BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Permit to Construct Electrical Facilities With Voltages Between 50 kV and 200 kV: Mascot Substation Project	)))))	Application No. _____ (Filed November 25, 2009)

APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES WITH VOLTAGES BETWEEN 50 KV AND 200 KV: MASCOT SUBSTATION PROJECT

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Dated: November 25, 2009

APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES WITH VOLTAGES BETWEEN 50 KV AND 200 KV: MASCOT SUBSTATION PROJECT

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I.

INTRODUCTION

Pursuant to California Public Utilities Commission (Commission or CPUC), General Order 131D (GO 131D), Southern California Edison Company (SCE) respectfully submits this application (Application) for a permit to construct (PTC) authorizing SCE to construct the proposed project known as the Mascot Substation Project (Project). The Project consists of: (1) a new 66/12 kilovolt (kV) distribution substation; (2) construction of new 66 kV subtransmission line segments to serve the new substation; (3) construction of four new 12 kV distribution circuits; and (4) facilities to connect the substation to SCE's existing telecommunication system.

II.

BACKGROUND AND SUMMARY OF REQUEST

SCE's Hanford Substation, located in Hanford, California, provides electrical service to the City of Hanford and the surrounding unincorporated areas of Kings County located within SCE's service territory. SCE's planning forecast indicates that the 1-in-10 year heat storm projected peak electrical demand at the Hanford Substation would have exceeded operating

capacity in 2008, had such a 1-in-10 year heat storm occurred[1]. In order to ensure safe and reliable electrical service, SCE installed a 16.8 megavolt ampere (MVA) transformer bank at the Hanford Substation as a contingency measure and, if necessary, SCE will reconductor the 12 kV bus at Hanford to increase capacity until the Mascot Substation Project is operational. The Mascot Substation Project is necessary in order to meet the forecasted electrical demands in the City of Hanford and the surrounding areas of unincorporated Kings County.

The estimated cost for the Mascot Substation Project is approximately $33 million in 2009 constant dollars.[2] SCE's cost estimate is for the proposed project described and analyzed in the PEA. The cost estimate does not include costs for mitigation measures above and beyond those measures proposed by the Applicant in the Proponent's Environmental Assessment (PEA) or Field Management Plan (FMP), nor does it include any CPUC developed alternative(s). Should the Commission choose alternative route(s) or site(s) for the project, or order additional mitigation measure(s) (e.g., different construction methods, types of technologies, or other changes), these additional mitigation measures or alternative(s) may impact the cost of the project.

A Proponent's Environmental Assessment (PEA) prepared for the Project is attached to this Application. The PEA will be referenced in this Application, where appropriate, as the source of the information required in an Application for a PTC[3] pursuant to GO 131D, Section

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1 A 1-10-year heat storm did not occur during 2008, and the electrical system was operated within the maximum operating limits of the equipment.

2 This is a conceptual estimate, prepared in advance of final engineering and prior to CPUC approval. Pension and benefits, administrative and general expenses, and allowance for funds used during construction are not included in this estimate.

3 Other required information for a PTC application (e.g. Balance Sheet, Articles of Incorporation, etc.) is contained in this Application or its appendices.

IX.B. A complete project description is located in Chapter 3 of the PEA. A statement of purpose and need is located in Chapter 1 of the PEA.

Construction of the Project is scheduled to begin in July of 2011 and to be completed by May of 2012. A schedule for the Project is included in this Application as Appendix C.

Upon completion of its review of this Application and preparation of the initial study, SCE requests that the Commission issue and certify a mitigated negative declaration and issue a PTC authorizing SCE to construct the Project set forth in this Application and the attached PEA within the timelines set forth in Section III.H. of this Application.

III.

STATUTORY AND PROCEDURAL REQUIREMENTS

A. Applicant

The applicant is Southern California Edison Company, an electric public utility company organized and existing under the laws of the State of California. SCE's principal place of business is 2244 Walnut Grove Avenue, Post Office Box 800, Rosemead, California 91770. Please address correspondence or communications in regard to this Application to:

Laura Renger
Attorney
Southern California Edison Company
Post Office Box 800
Rosemead, California 91770
Phone: (626) 302-6984
Fax: (626) 302-1926

With a copy to:

Case Administration
Southern California Edison Company
2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Phone: (626) 302-3101
Fax: (626) 302-3119

B. Articles Of Incorporation

A copy of SCE's Restated Articles of Incorporation, as amended through June 1, 1993, and as presently in effect, certified by the California Secretary of State, was filed with the Commission on June 15, 1993, in connection with Application No. 93-06-022[4] and is incorporated herein by reference; pursuant to Rule 2.2 of the Commission's Rules of Practice and Procedure.

C. Balance Sheet And Statement Of Income

Appendix A to this Application contains copies of SCE's balance sheet as of September 30, 2009, and the statement of income for the period ending September 30, 2009. The balance sheet reflects SCE's utility plant at original cost, less accumulated depreciation.

