

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-01:

GENERAL

PHS-1 Please confirm that when the Field Management Plan (FMP) indicates existing magnetic field levels it includes the field from 66 kV and 220 kV lines that exist today but will be removed or relocated as part of the project.

Response to Question PHS-01:

Confirmed. The FMP includes calculated field levels created by 66 kV and 220 kV lines that exist today but will be removed or relocated as part of the Project. Please refer to the FMP, Segment 1 analysis, pp. 30-42.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-02:

GENERAL

PHS-2 What is the line loading condition assumed for the “existing” and “proposed” cases in the EMF models?

Response to Question PHS-02:

The line loading conditions for the “existing” and “proposed” cases used in the EMF models were provided by SCE’s Transmission & Interconnection Planning Group and were based on their load flow analysis of 2013 and the year of WOD Upgrade Project in-operation load flow study. These line loading conditions are listed in Tables 24 and 25 on pp. 100 and 101 of the FMP.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-03:

GENERAL

PHS-3 It is explained that the 220 kV structures being removed are replaced by similar but stronger structures. Is the conductor spacing, center-to-center, both vertically and horizontally, the same on the new structures as on the old structures? If not, please provide the old and new dimensions.

Response to Question PHS-03:

The only 220 kV structures that would be removed and replaced with similar structures are double-circuit lattice steel towers (LSTs).

Existing LSTs:

Overall tower height: Varies

Vertical conductor to conductor spacing (phase-to-phase): approximately 17 feet

Horizontal conductor spacing (one circuit to another on the same crossarm level): 30 feet

Proposed LSTs:

Overall tower height: 110 to 184 feet

Vertical conductor to conductor spacing (phase-to-phase): approximately 18.5 feet

Horizontal conductor spacing (one circuit to another on the same crossarm level): 30 feet.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-05:

GENERAL

PHS-5 For the option of utilizing taller structure heights, it is indicated that the structures would be 15 feet taller. However, it is also noted the conductor ground clearance would only increase by 8 feet. This appears to be conflicting – if all parameters (loading, conductor tension, phase arrangement) are kept the same and only the structure height is varied, the clearance to the low point of conductor sag should increase the same amount as the structure height increase. Please clarify how EMF was modeled.

Response to Question PHS-05:

Using the average conductor calculation methodology described in response to Question No. PSH-4, an increase in 15 feet in structure height would result in an 8-foot average conductor height increase. Therefore, by raising the minimum ground clearance by 8 feet between 110-foot structures would achieve the same result as raising the 110-foot structures by 15 feet. SCE will assess the feasibility of either raising the structure height or the minimum ground clearance during final engineering.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-06:

GENERAL

PHS-6 The magnetic field levels vary from one side of the ROW to the other depending upon where lines are located within the ROW. Why was only one-side of the ROW considered when calculating the percentage reduction obtained from the various design options?

Response to Question PHS-06:

The FMP graphs present the calculated magnetic field levels across the entire width of right-of-way (ROW). Contrary to what the question states, both sides of the ROW were considered when calculating percentage reduction in calculated field levels. Please refer to the tables in the FMP for calculated percentages reduction of magnetic on both sides of the ROW for all segments.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-07a:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-7 Model 1 – San Bernardino Substation to West Lugonia Avenue.

a. In this Model it appears the FMP has retained the two 66 kV circuits on the west side of the right-of-way (ROW), refer to Figures 3 & 4. It is our understanding that these lines were to be removed and the results would be the similar to those shown for Model 2 where the two 66 kV circuits have been removed. Please clarify and revise the analysis in this area, if necessary.

Response to Question PHS-07a:

There are four existing 66 kV circuits on the west side of the ROW in Segment 1 as shown in figures on page 103 of the FMP. Only two 66 kV circuits would be removed and relocated from the ROW in this portion, which is from San Bernardino Substation to West Lugonia Avenue. The remaining existing two 66 kV circuits on the west side turn west and away from the ROW on West Lugonia Avenue.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-07b:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-7 Model 1 – San Bernardino Substation to West Lugonia Avenue.

b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. However, it is noted that this section is adjacent to a commercial/industrial area. Are any taller structures planned in this area and if so where?

