

*Southern California Edison*  
**Mascot A.09-11-020**

**DATA REQUEST SET A0911020-CPUC/ED-SCE-01**

**To:** CPUC  
**Prepared by:** Steve Presant  
**Title:** Field Engineer  
**Dated:** 12/30/2009

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**Question 01:**

The PEA describes ultimate build out of the substation being 112 MVA, which is double the size of the proposed project. Is this build out in the foreseeable future (i.e., next five years)? Is ultimate build out likely to require any additional 66 kV source lines?

**Response to Question 01:**

No, the ultimate build out of the proposed Mascot Substation is not planned for within the foreseeable future (i.e., next five years). The ultimate build out would likely not require any additional 66 kV subtransmission source lines.

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**Question 02:**

Provide information regarding the routing and location of the four 12 kV distribution circuits.  
Specifically:

- a. 12 kV distribution circuit routed north along 7 ½ road
  - i. Where would the duct bank terminate;
  - ii. Would the duct bank be constructed within the existing road, or elsewhere; and
  - iii. Would any vaults be required, if yes, approximately where?
- b. 12 kV distribution circuit routed east on Grangeville Boulevard
  - i. Where would the duct bank terminate;
  - ii. Would the duct bank be constructed within the existing road, or elsewhere; and
  - iii. Would any vaults be required, if yes, approximately where?
  - iv. If the termination of the duct bank would be west of Route 43, describe construction methods for installing duct bank underneath Route 43.
- c. Two 12 kV distribution circuit routes west on Grangeville Boulevard
  - i. Confirm that both circuits would be in one duct bank.
  - ii. Where would the duct bank(s) terminate;
  - iii. Would the duct bank(s) be constructed within the existing road, or elsewhere; and
  - iv. Would any vaults be required, if yes, approximately where?

If exact duct bank termination points are not available at this time, the CPUC requests that SCE conservatively estimate the location so that impacts may be assessed for the longest duct bank route likely to occur. In addition to the information bulleted above, provide an updated Table 3.4 of the PEA to include estimated land disturbance associated with duct bank construction, and if necessary update Table 3.5 (Construction Equipment Use Estimates) as it is unclear whether the duct bank construction description includes distribution circuit duct bank construction as well as telecommunications duct banks.

**Response to Question 02:**

As explained in SCE's responses to data gap questions 16 and 17, the exact routing and terminal locations of the four 12 kV distribution circuits along with the associated structure (e.g., vaults) locations have yet to be determined. The exact placement of the 12 kV distribution circuits and

related structures cannot be determined at this time as SCE designs distribution circuits and related structures for the conditions that exist at the time of the build. Conditions that must be taken into consideration leading up to construction include, for example, current load growth, distribution circuit relocations (e.g., overhead to underground conversions, road widening projects, etc.), and the location of public streets (SCE normally constructs distribution lines in roadway ROW). Additionally, several elements determined during the technical design process can affect the distribution circuit routings and terminal locations. These elements include the condition of existing facilities in the area, verification of other party facility locations (e.g., gas, sewer lines) in the area, private property ownership rights in the area, local government restrictions on facility placement in the area, and engineering analysis associated with, for example, cable pulling, switching requirements and the general reliability of the electrical system. Due to these variables, SCE cannot determine with certainty at this time where the distribution circuits and related structures will be located. Accordingly, SCE is providing a general description for how these distribution circuits would likely exit the substation and proceed into new underground vaults that are anticipated to be located on the Mascot Substation property or within close proximity to the substation's property line.

**a.i.-iv. 12 kV distribution circuit routed north along 7 1/2 road**

The distribution circuit anticipated to head north on 7-1/2 Avenue would share the same duct bank as the distribution circuit anticipated to head east on Grangeville Boulevard. This duct bank would likely proceed into a new underground vault near the northeast corner of the substation property. The proposed vault would be sited preferably on the substation property outside the substation wall, however the vault could be located up to approximately 100 feet outside of the substation property line. If the duct bank exits the substation property line it would likely be located within the existing roadway ROW, but could be located within private property depending on underground utility lookups and final engineering. Additional details regarding this circuit are not yet known for the reasons stated above.