Since 1954, pursuant to Commission Decision No. 49665 dated February 16, 1954, in Application No. 33952, as modified by Decision No. 91799 in 1980, SCE has utilized straight-line remaining life depreciation for computing depreciation expense for accounting and ratemaking purposes in connection with its operations.

Pursuant to Commission Decision No. 59926, dated April 12, 1960, SCE uses accelerated depreciation for income tax purposes and "flows through" reductions in income tax to customers within the Commission's jurisdiction for property placed in service prior to 1981. Pursuant to Decision No. 93848 in OII-24, SCE uses the Accelerated Cost Recovery System (ACRS) for federal income tax purposes and "normalizes" reductions in income tax to customers for property placed in service after 1980 in compliance with the Economic Recovery Tax Act of 1981, and also in compliance with the Tax Reform Act of 1986. Pursuant to Decision No. 88-01-061, dated January 28, 1988, SCE uses a gross of tax interest rate in calculating the AFUDC Rate, and income tax normalization to account for the increased income tax expense occasioned by the Tax

[4] Application No. 93-06-22, filed June 15, 1993, regarding approval of a Self-Generation Deferral Agreement between Mobile Oil Corporation Torrance Refinery and Southern California Edison Company.

Relief Act of 1986 provisions requiring capitalization of interest during construction for income tax purposes.

D. Description of Southern California Edison Company

SCE is an investor-owned public utility engaged in the business of generating, transmitting, and distributing electric energy in portions of central and southern California. In addition to its properties in California, it owns, in some cases jointly with others, facilities in Nevada, Arizona, and New Mexico, its share of which produces power and energy for the use of its customers in California. In conducting such business, SCE operates an interconnected and integrated electric utility system.

E. Service Territory

SCE's service territory is located in 15 counties in central and southern California, consisting of Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Orange, Riverside, San Bernardino, Tulare, Tuolumne[5], and Ventura Counties, and includes approximately 179 incorporated communities as well as outlying rural territories. A list of the counties and municipalities served by SCE is attached hereto as Appendix B. SCE also supplies electricity to certain customers for resale under tariffs filed with the Federal Energy Regulatory Commission.

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[5] SCE provides electric service to a small number of customer accounts in Tuolumne County and is not subject to franchise requirements.

F. Location Of Items Required In A Permit To Construct Pursuant To GO 131D, Section IX.B

Almost all of the information required to be included in a PTC application pursuant to GO 131D, Section IX.B is found in the PEA.

Required PTC application information has been cross-referenced to the PEA in the following text. The PTC application requirements of GO 131D, Section IX.B are in italics, and the PEA references follow in plain text.

a. A description of the proposed power line or substation facilities, including the proposed power line route; proposed power line equipment, such as tower design and appearance, heights, conductor sizes, voltages, capacities, substations, switchyards, etc., and a proposed schedule for authorization, construction, and commencement of operation of the facilities.

- Descriptions of the Project are found in the Executive Summary, Chapter 2, Chapter 3, and throughout Chapter 4.

- The substation site is described and illustrated in Sections 2.2.1 and 2.4 and Figures 2.2 and 2.3. The alternative substation site is described and illustrated in Sections 2.2.2 and 2.4 and Figures 2.2 and 2.4.

- The proposed 66 kV subtransmission line route is described and illustrated in Sections 2.3 and 2.3.1 and Figures 2.2 and 2.3. The alternative 66 kV subtransmission line route is described and illustrated in Sections 2.3 and 2.3.2 and Figures 2.2 and 2.3.

- The physical characteristics of the substation and equipment are described and illustrated in Section 3.1.1 and Figure 3.1.

- The physical characteristics of the proposed 66 kV subtransmission line are described and illustrated in Section 3.1.2 and Figures 3.2 and 3.3.

- The Project Schedule is attached to this Application as Appendix C.

b. A map of the proposed power line routing or substation location showing populated areas, parks, recreational areas, scenic areas, and existing electrical transmission or power lines within 300 feet of the proposed route or substation.

- Regional (Figure 1.1) and Project area (Figures 2.2, 3.3 and 3.4) maps are provided in the PEA.

- A map of current land use including designation of parks, recreational, and scenic areas are provided as Figure 4.9-2.

- Maps of the substation and the proposed power lines showing the proximity to existing electrical transmission and power lines are provided as Figures 2.1, 2.2, 2.3. 2.4, 3.3 and 3.4.

c. Reasons for adoption of the power line route or substation location selected, including comparison with alternative routes or locations, including the advantages and disadvantages of each.

- Reasons for the adoption of the proposed substation site including comparison with alternative sites are discussed in Section 2.4. Reasons for the adoption of the proposed 66 kV transmission line route including comparison with alternative routes are discussed in Section 2.4.

d. A listing of the governmental agencies with which proposed power line route or substation location reviews have been undertaken, including a written agency response to applicant's written request for a brief position statement by that agency. (Such listing shall include The Native American Heritage Commission, which shall constitute notice on California Indian Reservation Tribal governments.) In the absence of a written agency position statement, the utility may submit a statement of its understanding of the position of such agencies.