Response to Question PHS-07b:

The exact structure heights will be determined during final engineering. The EMF analysis was done based on the preliminary engineering design and the shortest proposed structure height of 110 feet. By increasing the structure height to 125 feet or by elevating the minimum ground clearance by 8 feet of the conductors near those short structures would achieve a 15% reduction at the edges of the ROW. Based on the preliminary engineering design, there is no structure shorter than 125 feet. Therefore, there would not be any structure height raised specifically for EMF reduction purpose in this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-07c:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-7 Model 1 – San Bernardino Substation to West Lugonia Avenue.

c. In this model the existing and proposed double-circuit 220 kV structures appear to be approximately 50 feet apart (Figure 4) and roughly centered in the 245 foot ROW. Please confirm the circuit spacing used for the EMF modeling.

Response to Question PHS-07c:

Confirmed. The proposed double-circuit 220 kV structures used in the EMF modeling are 50 feet apart and located in the center of the 245-foot ROW. The actual distance between the two sets of towers after construction might vary slightly, but they are currently planned to be approximately 50 feet apart in this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-08a:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-8 Model 2 – West Lugonia Ave to Redlands Boulevard. Note that in this Model it appears the FMP has removed the two 66 kV circuits on the west side of the right-of-way (ROW) (see Figures 5 & 6).

a. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. However, it is noted that this section is adjacent to a commercial/industrial area. Are any taller structures proposed in this area, and if so where?

Response to Question PHS-08a:

Figures 5 and 6 in the FMP correctly depict the proposed configuration in the SCE ROW where there will be no 66 kV circuits on the west side of the ROW for this section. The existing San Bernardino-Redlands-Timoteo and San Bernardino-Redlands-Tennessee 66 kV lines turn west on West Lugonia Avenue north of this section. The exact structure heights will be determined during final engineering. The EMF analysis was done based on the preliminary engineering design and the shortest proposed structure height of 110 feet. By increasing the structure height to 125 feet or by elevating the minimum ground clearance by 8 feet of the conductors near those short structures would achieve a 15% reduction at the edges of the ROW. Based on the preliminary engineering design, there is no structure shorter than 125 feet. Therefore, there would not be any structure height raised specifically for EMF reduction purpose in this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-08b:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-8 Model 2 – West Lugonia Ave to Redlands Boulevard. Note that in this Model it appears the FMP has removed the two 66 kV circuits on the west side of the right-of-way (ROW) (see Figures 5 & 6).

b. In this model the new double-circuit 220 kV structures appear to be nearly 100 feet apart. Please confirm the circuit spacing used for the EMF modeling. It appears that the alignment and spacing of the 220 kV circuits used for Model 1 could be maintained in this area, and this spacing would reduce the magnetic field level at edge of ROW.

Response to Question PHS-08b:

The two 220 kV double-circuit structures are approximately 90 feet apart due to the engineering requirement of keeping the same alignment as in Segment 1 Model 1 section. The resulting calculated field level at the west ROW edge is less than 5% higher than the section where the two structures are 50 feet apart. There is a double-circuit 66 kV structure on the east side of the ROW in this section, and it is not comparable to the Segment 1 Model 3 section, which has no 66 kV circuits in the ROW in the proposed design.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-09b:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-9 Model 3 – Redlands Boulevard to Barton Road. Note that in this Model it appears the FMP has shown that there are no 66 kV circuits on the ROW, either existing or proposed. Refer to Figures 7 & 8.

b. In this model the existing and proposed double-circuit 220 kV structures appear to be approximately 50 feet apart (Figure 4) and roughly centered in the 150 foot ROW. Please confirm the circuit spacing used for the EMF modeling.

