Southern California Edison
A.19-07-015 – TLRR IC

DATA REQUEST SET E D - S C E - 0 1 7

To: Energy Division
Prepared by: Scott Lacy
Job Title: Sr. Construction Project Manager
Received Date: 9/19/2024

Response Date: 10/18/2024

Question 17-1:
17-1: Confirmation of Structure Heights Based on SCE's GIS data provided to us, we have created a table of structure heights for Segments 1 and 2. Please review the heights shown in Attachment 1 and confirm that we have properly matched the locations of structures to be removed with locations of new structures. Please also review the calculations for "Height Increase %" (column G) and confirm that this accurately shows the percent of height increase between each pair of structures (showing the increase from existing to proposed structure heights)

Response to Question 17-1:

Please refer to the attached spreadsheet for additional embedded comments regarding the summary of the structure pairings in IC Segments 1 and 2. The tabs in this file (one for each segment) each contain the following:

Column A – New STR_ID

SCE's list of all the new structures to be installed. There are a few more structures listed than were included in CPUC's table; structures in the SCE list that aren't included in the CPUC list are indicated with the flag "Not in CPUC table" in columns C, E, and G.

Column B – Remove STR_ID (Arcadis)

For each of the new structures in column A, the corresponding structure to be removed, according to SCE analysis.

Column C – Remove STR_ID (CPUC)

For each of the new structures in column A, the corresponding structure to be removed, according to CPUC's analysis.

Column D – New STR_HT (Arcadis)

The height of each new structure in column A, according to SCE analysis.

Column E – New STR_HT (CPUC)

The height of each new structure in column A, according to CPUC's analysis. For all cases in which the SCE and CPUC lists both included the same new structure in their respective analyses, these heights remain consistent and match up correctly; no height discrepancies were found.

Column F – Remove STR_HT (Arcadis)

The height of each structure to be removed in column B, according to SCE analysis.

Column G – Remove STR_HT (CPUC)

The height of each structure to be removed in column C, according to CPUC's analysis. For all cases in which the SCE and CPUC lists paired the same two structures together (which is the vast majority of cases), these heights remain consistently matched; no height discrepancies were found.

Column H – Discrepancy

Comment detailing the discrepancy between SCE and CPUC lists for pairing of each new structure, if applicable; there are 14 discrepancies in Segment 1 and 2 discrepancies in Segment 2.

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Question 17-2:
17-2: Explanation of Proposed Structure Heights

We anticipate some public concern about the proposed increase in structure heights, so it would be helpful to have SCE explain its design rationale.

1. Please explain how new structure heights were developed in general for Segments 1 and 2. We understand that average span lengths are longer with the Proposed Project, but that does not appear to be the only factor in structure height determination.
2. **Segment 1 vs. Segment 2.** Please explain generally why the structure height increases are substantially greater in Segment 1 than in Segment 2. For example:
    a. 29% of structures in Segment 1 are increasing by more than 40% in height, compared with 13% of structures in Segment 2 that are increasing by more than 40% in height.
    b. 25% (224) of the structures in Segment 1 would be over 100' tall, compared with 14% (47) of the structures in Segment 2. Because the average height now in Segment 1 is about 70 feet, this is significant and noticeable increase.
3. **Proposed structures #33 to #38** pass through a group of residences off of Sunland Road south of Bishop. These proposed Project shows a new multi-pole structure of 120 feet in height replacing

   an existing lattice structure that is less than 70 feet tall. This structure is located between 2 residences. There are no structures eliminated between #28 and #39, so there are no increased span lengths that would drive the need for taller structures. Two questions:
    a. Please explain the rationale for the proposed tower heights in this location. We note that this location is also defined in the EMF Field Management Plan (page F-105, F-106) and achieves a 98% reduction in magnetic field; if EMF mitigation alone drove the height increase, please explain.
    b. Please explain why multi-pole structures (up to 120 feet in height) rather than monopoles are proposed for structures #35 through 38.
4. The GIS data provided for **Segments 3N and 3S** show simply "New-R-EX" as the structure status (meaning "a new structure replaces an existing structure at this location"). One data point for structure height is included for each location. Because we have not been given height for the existing structure vs the new structure, is it accurate to assume that the replacement structures would be the same height as the existing structures?