- SCE met with Kings County representatives on April 22, 2008. These representatives include Larry Spikes, County Administrative Officer, and Bill Zumwalt, Planning Director. Project information was presented and potential sites were discussed.

- SCE met with representatives from the City of Hanford on April 23, 2008 and September 15, 2008. These representatives include Gary Misenhimer, Hanford City Manager, and Lou Camara, Hanford Public Works Director. Project information was presented and potential sites were discussed.

- SCE met with representatives from Kings County on October 6, 2008 and March 17, 2009. These representatives included: County Supervisor Richard Fagundes; Larry Spikes, County Administrative Officer; Deb West, Assistant Administrative Officer; Harry Verheul, Public Works Director; and Bill Zumwalt, Planning Director. Project information was presented and potential sites were discussed.

- SCE met with representatives from the City of Hanford on October 7, 2008. These representatives include: Gary Misenhimer, City Manager; Lou Camara, Public Works Director; and Cathy Cain, City Planner. Project information was presented and potential sites were discussed.

- SCE met with representatives from the City of Hanford on March 17, 2009. These representatives include: Hanford Mayor David Ayers; Hanford City Manager Gary Misenhimer; and Hanford Public Works Director Lou Camara. Project information was presented and potential sites were discussed.

- SCE met with representatives from Kings County, Kit Carson School District and the City of Hanford on June 15, 2009. These representatives include: John Sousa, Superintendent, Kit Carson School District; Todd Barlow, Assistant Superintendent, Kit Carson School District; Diana Peck, Executive Director, Kings County Farm Bureau; Richard Fagundes, County Supervisor; Tony Barba, County Supervisor; Larry Spikes, County Administrative Officer; Deb West, Assistant County Administrative Officer; Bill Zumwalt, Planning Director; Chuck Kinney, Senior Planner; and Lou Camara, City of Hanford Public Works Director. Project information was presented and potential sites were discussed.

- SCE met with the following representatives on July 17, 2009: Catherine Venturella, Clerk, Kings County Board of Supervisors; Lou Camara, Hanford Public Works Director; Diana Peck, Executive Director of the Kings County Farm Bureau; Jay Salyer, Kings County Economic Development Corporation; John Sousa, Superintendent, Kit Carson School District; and Hanford Chamber of Commerce staff. Project information was presented and potential sites were discussed.

- SCE met with representatives from the City of Hanford on July 21, 2009. These representatives included: Sue Sorensen, Council Member; David Thomas, Councilmember; Joaquin D. Gonzales, Councilmember; Dan Chin, Vice-Mayor; David Ayers, Mayor. Project information was presented and potential sites were discussed.

- SCE met with Kings County Economic Development Corporation Board of Directors on July 27, 2009. Project information was presented and potential sites were discussed.

- SCE conducted telephone updates on July 28, 2009 with the following representatives: Noah Lawson, District Director for Assembly Member Danny Gilmore; Liz Gomez, District Director for Congressman Jim Costa; Susan Good, District Director for State Senator Dean Florez. Project information was delivered by e-mail.

- SCE met with the Hanford Chamber of Commerce Government Relations Committee on July 28 2009. Project information was presented.

- SCE met with Kings County Board of Supervisors on July 28, 2009. Project information was presented.

- On April 25, 2008, a request was made (by facsimile) to the Native American Heritage Commission (NAHC) to conduct a records search of the Sacred Lands File for cultural resources that may be affected by the Project. The Commission responded on May 7, 2008, stating that a search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area. A list of Native American individuals and organizations that may have knowledge of cultural resources in the project area was enclosed in the response from NAHC. SCE will contact these individuals and organizations if, during archaeological monitoring, human remains are encountered.

e. A PEA or equivalent information on the environmental impact of the project in accordance with the provisions of CEQA and this Commission's Rules of Practice and Procedure Rule 2.4 [formerly 17.1 and 17.3]. If a PEA is filed, it may include the data described in Items a. through d. above.

- A PEA is attached to this Application.

G. Compliance With GO 131D, Section X

GO 131D, Section X, requires applications for a PTC to describe measures taken to reduce potential exposure to electric and magnetic fields (EMF) generated by the proposed facilities. A complete description of EMF-related issues is contained in SCE's EMF Field Management Plan for this Project, which is attached as Appendix F to this Application.

H. Compliance With Rule 2.1(c)

In compliance with Rule 2.1(c) of the Commission's Rules of Practice and Procedure (California Code of Regulations, Title 20), SCE is required to state in this Application "[t]he proposed category for the proceeding, the need for hearing, the issues to be considered, and a proposed schedule." SCE proposes to categorize this Application as a rate-setting proceeding. SCE anticipates that a hearing will not be necessary. This proceeding involves the Commission's: (1) environmental review of the Project in compliance with the California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.) and the Commission's GO 131D; and (2) issuance of a PTC authorizing SCE to construct the Project.

SCE suggests the following proposed schedule for this Application:

November 25, 2009	Application filed.
December 28, 2009	Application accepted as complete.
February 2010	Initial Study issued.
July 2010	Draft Mitigated Negative Declaration issued for comment.
September 2010	Draft decision issued.
November 2010	Final Commission decision issued. Final CEQA document approved.