Response to Question PHS-09b:

Confirmed. The proposed double-circuit 220 kV structures are 50 feet apart in the EMF modeling for this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-10a:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-10 Model 4 – Barton Road to San Bernardino Junction. Note that in this Model it appears the FMP has shown that there are no 66 kV circuits on the ROW, either existing or proposed. Refer to Figures 9 & 10.

a. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where adjacent to populated areas. This section is adjacent to residential areas for roughly 60% of its length. Is it planned to use taller structures only in the areas adjacent to residences (if so, which structures) or for this entire section?

Response to Question PHS-10a:

- a. Yes, it is correct that there are no 66 kV circuits within the SCE ROW in this section in the proposed configuration. The exact structure heights will be determined during final engineering. The EMF analysis was done based on the preliminary engineering design and the shortest proposed structure height of 110 feet. By increasing the structure height to 125 feet or by elevating the minimum ground clearance of the conductors near those short structures would achieve a 15% reduction at edges of the ROW. From the preliminary engineering design, there is no structure shorter than 125 feet near populated areas. Therefore, there would not be any structure height raised specifically for EMF reduction purpose in this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-10b:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-10 Model 4 – Barton Road to San Bernardino Junction. Note that in this Model it appears the FMP has shown that there are no 66 kV circuits on the ROW, either existing or proposed. Refer to Figures 9 & 10.

b. In this model the existing and proposed double-circuit 220 kV structures appear to be approximately 50 feet apart (Figure 4) and roughly centered in the 150 foot ROW. Please confirm the circuit spacing used for the EMF modeling.

Response to Question PHS-10b:

Confirmed. The two 220 kV double-circuit structures are 50 feet apart in the EMF modeling for this section.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-10c:

GENERAL

SEGMENT 1 – San Bernardino Substation to San Bernardino Junction

PHS-10 Model 4 – Barton Road to San Bernardino Junction. Note that in this Model it appears the FMP has shown that there are no 66 kV circuits on the ROW, either existing or proposed. Refer to Figures 9 & 10.

c. It appears the magnetic field level for the east edge of the ROW for the existing scenario should be the same for Models 3 and 4. This is not the case and it appears this may be due to an inadvertent transposition of a number. Please confirm whether the magnetic field at the east edge should be 66.7 mG or 67.6 mG.

Response to Question PHS-10c:

There is a difference between Models 3 and 4. Model 3 has 66 kV double-circuit structures on the west side of the ROW in the existing configuration. The 66 kV double-circuit structure is missing from the Segment 1 Model 3 Existing Configuration cross-sectional figure on the top figure on page 104 which might lead to the confusion. The revised figure attached to SCE's response to Question No. PHS-09a should be used to replace the top figure on page 104 in the FMP. The calculated existing magnetic field levels for Model 3 and Model 4 are indeed 66.7 milligauss (mG) and 67.6 mG, respectively.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-11:

GENERAL

SEGMENT 2 – San Bernardino Junction to Vista Substation

PHS-11 Model 1 – Area of Barton Road and East Hilltop Drive. For this Model, Table 1 indicates, "Yes", for utilizing taller structures where adjacent to populated areas. This section is adjacent to residential areas and there is substantial topography variation resulting in the residences on the north side of the ROW being at the same elevation or below the base of the structures while the residences on the south of the ROW are on a ridge top and near the conductor level of the lines. It is noted that the proposed project with phasing results in magnetic fields less than existing. This appears to be the case for the homes to the north. Has SCE considered the location of the houses to the south and can SCE provide magnetic modeling for the elevations where the homes are much closer to the elevation of the conductors?

Response to Question PHS-11:

As explained in response to Question No. PHS-4, the purpose of using computerized EMF models to calculate EMF levels is not to predict numerical EMF levels at any given time or at any given location, but to compare among various designs. The terrain is not being considered in the EMF models.

There are scattered homes on the south side of the ROW in this section. However, despite the terrain changes, the homes on the north side of the ROW are at a much closer linear distance to the proposed transmission line conductors compared to the homes on the south side of the ROW. The increased conductor height in this section would result in greater than 15% magnetic field reduction at the north ROW where residences are close to the ROW edge. Conversely, homes on the hills on the south side of the ROW are approximately 200 feet or more from the center of the proposed transmission structures. At this distance, any increase in tower height would have limited effect on linear distance between homes the conductors, and would result in minimal changes in calculated magnetic field.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-12:

GENERAL

SEGMENT 2 – San Bernardino Junction to Vista Substation

PHS-12 Model 2 – South Lauralwood Avenue & South Walter Court. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. This section is adjacent to residential areas for a relatively small portion of its overall length. Has SCE proposed to use taller structures only in the areas adjacent to residences (if so, which structures) or for this entire section?