Response to Question 17-2:

1. SCE developed new structure heights for Segments 1 and 2 using industry-accepted design standards and philosophy. Designing appropriate structure heights requires balancing various factors, including, but not limited to: design philosophy (e.g., placing new structures near existing structures, lengthening spans, siting new structures within or adjacent to existing easements or rights-of-way, attempting to match new structure types to the existing types (e.g., installing a new dead-end structure where an existing dead-end is located), minimizing overall surface disturbance, etc.); meeting required ground clearances given land use, topography, and natural and anthropogenic features; and conductor selection and operating parameters.

2. The larger increases in structure heights in Segment 1, compared to Segment 2, are mainly due to the more varied topography and surface profiles present throughout the segment. These characteristics were considered in the design of the structures.

3.

    a. The heights of proposed structures #33 to #38 are a function of topography, surface profile, and land use in this area. This is primarily due to the community and the hill located along the path of the proposed structures, which necessitate an increase in height to meet clearance requirements. The resultant EMF mitigation, while notable, was not a factor in the design effort.

    b. In this specific case, the use of multi-pole structures is an engineering necessity. These multi-pole arrays are all dead-end structures due to the angles in the line and the topography in this area. If single monopole TSP structures were to be used, they would need to be much bigger in both height and diameter and therefore require much larger foundations. The use of monopoles rather than multi-pole structures would be subpar from an engineering and line safety perspective as the monopoles would be taller, wider, and have a larger overall footprint than a multi-pole structure to achieve the same objective.

4. Yes, based on the current level of design, it is expected that the typical replacement structures identified in Segments 3N and 3S would be approximately the same height as the existing structures (within plus or minus 10 percent).

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Question 17-3:
17-3: Questions on EMF Field Management Plan

Appendix F to the PTC Application was the EMF Field Management Plan (FMP). We understand that EMF is not evaluated as an impact under CEQA, but we present the FMP as an appendix to the EIR and need to be able to explain it and its context. Please answer the following questions, related to "**Residential Graphs**" which begin on page F-105 of the appendix.

1. **Segment 1** (page F-105) shows a post-construction decrease in magnetic field of 98% at structures
   #36 and 37. Other residential areas (see items 2 and 3 below) show reductions of from 5% to 75%. What is the target reduction percentage for magnetic field? Could it be achieved with a shorter structure?

2. **Segment 2** (page F-115) is in Randsburg (Structures 121165-121166). The field strength here shows a decrease of magnetic field of between 71-75%. Is this reduction entirely due to the structure height increase (#121165 would go from 70 to 82 feet tall, and #121166 would go from 70 to 92 feet tall)?

3. **Segment 3S** (page F-119) addresses "Section 1, 3192 (Str. NA560118AE_SA560118BE) – 3193 (NA560117AE_SA560117BE)" and shows a 5-7% decrease in magnetic field as a result of the project. However, our GIS data shows that neither of these structures would be replaced. Please explain the stated reduction in field strength. Is it simply the conductor phasing?

4. **Segment 3S** (page F-121) addresses "Section 1, Str. 3217 (NA560194AE_SA560194BE) – 3218 (NA560193AE_SA560193BE)." These structures are located in a residential area of unincorporated Barstow, along Bonanza Road between N Street and O Street, where no structures are proposed to be replaced. The data shows a 5-8% decrease in magnetic field strength at these locations. Please explain the stated reduction in field strength. Is it simply the conductor phasing?

Response to Question 17-3:

1. As stated in CPUC Decision 06-01-042 (p. 10) and referenced on page F-20 in the Field Management Plan, the targeted reduction percentage at the edge of the right-of-way (ROW) for implementing low-cost magnetic field reduction measures is 15% or greater. The proposed structure heights at this location are necessary, as designed, to meet GO 95 clearance requirements. Shorter structures would not meet GO 95 clearance requirements

and therefore were not proposed.

2. Similar to Question 17-3.1, the design for this specific location was focused on correcting the pre-existing GO 95 discrepancies, not reducing the magnetic field. By utilizing taller structures and great conductor tensions to achieve GO 95 compliance, a reduction in the magnetic field also results. Furthermore, in Segment 2 additional magnetic field reduction would occur because the proposed design is a single circuit configuration, compared to the existing double-circuit configuration with the worst-case phasing for magnetic field result at the ROW edges.

3. Segment 3S is a single circuit configuration, therefore, any changes in the phasing orientation would not change the magnetic field levels. The calculated reduction is due to the higher minimum ground clearance that will be achieved through the reconductoring effort identified in the Proposed Project.

4. Please see the response to 17-3.3 which applies the same method (reconductoring work) within the unincorporated Barstow residential area, along Bonanza Road between N Street and O Street.