I. Statutory Authority

This Application is made pursuant to the provisions of CEQA, GO 131D, the Commission's Rules of Practice and Procedure, and prior orders and resolutions of the Commission.

J. Public Notice

Pursuant to GO 131D, Section XI.A, notice of this Application shall be given: (1) to certain public agencies and legislative bodies; (2) to owners of property located on or within 300 feet of the project area; (3) by advertisement in a newspaper or newspapers of general circulation; and (4) by posting a notice on-site and off-site at the project location.

SCE has given, or will give, proper notice within the time limits prescribed in GO 131D. A copy of the Notice of Application for a Permit to Construct and list of newspapers which will publish the notice are contained in Appendix D. A copy of the Certificate of Service of Notice of Application for a Permit to Construct and a service list are contained in Appendix E.

K. Supporting Appendices And Attachment

Appendices A through E and the attached PEA listed below are made a part of this Application:

- Appendix A: Balance Sheet and Statement of Income as of September 30, 2009
- Appendix B: List of Counties and Municipalities Served by SCE
- Appendix C: Mascot Substation Project Schedule
- Appendix D: Notice of Application for a Permit to Construct
- Appendix E: Certificate of Service of Notice of Application for a Permit to Construct
- Appendix F: Field Management Plan
- Attachment: Proponent's Environmental Assessment

L. Compliance With Rule 2.5

In accordance with Rule 2.5 of the Commission's Rules of Practice and Procedure, SCE is enclosing a deposit to be applied to the costs the Commission incurs to prepare a negative declaration or an environmental impact report for this Project.

M. Request For Ex Parte Relief

SCE requests that the relief requested in this Application be provided ex parte as provided for in GO 131D, Section IX.B.6.

N. Request For Timely Relief

SCE requests the Commission to issue a decision within the time limits prescribed by Government Code Section 65920 et seq. (the Permit Streamlining Act) as provided for in GO 131D, Section IX.B.6.

Moreover, as addressed in the same subsection of GO 131D, SCE requests that the Commission refrain from assigning an ALJ to this proceeding, unless a valid protest is received by the Commission, and in the absence of any valid protest allow the Energy Division to process this Application.[6/]

6/ D.95-08-038, Appendix A, p. 25.

IV.

CONCLUSION

SCE respectfully requests the Commission to issue a PTC authorizing SCE to construct the Mascot Substation Project described in this Application and the attached PEA. SCE further requests that the relief be provided ex parte and within the time limits prescribed by the Permit Streamlining Act.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

/s/ Les Starck
By: Les Starck
Vice President

/s/ LauraRenger
By: Laura Renger
Attorney for
SOUTHERN CALIFORNIA EDISON COMPANY
2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6984
Facsimile: (626) 302-1926

Dated: November 25, 2009

VERIFICATION

I am an officer of the applicant corporation herein, and am authorized to make this verification on its behalf. I am informed and believe that the matters stated in the foregoing document are true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 23 day of November, at Rosemead, California.

/s/ Leslie E. Starck
Leslie E. Starck
Vice President
SOUTHERN CALIFORNIA EDISON COMPANY
Telephone: (626) 302-4883

Appendix A

BALANCE SHEET AND STATEMENT OF INCOME

AS OF SEPTEMBER 30, 2009

SOUTHERN CALIFORNIA EDISON COMPANY

BALANCE SHEET

SEPTEMBER 30, 2009

A S S E T S

(Unaudited)

(Millions of Dollars)

UTILITY PLANT:	
Utility plant, at original cost	$23,668
Less - Accumulated depreciation	(5,757)
	17,911
Construction work in progress	2,688
Nuclear fuel, at amortized cost	277
	20,876
OTHER PROPERTY AND INVESTMENTS:	
Nonutility property - less accumulated provision for depreciation of $733	330
Nuclear decommissioning trusts	3,025
Other Investments	80
	3,435
CURRENT ASSETS:	
Cash and equivalents	754
Short-term investments	3
Receivables, including unbilled revenues, less reserves of $47 for uncollectible accounts	952
Accrued unbilled revenue	583
Inventory	332
Derivative assets	195
Regulatory assets	57
Deferred income taxes - net	16
Other current assets	127
	3,019
DEFERRED CHARGES:	
Regulatory assets	5,084
Derivative assets	237
Other long-term assets	503
	5,824
	$33,154

SOUTHERN CALIFORNIA EDISON COMPANY

BALANCE SHEET

SEPTEMBER 30, 2009

CAPITALIZATION AND LIABILITIES

(Unaudited)

(Millions of Dollars)