Response to Question PHS-12:

The exact structure heights will be determined during final engineering. The EMF analysis was done based on the preliminary engineering design and the shortest proposed structure height of 110 feet. By increasing the structure height to 125 feet or by elevating the minimum ground clearance by 8 feet of the conductors near those short structures would achieve a 15% reduction at the edges of the ROW. From the preliminary engineering design, there is no structure shorter than 125 feet near populated area. Therefore, there would not be any structure height raised specifically for EMF reduction purpose in this section unless the final engineering calls for shorter than 125-foot structures near populated areas for other engineering reasons. Structures not near populated areas are not recommended for increased structure height or elevated minimum ground clearance per CPUC direction in OIR Decision (D.)06-01-042, which states “...as explained above with regard to undeveloped land, it is not in the interest of ratepayers who must bear utility construction costs to speculate about future land uses and pay additional costs that cannot be justified by what is unknown at the time a FMP is developed.” CPUC D.06-01-042, Section IX, p. 14.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-13:

GENERAL

SEGMENT 3 – San Bernardino Junction to El Casco Substation

Comment : The description of the area analyzed notes it is near Helena Street inside Fisherman's Retreat, this appears to be Eucalyptus Lane shown on sheet 46 of the SCE Map Book.

PHS-13 For this Model, Table 1 indicates, "Yes", for utilizing taller structures where the lines would be adjacent to populated areas. Large portions of this segment are in undeveloped areas. Therefore, please describe which specific areas or structures are planned for the use of taller structures.

Response to Question PHS-13:

The exact structure heights will be determined during final engineering. The EMF analysis was done based on the preliminary engineering design and the shortest proposed structure height of 110 feet. By increasing the structure height to 125 feet or by elevating the minimum ground clearance by 8 feet of the conductors near those short structures would achieve a 15% reduction at the edges of the ROW. From the preliminary engineering design, there is no structure shorter than 125 feet near populated area. Therefore, there would not be any structure height raised specifically for EMF reduction purpose in this section unless the final engineering calls for shorter than 125-foot structures near populated areas for other engineering reasons. Structures not near populated areas are not recommended for increased structure height or elevated minimum ground clearance per CPUC direction in OIR Decision (D.)06-01-042, which states "...as explained above with regard to undeveloped land, it is not in the interest of ratepayers who must bear utility construction costs to speculate about future land uses and pay additional costs that cannot be justified by what is unknown at the time a FMP is developed." CPUC D.06-01-042, Section IX, p. 14.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-14a:

GENERAL

SEGMENT 4 – El Casco Substation to San Gorgonio Avenue, Banning

PHS-14 Are taller structures proposed for the entire section of each of the following models?

a. **Model 1 – Area East of El Casco Substation prior to area where ROWs merge.** For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Note that this section is adjacent to residential areas and the proposed lines have been moved to the edge of the ROW resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that locating the lines in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

Response to Question PHS-14a:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas for the reason stated in response to Question No. PHS-12.

Please see SCE’s response to Completeness Review Question No. 2.c regarding the reason for the placement of the proposed transmission lines near one side of the ROW.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-15:

GENERAL

SEGMENT 5 – San Gorgonio Avenue, Banning to Rushmore Avenue, Whitewater PHS-15 Model 1 – San Gorgonio Ave to area of Robertson’s sand and gravel (Sheet 27 to Sheet 25). This section is within existing ROW and in generally undeveloped areas and the proposed lines have been moved to the edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that locating the lines in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-15:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas, not the entire section, for the reason stated in response to Question No. PHS-12.