**b.i.-iii. 12 kV distribution circuit routed east on Grangeville Boulevard**

As explained above, the distribution circuit anticipated to head east on Grangeville Boulevard would share the same duct bank as the distribution circuit anticipated to head north on 7-1/2 Avenue. The duct bank and vault information are described above. Additional details regarding this circuit are not yet known for the reasons stated above.

**b.iv.**

SCE clarified with the Energy Division that this question was intended for the distribution circuits anticipated to head west on Grangeville Boulevard. Additional details regarding these distribution circuits beyond what is described below are not yet known for the reasons stated above.

**c.i.-iv. Two 12 kV distribution circuit routes west on Grangeville Boulevard**

The two distribution circuits anticipated to head west on Grangeville Boulevard would share the same duct bank. This duct bank would likely proceed into a new vault near the northwest corner

of the substation property. The proposed vault would be sited preferably on the substation property outside the substation wall, however the vault could be located up to approximately 100 feet outside of the substation property line. If the duct bank exits the substation property line it would likely be located within the existing roadway ROW, but could be located within private property depending on underground utility lookups and final engineering. Additional details regarding this circuit are not yet known for the reasons stated above.

Regarding updates to Tables 3.4 and 3.5 of the PEA, please see the attached document which includes updates to these tables.

**Amended Table 3.4 Land Disturbance Estimates  
(Including Distribution Duct Banks and Vaults)**

<b>Project Feature</b>	<b>Number of Sites</b>	<b>Disturbed Acreage Dimensions</b>	<b>Acreage Disturbed During Construction</b>	<b>Acres to be Restored</b>	<b>Acres Permanently Disturbed</b>
Mascot Substation	1	485' x 445'	5.0	--	5.0
Guard Structures	4	50' x 75'	0.3	0.3	--
Removing Existing Wood Pole	2	50' x 50'	0.1	0.1	--
Construct New TSP†	12	200' x 100'	5.5	4.8	0.7
Construct New LWS Pole†	2	150' x 75'	0.5	0.4	0.1
Construct New Wood Pole†	31	150' x 75'	8.0	6.5	1.6
66kV Conductor Stringing Setup Area - Puller‡	4	200' x 100'	1.8	1.8	--
66kV Conductor Stringing Setup Area - Tensioner‡	4	200' x 100'	1.8	1.8	--
66kV Conductor Splicing Setup Areas‡	4	150' x 100'	1.4	1.4	--
New Access Roads	0.5	Linear miles x 14' wide	0.8	--	0.8
Material & Equipment Staging Area	1	Approx. 5 acres	5	5	--
Distribution Duct Banks and Vaults	2	100' x 2' 11' x 22'	0.02	--	0.02
<b>Total Estimated</b>			<b>30</b>	<b>22</b>	<b>8</b>

**Notes:**

The disturbed acreage calculations are estimates based upon SCE's preliminary information of the preferred area of use for the described project feature; they are subject to revision based upon final engineering and review of the project by SCE's construction manager and/or contractor

†SCE requires that a 25' radius of each TSP, 10' radius for each LWS pole and wood pole remain clear of vegetation within portions of the new ROW. Permanently disturbed areas for TSP = 2,507 square feet, LWS = 380 square feet, and wood pole = 380 square feet.

‡Based on 6,000 foot conductor reel lengths, number of circuits, and route design.

**Amended Table 3.5 Construction Equipment Use Estimations  
(Including Distribution Duct Bank and Vault Installation)**

<b>Activity and number of Personnel</b>	<b>Number of Work Days</b>	<b>Equipment and Quantity</b>	<b>Duration of Use (Hours/Day)</b>
Survey (2 people)	10	2 Survey Trucks	8
<b>Substation</b>			
Grading (15 people)	90	1 Dozer 2 Loader 1 Scraper 1 Grader 1 Water Truck 2 4x4 Backhoe 1 4x4 Tamper 1 Tool Truck 1 Pickup 4x4	4 4 3 3 2 2 2 2 2
Civil Work (10 people)	60	1 Excavator 1 Foundation Auger 2 Backhoe 1 Dump Truck 1 Skip Loader 1 Water Truck 2 Bobcat Skid Steer 1 Forklift 1 17-ton Crane  1 Tool Truck	4 5 3 2 3 3 3 4 2 hours/day for 45 days  3
MEER (4 people)	20	1 Carry-all Truck 1 Stake Truck	4 3
Electrical (10 people)	70	2 Scissor Lifts 2 Manlifts 1 Reach manlift 1 15-ton Crane 1 Tool Trailer 2 Crew Trucks	3 3 4 3 3 2
Wiring (5 people)	25	1 Manlift 1 Tool Trailer	4 3