CAPITALIZATION:	
Common stock	$2,168
Additional paid-in capital	548
Accumulated other comprehensive loss	(13)
Retained Earnings	4,675
Common shareholder's equity	7,378
Preferred and preference stock not subject to redemption requirements	920
Long-term debt	6,490
	14,788
CURRENT LIABILITIES:	
Current portion of long-term debt	250
Accounts payable	888
Accrued taxes	239
Accrued interest	100
Customer deposits	241
Book overdrafts	259
Derivative liabilities	104
Regulatory liabilities	1,176
Other current liabilities	608
	3,865
DEFERRED CREDITS:	
Deferred income taxes - net	3,335
Deferred investment tax credits	99
Customer advances	123
Derivative liabilities	632
Pensions and benefits	2,613
Asset retirement obligations	3,137
Regulatory liabilities	2,848
Other deferred credits and other long-term liabilities	1,338
	14,125
Noncontrolling Interests	376
	$33,154

SOUTHERN CALIFORNIA EDISON COMPANY

STATEMENT OF INCOME

NINE MONTHS ENDED SEPTEMBER 30, 2009

(Unaudited)

(Millions of Dollars)

OPERATING REVENUE	$7,531
OPERATING EXPENSES:	
Fuel	533
Purchased power	2,155
Other operation and maintenance	2,222
Depreciation, decommissioning and amortization	877
Property and other taxes	187
Gain on Sale of assets	(1)
Total operating expenses	5,973
OPERATING INCOME	1,558
Interest income	9
Other nonoperating income	126
Interest expense - net of amounts capitalized	(320)
Other nonoperating deductions	(33)
INCOME BEFORE INCOME TAX	1,340
INCOME TAX EXPENSE	159
NET INCOME	1,181
Less: Net income attributable to noncontrolling interest	90
Dividends on preferred and preference stock not subject to mandatory redemption	38
NET INCOME AVAILABLE FOR COMMON STOCK	$1,053

Appendix B

LIST OF COUNTIES AND MUNICIPALITIES

SOUTHERN CALIFORNIA EDISON COMPANY

Citizens or some of the citizens of the following counties and municipal corporations will or may be affected by the changes in rates proposed herein.

COUNTIES

Fresno	Kings	Orange	Tuolumne*
Imperial	Los Angeles	Riverside	Tulare
Inyo	Madera	San Bernardino	Ventura
Kern	Mono	Santa Barbara	

MUNICIPAL CORPORATIONS

Adelanto	Cudahy	La Habra	Ojai	Santa Monica
Agoura Hills	Culver City	La Habra Heights	Ontario	Santa Paula
Alhambra	Cypress	La Mirada	Orange	Seal Beach
Aliso Viejo	Delano	La Palma	Oxnard	Sierra Madre
Apple Valley	Desert Hot Springs	La Puente	Palm Desert	Signal Hill
Arcadia	Diamond Bar	La Verne	Palm Springs	Simi Valley
Artesia	Downey	Laguna Beach	Palmdale	South El Monte
Avalon	Duarte	Laguna Hills	Palos Verdes Estates	South Gate
Baldwin Park	El Monte	Laguna Niguel	Paramount	South Pasadena
Barstow	El Segundo	Laguna Woods	Perris	Stanton
Beaumont	Exeter	Lake Elsinore	Pico Rivera	Tehachapi
Bell	Farmersville	Lake Forest	Placentia	Temecula
Bell Gardens	Fillmore	Lakewood	Pomona	Temple City
Bellflower	Fontana	Lancaster	Port Hueneme	Thousand Oaks
Beverly Hills	Fountain Valley	Lawndale	Porterville	Torrance
Bishop	Fullerton	Lindsay	Rancho Cucamonga	Tulare
Blythe	Garden Grove	Loma Linda	Rancho Mirage	Tustin
Bradbury	Gardena	Lomita	Rancho Palos Verdes	Twentynine Palms
Brea	Glendora	Long Beach	Rancho Santa Margarita	Upland
Buena Park	Goleta	Los Alamitos	Redlands	Victorville
Calabasas	Grand Terrace	Lynwood	Redondo Beach	Villa Park
California City	Hanford	Malibu	Rialto	Visalia
Calimesa	Hawaiian Gardens	Mammoth Lakes	Ridgecrest	Walnut
Camarillo	Hawthorne	Manhattan Beach	Rolling Hills	West Covina
Canyon Lake	Hemet	Maywood	Rolling Hills Estates	West Hollywood
Carpinteria	Hermosa Beach	McFarland	Rosemead	Westlake Village
Carson	Hesperia	Mission Viejo	San Bernardino	Westminster
Cathedral City	Hidden Hills	Monrovia	San Buenaventura	Whittier
Cerritos	Highland	Montclair	San Dimas	Woodlake
Chino	Huntington Beach	Montebello	San Fernando	Yorba Linda
Chino Hills	Huntington Park	Monterey Park	San Gabriel	Yucaipa
Claremont	Indian Wells	Moorpark	San Jacinto	Yucca Valley
Commerce	Industry	Moreno Valley	San Marino	
Compton	Inglewood	Murrieta	Santa Ana	
Corona	Irvine	Newport Beach	Santa Barbara	
Costa Mesa	Irwindale	Norco	Santa Clarita	
Covina	La Canada Flintridge	Norwalk	Santa Fe Springs	

*SCE provides electric service to a small number of customer accounts in Tuolumne County and is not subject to franchise requirements.