Please see SCE’s response to Completeness Review Question No. 2.c regarding the reason for the placement of the proposed transmission lines near one side of the ROW.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-16:

GENERAL

SEGMENT 5 – San Gorgonio Avenue, Banning to Rushmore Avenue, Whitewater PHS-16 Model 2 – Robertson’s sand and gravel to Malki Road (Sheet 25 to Sheet 21). This section is within a new 150 foot ROW and is in generally undeveloped areas with the proposed lines located in the center of the ROW. This placement results in relatively similar fields on each side of the ROW. For this area the use of taller structures for EMF management was not considered.

In the mapping provided, the extent or boundary for the transmission line ROW when located on Morongo tribal lands is not shown. The text on page 61 regarding Magnetic Field Calculations appears to mistakenly identify Figure 24 and Table 12 in lieu of Figure 25 and Table 13 for this line section. The text also refers to a comparison of existing and proposed design, however since this is a new ROW, there is no existing design for this section. Please provide updated mapping, confirm the correct figure/table, and confirm whether there is an existing design.

Response to Question PHS-16:

The Morongo tribal lands EMF models have not been completed because SCE was waiting on the FAA determinations (to finalize route) and then subsequent discussions with Morongo regarding the placement of the structures on the Reservation. This effort is still in process. Once SCE reaches agreement with Morongo regarding the placement of the structures, SCE will develop the EMF models and submit updated mapping.

The sentence “Figure 24 and Table 12 show the calculated magnetic field levels for the proposed design comparing existing and proposed design without and with field reduction measures.” on page 61 in the FMP should be struck out. The sentence on page 62, copied below, is correctly stated.

“For informational purpose, Figure 24 and Table 12 show the calculated magnetic field values of existing configuration in the existing ROW.”

The sentence below should be inserted above Figure 25 in the FMP.

“Figure 25 and Table 13 show the calculated magnetic field levels for the proposed design comparing without and with field reduction measures.”

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-17a:

GENERAL

**SEGMENT 5 – San Gorgonio Avenue, Banning to Rushmore Avenue, Whitewater
PHS-17 Model 3 – Malki Road to Rushmore Avenue (Sheet 21 to Sheet 14)**

a. Portions of this section are within an existing ROW and portions are within a new 150 foot ROW. In the mapping provided, the extent or boundary for the transmission line ROW when located on Morongo tribal lands is not shown. The text on page 65 regarding Magnetic Field Calculations appears to mistakenly identify Figure 26 and Table 13 in lieu of Figure 27 and Table 14 for this line section. This section is in generally undeveloped areas and it appears the proposed lines have been placed in the center of the existing and new ROWs. This placement results in relatively similar fields on each side of the ROW. Please provide updated mapping and confirm the correct figure/table.

Response to Question PHS-17a:

As discussed in response to Question No. PHS-16, the Morongo tribal lands EMF models have not been completed.

It is true that the sentence on page 65 should read Figure 27 and Table 14. The sentence on page 65 should be replaced by the following sentence:

“Figure 27 and Table 14 show the calculated magnetic field levels for the proposed design comparing existing and proposed design without and with field reduction measures.”

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-17b:

GENERAL

**SEGMENT 5 – San Geronio Avenue, Banning to Rushmore Avenue, Whitewater
PHS-17 Model 3 – Malki Road to Rushmore Avenue (Sheet 21 to Sheet 14)**

b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-17b:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas, not the entire section, for the reason stated in response to Question No. PHS-12

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-18a:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-18 Model 1 – Rushmore Avenue to Amethyst Drive (Sheet 14 to Sheet 13). The spacing of the lines has been increased to 100 feet, as opposed to the 50 foot spacing used to the west of this section. The proposed lines have been moved to the edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that keeping the 50 feet line spacing and locating the lines in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

a. The text on page 68 regarding Magnetic Field Calculations appears to mistakenly identify Figure 28 and Table 14 in lieu of Figure 29 and Table 15 for this line section. Please identify which are the correct figure and table.

Response to Question PHS-18a:

Please see SCE's response to Completeness Review Question No. 2.c regarding the reason for the placement of the proposed transmission lines near one side of the ROW.