<b>Activity and number of Personnel</b>	<b>Number of Work Days</b>	<b>Equipment and Quantity</b>	<b>Duration of Use (Hours/Day)</b>
Transformers (6 people)	30	1 Crane 1 Forklift 2 Crew Trucks 1 Low Bed Truck	6 6 2 4
Maintenance Crew Equipment Check (2 people)	30	2 Maintenance Trucks	4
Testing (4 people)	80	1 Crew Truck	3
Fencing (6 people)	10	1 Bobcat 1 Flatbed Truck 1 Crewcab	8 2 4
Asphalting (6 people)	15	2 Paving Roller 1 Asphalt Paver 1 Stake Truck 1 Tractor 1 Dump Truck 2 Crew Trucks 1 Asphalt Curb Machine	4 4 4 3 3 2 3
Landscaping (6 people)	15	1 Tractor 1 Dump Truck	6 3
Irrigation onsite (7 people)	20	1 Bobcat 1 Power Trencher 1 Crew Truck	8 8 8
<b>Subtransmission</b>			
TSP Foundation (7 people)	6	3 1-ton Crew Cab Flat Bed, 4x4 1 30-ton Crane Truck 1 Backhoe/Front Loader 1 Auger Truck 1 4000-gallon Water Truck 2 10-cubic yard Dump Truck 3 10-cubic yard Concrete Mixer Truck	2 5 8 8 8 8 5
Pole Haul (4 people)	12	2 3/4-ton Pick-up Truck, 4x4 1 80-ton Rough Terrain Crane 2 40' Flat Bed Truck/Trailer	5 6 8
Steel Pole Assembly (8 people)	7	2 3/4-ton Pick-up Truck, 4x4 2 1-ton Crew Cab Flat Bed, 4x4 1 Compressor Trailer 1 80-ton Rough Terrain Crane	5 5 5 6

Activity and number of Personnel	Number of Work Days	Equipment and Quantity	Duration of Use (Hours/Day)
Steel Pole Erection (8 people)	7	2 3/4-ton Pick-up Truck, 4x4 2 1-ton Crew Cab Flat Bed, 4x4 1 Compressor Trailer 1 80-ton Rough Terrain Crane	5 5 5 6
Wood Pole (8 people)	6	2 3/4-ton Pick-up Truck, 4x4 2 1-ton Crew Cab Flat Bed, 4x4 1 Compressor Trailer 1 80-ton Rough Terrain Crane	5 5 5 6
Installation of Conductor (16 people)	6	2 3/4-ton Pick-up Truck, 4x4 4 1-ton Crew Cab Flat Bed, 4x4 2 Wire Truck/Trailer 1 Dump Truck 2 Bucket Truck 2 22-ton Manitex 1 Splicing Rig 1 Splicing Lab 1 3-drum Straw line Puller 1 Static Truck/Tensioner	8 8 2 2 8 8 2 2 6 6
Guard Structure Installation/Removal (6 people)	2	2 3/4-ton Pick-up Truck, 4x4 2 1-ton Crew Cab Flat Bed, 4x4 2 Compressor Trailer 2 Extendable Flat Bed Truck 1 30-ton Crane Truck 1 80-foot Hydraulic Man-lift/Bucket Truck	6 6 6 6 8 4
Restoration (7 people)	2	2 1-ton Crew Cab, 4x4 1 Road Grader 1 Water Truck 1 Backhoe/Front Loader 1 Drum Type Compacter 1 Track Type Dozer 1 Lowboy Truck/Trailer	2 6 8 6 6 6 3
<b>Telecommunications</b>			
Substation Telecom Installation (2 people)	24	2 Vans	Commute only
Overhead Fiber Optic Installation (8 people)	30	2 Bucket Truck 2 Reel Truck	8 8