Appendix C

MASCOT SUBSTATION PROJECT SCHEDULE

Proposed Mascot Substation Project Schedule

Date	Event
November 25, 2009	Application filed.
December 28, 2009	Application accepted as complete.
February 2010	Initial Study issued.
July 2010	Draft CEQA document (Negative Declaration, Mitigated Negative Declaration or EIR) issued for comment.
September 2010	Draft decision issued.
November 2010	Final Commission decision issued. Final CEQA document approved.
July 2011	Commence construction.
May 2012	Construction complete.
June 2012	Commence operation.

Appendix D

NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT

NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT

MASCOT SUBSTATION PROJECT
Date: November 25, 2009

Proposed Project: Southern California Edison Company (SCE) has filed an application with the California Public Utilities Commission (CPUC) for a Permit to Construct (PTC) for the Mascot Substation Project (Proposed Project). The Proposed Project includes the following elements:

- Construction of a new 66/12 kilovolt (kV) distribution substation on an approximately five acre site located at the southwest corner of the intersection of 7 ½ Avenue and Grangeville Boulevard in unincorporated Kings County.
- Construction of two new 66 kV subtransmission line segments to connect the new substation to SCE's existing Goshen-Hanford and Hanford-Liberty 66 kV subtransmission lines. The total distance for the two new segments will be approximately two miles.
- Construction of four new 12 kV distribution circuits.
- Facilities to connect the substation to SCE's existing telecommunication system.

The purpose of the Proposed Project is to meet the forecasted electrical demands in the City of Hanford and the surrounding areas of unincorporated Kings County in order to ensure that safe and reliable electric service is available to serve customer electrical demand.

Construction is scheduled to begin in the 3rd quarter of 2011. The Proposed Project is planned to be operational by June 2012.

Environmental Assessment: SCE has prepared a Proponent's Environmental Assessment (PEA) which includes analysis of potential environmental impacts that could be created by the construction and operation of the Proposed Project. The PEA concludes that all potential environmental impacts associated with the Proposed Project would be mitigated to less than significant levels through the implementation of mitigation measures.

EMF Compliance: The CPUC requires utilities to employ "no cost" and "low cost" measures to reduce public exposure to electric and magnetic fields (EMF). In accordance with "EMF Design Guidelines" filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042, SCE would implement the following measure(s) for the proposed project:

1. Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria
2. Utilize subtransmission line construction that reduces the space between conductors compared with other designs
3. Arrange conductors of proposed subtransmission line for magnetic field reduction
4. Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction
5. Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines
6. Configure the transfer and operating buses with the transfer bus closest to the nearest property line

Public Review Process: SCE has filed an application with the CPUC for a PTC for the proposed project. Pursuant to the CPUC Rules of Practice and Procedure, any affected party may, within 30 days of the date on this notice, (i.e., no later than December 28, 2009), protest, and request that the CPUC hold hearings on the application. If the CPUC as a result of its investigation determines that public hearings should be held, notice shall be sent to each person or entity who is entitled to notice or who has requested a hearing.

All protests must be mailed to the CPUC and SCE concurrently and should include the following:

1. Your name, mailing address, and daytime telephone number.
2. Reference to the Project Name identified above.
3. A clear and concise description of the reason for the protest.

Protest for this Application must be mailed WITHIN 30 CALENDAR DAYS to:

California Public Utilities Commission
Docket Office, Room 2001
505 Van Ness Avenue
San Francisco, CA 94102

AND

Southern California Edison Co.
Law Dept. - Exception Mail
2244 Walnut Grove Avenue
Rosemead, CA 91770
Attention: Terry Taylor

AND

California Public Utilities Commission
Director, Energy Division
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102

For assistance in filing a protest, please call the CPUC's Public Advisor in San Francisco at (415) 703-2074 or in Los Angeles at (213) 576-7055.

To review a copy of SCE's Application, or to request further information, please contact:

For Kings County, CA:

Brian Thoburn
Region Manager,
Southern California Edison Company
Phone 559.685.3760/FAX 559.685.3293
brian.thoburn@sce.com

LIST OF NEWSPAPERS
PUBLISHING THE NOTICE OF APPLICATION
FOR A PERMIT TO CONSTRUCT

The Hanford Sentinel
300 W. 6th St.
Hanford, CA 93230

The Fresno Bee
1626 E St.
Fresno, CA 93786

The Valley Voice
711 W. School Ave.
Visalia, CA 93291

Appendix E

CERTIFICATE OF SERVICE OF NOTICE OF APPLICATION

FOR A PERMIT TO CONSTRUCT

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of **SOUTHERN CALIFORNIA EDISON COMPANY'S NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT: MASCOT SUBSTATION PROJECT** on all parties identified on the attached service list(s). Service was effected by one or more means indicated below:

Placing copies in properly addressed sealed envelopes and depositing such copies in the United States mail with first-class postage prepaid to all parties.

Executed this 25th day of November, 2009, at Rosemead, California.

