Southern California Edison
WODUP A.13-10-020

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

To: ENERGY DIVISION
Prepared by: Scott Lacy, P.E.
Title: Project Engineer
Dated: 02/12/2015

Question ALT-26a:

ALT-26 Follow-up to SCE response on ALT-19e.

In response for Alt-19e.1a, SCE indicates that for the existing lines the W-series towers are typical for those structures found in Segments 3 through 6, while the N-O-P-Q-series towers are found in Segments 1 and 2.

26a. What tower series does SCE propose use for the Proposed Project?

Response to Question ALT-26a:

The N-O-P-Q series towers are a legacy tower family that are no longer in standard use by SCE. The Proposed Project will utilize only the W-series towers, with the exception of the structures on either side of the Whitewater Crossing, which will utilize a new structure type, named XZ, that is currently under development.

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Question ALT-26b:

ALT-26 Follow-up to SCE response on ALT-19e.

In response for Alt-19e.1a, SCE indicates that for the existing lines the W-series towers are typical for those structures found in Segments 3 through 6, while the N-O-P-Q-series towers are found in Segments 1 and 2.

26b. Please expand the response to ALT-19e.1a to include the Tower Loading Diagrams/Trees for the Proposed Project tower series.

Response to Question ALT-26b:

In addition to the new XZ structure referenced in SCE's response to Data Request Question No. ALT-26a, SCE is currently re-designing the WC and WF tower types, which will be renamed to WCR and WFR, respectively. The tower loading information for these three tower types are included in the attachment provided with this response.

WODUP Project

Existing And Proposed Towers Loading Diagrams/Trees

EXISTING STEEL LATTICE TOWERS															
TOWER TYPE	**WY Tower - DEADEND**		**WC Tower - TANGENT </= 2.5°/ANGLE >2.5°**		**WB Tower - TANGENT </=2.5°/ANGLE >2.5°**		**WF Tower - ANGLE </=20 °**	**P Tower - DEADEND 52°**		**Q Tower - DEADEND 100°**		**O Tower - TANGENT**		**N/NE Tower - TANGENT </=2.5°**	
LOADING CASE	Case 1	Case 2	Case 1	Case 2 (Note 1)	Case 1	Case 2 (Note 2)	Case 1	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2 (Note 3)	Case 1	Case 2 (Note 4)
ALLOWABLE LOADS, per phase (LBS.)	**CONDUCTOR**														
Longitudinal	24,000	21,600	0	16,000	0	16,000	0	12,000	10,800	12,000	7,700	0	8,000	0	8,000
Transverse	1,700	12,300	4,400	2,750	4,400	2,200	10,000	830	6,000	830	9,750	1,400	700	2,800	1,400
Vertical	6,800	6,800	9,000	5,500	9,000	5,000	9,000	1,750	1,750	1,750	1,750	2,400	1,200	3,000	1,600
ALLOWABLE LOADS, (LBS.)	**OVERHEAD GROUNDWIRE**														
Longitudinal	8,000	7,200	8,000	0	8,000	0	0	8,000	7,200	8,000	5,200	0	8,000	0	8,000
Transverse	500	4,000	875	1,400	700	1,400	3,300	330	3,800	330	6,300	800	400	1,400	700
Vertical	1,200	1,200	1,500	2,400		2,400	2,400	500	500	500	500	800	400	1,000	500

NOTES:

1-Loadings on one (1) phase only. Remaining phases not to exceed conductor loads in Case 1.

2-Loadings for two (2) phases only. Remaining phases not to exceed conductor loads in Case 1.

3-Loadings on one (1) phase or groundwire only. Remaining phases not to exceed conductor loads in Case 1.

4-Loadings for two (2) phases or groundwire only. Remaining phases not to exceed conductor loads in Case 1.

PROPOSED STEEL LATTICE TOWERS											
TOWER TYPE	**WY Tower - DEADEND**		**WCR Tower - TANGENT </= 2.5°/ANGLE >2.5°**		**WB Tower - TANGENT </=2.5°/ANGLE >2.5°**		**WFR Tower - ANGLE </=21 °**	**WZ Tower - DEADEND**		**XZ Tower - DEADEND (Long Span)**	
LOADING CASE	Case 1	Case 2	Case 1	Case 2 (Note 1)	Case 1	Case 2 (Note 2)	Case 1	Case 1	Case 2	Case 1 (Intact)	Case 2 (Deadend)
ALLOWABLE LOADS, per phase (LBS.)	**CONDUCTOR**										
Longitudinal	24,000	21,600	0	16,000	0	16,000	0	24,000	15,500	0	29,000
Transverse	1,700	12,300	6,000	2,200	4,400	2,200	14,200	1,700	20,100	13,200	9,800
Vertical	6,800	6,800	9,000	5,000	9,000	5,000	9,500	6,800	6,800	23,600	23,600
ALLOWABLE LOADS, (LBS.)	**OVERHEAD GROUNDWIRE**										
Longitudinal	8,000	7,200	3,500	0	8,000	0	3,500	8,000	5,200	8,000	10,000
Transverse	500	4,000	3,400	1,400	700	1,400	6,600	500	6,700	3,600	2,700
Vertical	1,200	1,200	2,700	2,400	1,200	2,400	3,000	1,200	1,200	3,800	3,800