has not designed an underground alternative that would rebuild Segments 2 and 3 as underground subtransmission lines. Because there is no detailed information regarding the specific location or total mileage of undergrounding, SCE cannot provide a true cost estimate. However, SCE's unit cost estimating process currently assumes underground subtransmission facilities would range in cost from approximately $8M per mile for flat terrain areas to as much as $16M per mile for mountainous terrain areas.

e. Operations and maintenance considerations for any underground system are very similar in nature, requiring annual inspections within every structure and reliable access along the full length of the line. Based on the increased number of pulling structures in areas with steep/rugged terrain, and the additional time it takes to inspect underground structures when compared to overhead facilities, SCE anticipates that annual inspections of an extensive underground system in the areas of Segments 2 and 3 would be more time consuming than it would be for an equivalent overhead system in less mountainous terrain.

Southern California Edison
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DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Kashif Siddiqi
Job Title: Sr. Construction Project Engineer
Received Date: 8/30/2024

Response Date: 1/6/2025

Question 13:
Underground Cable Installation
Clarify whether underground cable installation would occur at/adjacent to the White Mountain Substation. Sections 3.3.2.2.3, 3.3.7, 3.3.14.1, and 3.5.5.3 of the PEA indicate that fiber optic cable would be installed underground at and in the vicinity of only Control Substation and the Fish Lake Valley Metering Station. However, Figure Set 3.5-3 of the PEA appears to show new underground telecommunication segments around White Mountain Substation as well. Please clarify the discrepancy. If underground cable installation work would occur at White Mountain Substation, provide an updated version of Table 3.5-5 showing substation surface disturbance information that includes White Mountain Substation.

Response to Question 13:
Yes, SCE intends to install underground fiber optic cabling to the White Mountain Substation, as shown in PEA Figure Set 3.5-3. That detail should have been included in Sections 3.3.2.2.3, 3.3.7, 3.3.14.1, and 3.5.5.3 of the PEA. The installation method(s) would be similar to those described in those sections.

An updated version of Table 3.5-5, showing the substation surface disturbance information for the White Mountain Substation area, as well as updated values for the installations expected to occur at Control Substation and the Fish Lake Valley Metering Station, is included below.

	Underground Length (feet)		**Number of Pull Boxes**		**Area Disturbed (acres)**	
Substation	**Inside Substation**	**Outside Substation**	**Inside Substation**	**Outside Substation**	**Inside Substation**	**Outside Substation**
Control	50 ~~500~~	209 ~~140~~	0	1	0.03 ~~0.23~~	0.10 ~~0.06~~
White Mountain	60	440	0	6	0.03	0.21
Fish Lake Valley Metering Station	50 ~~300~~	325 ~~65~~	0	4	0.15 ~~0.14~~	0.03
Substation Total	**160 ~~800~~**	**974 ~~205~~**	**0**	**~~11~~ 5**	**0.21 ~~0.37~~**	**0.34 ~~0.09~~**

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DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
Received Date: 8/30/2024

Response Date: 12/31/2024

Question 14:
Updated Sensitive Species and Habitat Surveys
The June 2019 TLRR Sensitive Species and Habitat Report (PEA, Appendix C) indicates that the last field survey for the Proposed Project alignment was performed in 2018. We understand that BLM has requested updated surveys, and the CPUC will also require updated surveys. Please provide updated survey reports for the Proposed Project.

Response to Question 14:
Attached is a report (CPUC-SCE-Hwy6 Alt-002 Q.14Botanical Addendum.pdf) that presents the findings of special-status plant surveys performed in 2023. While there are some incidental observations of special-status wildlife species described in this report, there was no specific effort at that time to generate an updated wildlife species survey.

SCE also provided the attached report to the CPUC via secure file transfer from SCE's account on 11/30/2023.

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DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Mindy Davis
Job Title: Environmental Advisor
Received Date: 8/30/2024

Response Date: 1/2/2025

Question 15:
Greater Sage Grouse
Provide the most updated version of SCE's Sage Grouse Management Plan.

Response to Question 15:
Attached is a DRAFT Sage Grouse Management Plan (CPUC-SCE-Hwy6 Alt-002 Q.15_CSP GSG Protection Plan.pdf). Please be advised that this document has not yet been reviewed with representatives from the U.S. Fish and Wildlife Service, so SCE expects there will be modifications to this Plan.

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DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Scott Lacy
Job Title: Sr. Construction Project Manager
Received Date: 8/30/2024

Response Date: 1/2/2025

Question 16:
Airport Comprehensive Land Use Plan
Could you provide a copy of the Inyo County Airport Land Use Commission's Policy Plan and Airport Comprehensive Land Use Plan (CLUP), dated December 1991, referred to in the PEA?

Response to Question 16:
The pertinent sections of the Inyo County Airport Land Use Commission's Policy Plan and Airport Comprehensive Land Use Plan (CLUP) dated December 1991, are shown below.

Note: The analysis initially presented in PEA Section 5.9.1.2 was calculated based on this same language. However, when preparing this response, it became clear that a reinterpretation of Section D, Horizontal Surface, specific to the Bishop Airport (**emphasis** shown below) was warranted. SCE has identified that the initial analysis was based on the five-thousand-foot criteria, when it should have incorporated the ten-thousand-foot option. When that measurement is used properly for the Bishop Airport, the correct length of the Project that falls within the footprint of the Airport Hazard (AH) Overlay District (which consists of a two-dimensional projection of the combined Horizonal and Conical Surfaces) would be approximately 10.6 line-miles, as opposed to the 6.1 line-miles identified in the original PEA language. Please see the graphic included below the ordinance language for more clarity.