/s/ Melissa Schary

MELISSA SCHARY
Project Analyst
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770

MASCOT SUBSTATION PROJECT AGENCY SERVICE LIST		
Kings County Board of Supervisors Honorable Joe Neves, Chairman 1400 West Lacey Boulevard. Hanford, CA 93230	Honorable Richard Fagundes Kings County Board of Supervisors 1400 W. Lacey Blvd. Hanford, CA 93230	Mr. Chuck Kinney, Senior Planner County of Kings 1400 W. Lacey Blvd. Hanford, CA 93230
Mr. Greg Gatzka Planning Director County of Kings 1400 West Lacey Blvd Hanford CA, 93230	Ms. Terri Yarbrough Planning Commission Secretary County of Kings 1400 West Lacey Blvd Hanford CA, 93230	City of Hanford Honorable David Ayers, Mayor 319 N. Douty Street Hanford CA. 93230
City of Hanford Mr. Hilary Straus Deputy City Manager 319 N. Douty Street Hanford CA. 93230	Planning Department Cathy Cain, City Planner 319 N. Douty Street Hanford CA. 93230	City of Hanford Mr. Gary Misenhimer, City Manager 319 N. Douty Street Hanford CA. 93230
Mr. Larry Spikes, County Admin. Officer County of Kings 1400 W. Lacey Blvd. Hanford, CA 93230	Mr. Lou Camara, Public Works Dir. City of Hanford 900 S. 10th Avenue Hanford, CA 93230	California Department of Transportation District 6 Brian Everson, Director 1352 W. Olive Ave. Fresno, CA 93778-2616
Melissa Jones, Executive Director California Energy Commission 1516 Ninth Street Sacramento, CA 95814-5512	Karen Miller, CPUC Public Advisor California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102	Ms. Julie Fitch, Energy Division California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102
California Department of Transportation Randell Iwasaki, Director PO Box 942873 Sacramento, CA 94273-0001	Department of Health Services Sandra Shewry, Director 1501 Capitol Ave., Suite 6001 Sacramento, CA 94234-7320	California Resources Agency Mike Chrisman, Secretary 1416 Ninth St., Suite 1311 Sacramento, CA 95814
California Department of Fish and Game Donald Koch, Director 1416 Ninth Street Sacramento, CA 95814	State Water Resources Control Board Dorothy Rice, Executive Director 1001 "I" Street Sacramento, CA 95814	California Air Resources Board Attn: Stationary Source 1001 "I" Street PO Box 2815 Sacramento, CA 95812
California Department of Transportation Division of Aeronautics, MS # 40 Gary Cathey, Division of Aeronautics Acting Chief PO Box 942874 Sacramento, CA 94274-0001	California Regional Water Quality Control Board Central Valley Fresno Office Pamela C. Creedon, Executive Officer 1685 E Street Fresno, CA 93706	Mr. Harry Verheul Public Works Director County of Kings 1400 W. Lacey Blvd. Hanford, CA 93230