Activity and number of Personnel	Number of Work Days	Equipment and Quantity	Duration of Use (Hours/Day)
Duct Bank Installation (3 people)	10	1 Flatbed Truck 1 Backhoe 1 Stakebed Truck 1 Crew Truck	1 8 2 2
Underground Cable Pulling (4 people)	6	1 Bucket Truck 1 Reel Truck	8 8
Distribution			
Distribution Duct Bank and Vault Installation (5 people)	6	1 Backhoe 2 Dump Trucks 1 Roller 1 Grinder 1 Cement Truck	8 hrs/day for 4 days 8 hrs/day for 4 days 8 hrs/day for 4 days 8 hrs/day for 3 days 8 hrs/day for 4 days
Distribution Cable Pulling (7 people)	2	1 Rodder Truck 1 Cable Truck 1 Companion Vehicle	8 hrs/day 8 hrs/day Commute only
Distribution Cable Splicing (4 people)	8	1 Crew Truck 1 Companion Vehicle	Commute only Commute only
Distribution Switching (1 person)	4	1 Troubleman Truck	2 hrs/day

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**To:** CPUC

**Prepared by:** Stan Hack

**Title:** Transmission Estimator

**Dated:** 12/30/2009

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**Question 03:**

Provide minimum sag height requirements for the proposed 66 kV subtransmission line connecting the substation to the Hanford-Liberty 66 kV subtransmission line.

**Response to Question 03:**

Conductor will be a minimum of 30 feet from ground and 34 feet from the ground at railroad crossing.

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**To:** CPUC

**Prepared by:** Stan Hack

**Title:** Transmission Estimator

**Dated:** 12/30/2009

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**Question 04:**

Describe the finish to be used on the TSPs. For example: dulled galvanized finish.

**Response to Question 04:**

TSP's will be dulled galvanized finish (grey).

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**To:** CPUC

**Prepared by:** Erika Wilder

**Title:** Environmental Coordinator

**Dated:** 12/30/2009

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**Question 05:**

Provide location, source and character of the new clean fill to be used at the proposed substation site. If exact source locations are not available, provide two to four likely source locations with distances to the substation site.

**Response to Question 05:**

At this time, potential sites for import fill material are located in Hanford, approximately 6 miles from the Proposed Project, and in Lemoore, approximately 12 miles from the Proposed Project. It should be noted that the fill source locations are subject to change, and are dependent upon the construction schedule and the availability of fill material at any given time.

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**To:** CPUC

**Prepared by:** Erika Wilder

**Title:** Environmental Coordinator

**Dated:** 12/30/2009

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**Question 06:**

Describe any testing of source soil to be conducted.

**Response to Question 06:**

SCE will hire a contractor to provide the requisite import fill material. The contractor would be obligated to provide clean fill that has not been recycled. Representative samples of materials from the import fill locations would be submitted by the contractor for geotechnical testing (e. g. maximum dry density, moisture content, expansive index, soil classification, etc.).

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**Dated:** 12/30/2009

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**Question 07:**

Define "Off-peak" hours for traffic and transportation purposes.

**Response to Question 07:**

Peak hours of traffic are typically considered to be between 7:00 and 9:00 am, and/or between 4:00 and 6:00 pm, so off-peak hours would be those times of the day outside the aforementioned four hours.

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**Question 08:**

Provide a list of other SCE projects in the Electrical Needs area.

**Response to Question 08:**

As described in Section 6.1, Cumulative Impacts, there are only two past, present, or reasonably foreseeable projects planned within one mile of the project. The only SCE project within the Electrical Needs Area is the possible reconductor of the 12 kV bus at Hanford Substation, the conditions of which are described on page 1-7 of the PEA.

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**To:** CPUC  
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**Dated:** 12/30/2009

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**Question 09:**

GIS data used to prepare the PEA - Please provide the necessary shape files SCE used to prepare the PEA so we can use them for our analysis.

**Response to Question 09:**

Please see the attached disk.

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**DATA REQUEST SET A0911020-ESA/CPUC-SCE-01**

**To:** CPUC

**Prepared by:** Alisa Krizek

**Title:** Environmental Coordinator

**Dated:** 12/21/2009

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**Question 09\_Supplemental:**

GIS data used to prepare the PEA - Please provide the necessary shape files SCE used to prepare the PEA so we can use them for our analysis.

**Response to Question 09\_Supplemental:**

Attached are the correct shape files for the Electrical Needs Area.