Inyo County Ordinance

The AH district consists of five surfaces and one zone for the purpose of airport zoning. Each of the surfaces as defined in this section and as depicted on the zoning map establish the height limitations necessary to accomplish the intent of the AH overlay district. The surfaces and zone of the AH district are as follows:

A. Primary Surface. The primary surface is a surface longitudinally centered on the runway. When the runway has a specifically prepared hard surface, the primary surface extends two hundred feet beyond each end of the runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point of the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is two hundred fifty feet for all runways at all airports except for the nonprecision runways at Bishop and Lone Pine Airports where the width is five

hundred feet.

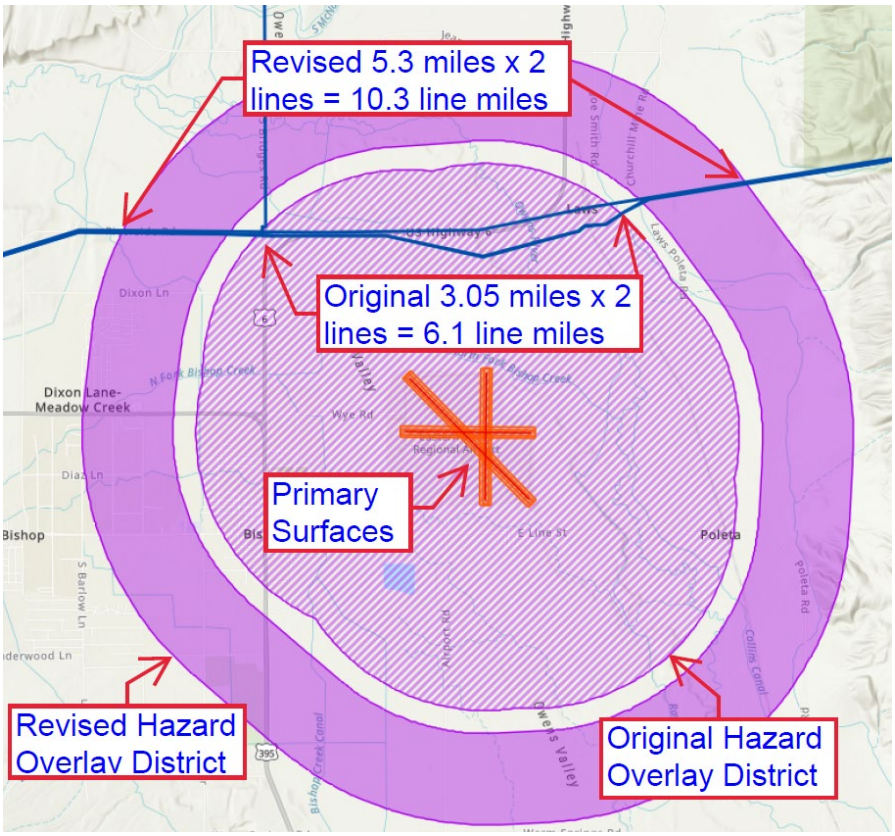
B. Approach Surface. The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end. The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of one thousand two hundred fifty feet, at five thousand feet in length with an approach slope of 20:1, for that end of all runways at all public use airports in Inyo County except for those nonprecision instrument runways at Bishop and Lone Pine Airports where the approach surface expands uniformly, from the primary surface, to a width of three thousand five hundred feet, at ten thousand feet in length with an approach slope of 34:1.

C. Transition Surface. These surfaces extend outward and upward at right angles to the runway center line and the runway centerline extended at a slope of 7:1 from the sides of the primary surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface extend a distance of five thousand feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

D. Horizontal Surface. The horizontal surface is a horizontal plane one hundred fifty feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is five thousand feet for all runways in Inyo County **except for those nonprecision runways at Bishop and Lone Pine Airports where the radius of each arc is ten thousand feet**.

E. Conical Surface. The conical surface is a surface extending outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of four thousand feet.

F. Runway Protection Zone. The runway protection zone is the land area which lies under the approach surface from the end of the primary surface for a distance of one thousand feet for all runways at all public use airports in Inyo County except for those nonprecision runways at Bishop and Lone Pine Airports where the distance is one thousand seven hundred feet.


Revised 5.3 miles x 2 lines = 10.3 line miles
Original 3.05 miles x 2 lines = 6.1 line miles
Primary Surfaces
Revised Hazard Overlay District
Original Hazard Overlay District
Dixon Lane-Meadow Creek
Bishop
Poleta
Dixon Ln
Wye Rd
E Line St
Owens Valley
Poleta Rd
S Barlow Ln
Collins Cond
Bishop Creek Canal

Southern California Edison
A.21-08-009 – TLRR CSP PTC

DATA REQUEST SET C P U C - S C E - 0 0 2

To: CPUC
Prepared by: Scott Lacy
Job Title: Sr. Construction Project Manager
Received Date: 8/30/2024

Response Date: 1/2/2025

Question 17:
Cumulative Project Status
The PEA identified several cumulative projects which we were not able to locate online. Could you provide a status update on these projects (e.g., whether they are completed or still ongoing/planned)?:
a. SCE-2: SCE Control-Silver Peak 55 kV Reliability Project
b. SCE-3: Zack 55/12 kV (D): HFRA RTU CB Relay Upgrades - (1) Total Relay
c. SCE-4: Zack 55/12 kV (D): Replace station battery (ZACK SWITCHER Battery)

Responses to Question 17:

a. The Control-Silver Peak 55kV Reliability Project, which consisted of the installation of remote fault indicators, packet routers, and of remote pole-top switches, was completed in 2022.

b. The relay upgrade project at Zack Substation was completed in 2022 and was performed entirely within the substation boundary.

c. The battery replacement project at Zack Substation was completed in 2022 and was performed entirely within the substation boundary.