It is true that the sentence on page 68 should read Figure 29 and Table 15. The sentence on page 68 should be replaced by the following sentence:

“Figure 29 and Table 15 show the calculated magnetic field levels for the proposed design comparing existing and proposed design without and with field reduction measures.”

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-18b:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-18 Model 1 – Rushmore Avenue to Amethyst Drive (Sheet 14 to Sheet 13). The spacing of the lines has been increased to 100 feet, as opposed to the 50 foot spacing used to the west of this section. The proposed lines have been moved to the edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that keeping the 50 feet line spacing and locating the lines in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-18b:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas, not the entire section, for the reason stated in response to Question No. PHS-12.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-19a:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-19 Model 2 – Amethyst Drive to west of Windhaven Drive (Sheet 13 to Sheet 5). The proposed line in the northern ROW has been moved to the edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. The proposed line in the southern ROW is located in the center of the ROW resulting in similar field strength on each side of the ROW. From an EMF management perspective it would appear that locating the northern line in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

a. In this section the two double circuit lines diverge into separate ROWs. The text on page 71 regarding Magnetic Field Calculations appears to mistakenly identify Figure 30 and Table 15 in lieu of Figure 31 and Table 16 for this line section. Please identify which are the correct figure and table

Response to Question PHS-19a:

Please see SCE's response to Completeness Review Question No. 2.c regarding the reason for the placement of the proposed transmission lines near one side of the ROW.

It is true that the sentence on page 71 should read Figure 31 and Table 16. The sentence on page 71 should be replaced by the following sentence:

“Figure 31 and Table 16 show the calculated magnetic field levels for the proposed design comparing existing and proposed design without and with field reduction measures.”

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-19b:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-19 Model 2 – Amethyst Drive to west of Windhaven Drive (Sheet 13 to Sheet 5). The proposed line in the northern ROW has been moved to the edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. The proposed line in the southern ROW is located in the center of the ROW resulting in similar field strength on each side of the ROW. From an EMF management perspective it would appear that locating the northern line in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-19b:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas, not the entire section, for the reason stated in response to Question No. PHS-12.

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-20a:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-20 Model 3 – Desert View Road & 16th Avenue, North Palm Springs (Sheet 3). The proposed line in the southern ROW is located near the northern edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that locating the southern line in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

- a. At this location the two double-circuit lines are in separate ROWs. The text on page 74 regarding Magnetic Field Calculations appears to mistakenly identify Figure 32 and Table 16 in lieu of Figure 33 and Table 17 for this line section. Please identify which are the correct figure and table.
- b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-20a:

Please see SCE’s response to Completeness Review Question No. 2.c regarding the reason for the placement of the proposed transmission lines near one side of the ROW.

It is true that the sentence on page 74 should read Figure 33 and Table 17. The sentence on page 74 should be replaced by the following sentence:

“Figure 33 and Table 17 show the calculated magnetic field levels for the proposed design comparing existing and proposed design without and with field reduction measures.”

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-03

To: ENERGY DIVISION
Prepared by: Phil Hung
Title: Senior Engineer
Dated: 04/04/2014

Question PHS-20b:

GENERAL

SEGMENT 6 – Rushmore Avenue, Whitewater to North Palm Springs

PHS-20 Model 3 – Desert View Road & 16th Avenue, North Palm Springs (Sheet 3). The proposed line in the southern ROW is located near the northern edge of what is shown as the existing ROW, resulting in much higher magnetic field on one side of the ROW than the other. From an EMF management perspective it would appear that locating the southern line in the center of the ROW would result in lower fields on each side of the ROW compared to the existing condition.

b. For this Model, Table 1 indicates, “Yes”, for utilizing taller structures where the lines would be adjacent to populated areas. Are taller structures proposed for this entire section?

Response to Question PHS-20b:

The exact structure heights will be determined during final engineering. The FMP recommends raising the structure heights or the minimum ground clearance for structures shorter than 125 feet only in populated areas, not the entire section, for the reason stated in response to Question No. PHS-12.