Mascot Substation Preferred Route
300' Mailing List
November 10, 2009

APN	FIRST NAME	LAST NAME	SITUS HOUSE #	SITUS STREET	SITUS CITY	STATE	ZIP	OWNER NAME	MAIL HOUSE #	DIRECTION	MAIL STREET	MAIL CITY	STATE	ZIP	ACRES
14130052000	JAMES	ROGERS	null		HANFORD	CA		ROGERS,JAMES W IRREVOCABLE LIV	null		PO BOX 1579	HANFORD	CA	93232	128.41
14130071000	DIAS MICHAEL A & G FIRST AMEND		null		HANFORD	CA		DIAS MICHAEL A & G FIRST AMEND	7696		GRANGEVILLE	HANFORD	CA	93230	13.42
14260001000	RICHARDS FAMILY LAND LLC		9181	8TH	HANFORD	CA		RICHARDS FAMILY LAND LLC	39	SE	6TH	LAWTON	OK	73501	157.48
14260021000	DIAS MICHAEL A & GERMAINE FIRS		null		HANFORD	CA		DIAS MICHAEL A & GERMAINE FIRS	7696		GRANGEVILLE	HANFORD	CA	93230	70
14260029000	HELEN	GALES	null		HANFORD	CA		GALES,HELEN M	8030		7 1/2	HANFORD	CA	93230	68.98
14260066000			null		HANFORD				null						
14260087000	DIAS MICHAEL A & G FIRST AMEND		null		HANFORD	CA		DIAS MICHAEL A & G FIRST AMEND	7696		GRANGEVILLE	HANFORD	CA	93230	12.12
14390007000	EMMA	IRELAND	9733	PONDEROSA	HANFORD	CA	9274	IRELAND,EMMA J	9733		PONDEROSA	HANFORD	CA	93230	0
14390008000	JERRY & MARY	FAGUNDES	9785	PONDEROSA	HANFORD	CA	9274	FAGUNDES,JERRY F & MARY J	9785		PONDEROSA	HANFORD	CA	93230	0
14390009000	ARNOLD	HORN	9851	PONDEROSA	HANFORD	CA	9274	HORN,ARNOLD W	9851		PONDEROSA	HANFORD	CA	93230	1.25
14390010000	RONALD & JANALEE	WHITE	9909	PONDEROSA	HANFORD	CA	9274	WHITE,RONALD A & JANALEE K	9909		PONDEROSA	HANFORD	CA	93230	1.52
14390011000	TYE & JESSICA	GEAR	7456	LACEY	HANFORD	CA	9432	GEAR,TYE J & JESSICA L	7456		LACEY	HANFORD	CA	93230	1.67
14390012000	MILLARD & MINNIE	DOWNING	9944	PONDEROSA	HANFORD	CA	9469	DOWNING,MILLARD & MINNIE	9944		PONDEROSA	HANFORD	CA	93230	0
14390013000	TONY & ARLENE	DIAS	9896	PONDEROSA	HANFORD	CA	9434	DIAS,TONY L & ARLENE M	9896		PONDEROSA	HANFORD	CA	93230	1.25
14390014000	HECTOR & ANGELA	MARROQUIN	9844	PONDEROSA	HANFORD	CA	9434	MARROQUIN,HECTOR C & ANGELA K	9844		PONDEROSA	HANFORD	CA	93230	0
14390015000	JIM & HELEN	RAMIREZ	9780	PONDEROSA	HANFORD	CA	9434	RAMIREZ,JIM & HELEN M	9780		PONDEROSA	HANFORD	CA	93230	1.25
14390016000	RAMON & MARY	CASTILLO	9724	PONDEROSA	HANFORD	CA	9434	CASTILLO,RAMON B JR & MARY E	9724		PONDEROSA	HANFORD	CA	93230	1.25
14390017000	AARON	FUKUDA	7450	MOUNTAIN VIEW	HANFORD	CA	9670	FUKUDA,AARON K	7450		MOUNTAIN VIEW	HANFORD	CA	93230	1.89
16070012000	BAKER RENDERING CORP DBA BAKER		7480	HANFORD ARMONA	HANFORD	CA	9343	BAKER RENDERING CORP DBA BAKER	4020		BANDINI	LOS ANGELES	CA	90023	80
16070013000	BAKER RENDERING CORP		7666	HANFORD ARMONA	HANFORD	CA		BAKER RENDERING CORP	null		PO BOX 416	KERMAN	CA	93630	30
16070015000	BAKER RENDERING CORP		null		HANFORD	CA		BAKER RENDERING CORP	null		PO BOX 416	KERMAN	CA	93630	50
16070036000	GLORIA	COELHO	null		HANFORD	CA		COELHO,GLORIA J LIVING TRUST	8881		HOUSTON	HANFORD	CA	93230	74.69
16070037000	ELSIE	LEVARIO	7691	LACEY	HANFORD	CA		LEVARIO,ELSIE	2495		SPRUCE	HANFORD	CA	93230	3.83
16070038000	GLORIA	COELHO	7581	LACEY	HANFORD	CA		COELHO,GLORIA J LIVING TRUST	8881		HOUSTON	HANFORD	CA	93230	69.67
16130055000	TRI WEST INVESTMENTS LLC		7479	HANFORD ARMONA	HANFORD	CA	9343	TRI WEST INVESTMENTS LLC	10431		8 3/4	HANFORD	CA	93230	84.29
16130079000	MODULAR RUBBER DRAINS INC DBA		7537	HANFORD ARMONA	HANFORD	CA		MODULAR RUBBER DRAINS INC DBA	null		PO BOX 903	GOSHEN	CA	93227	5.98
16130081000	KOSTER FAMILY REVOC TRUST		null		HANFORD	CA		KOSTER FAMILY REVOC TRUST	1629	S	JACQUES	VISALIA	CA	93277	3.69
16130082000	UELAND,MARTIN E & DONNA M FAMI		7533	HANFORD ARMONA	HANFORD	CA	9343	UELAND,MARTIN E & DONNA M FAMI	5225	N	VIA AMORE	FRESNO	CA	93711	1.5
990270153000	MARTIN & DONNA	UELAND	7533	HANFORD ARMONA	HANFORD	CA	9343	UELAND,MARTIN E & DONNA M	5225	N	VIA AMORE	FRESNO	CA	93711	1.5
995191773000	MODULAR RUBBER DRAINS INC		7537	HANFORD ARMONA	HANFORD	CA		MODULAR RUBBER DRAINS INC	null		PO BOX 903	GOSHEN	CA	93227	5.98
995191929001	KOSTER FAMILY REVOC TRUST		7533	HANFORD ARMONA	HANFORD	CA	9343	KOSTER FAMILY REVOC TRUST	5225	N	VIA AMORE	FRESNO	CA	93711	1.5
996191773000	MODULAR RUBBER DRAINS INC		7537	HANFORD ARMONA	HANFORD	CA		MODULAR RUBBER DRAINS INC	null		PO BOX 903	GOSHEN	CA	93227	5.98
996191929001	KOSTER FAMILY REVOC TRUST		7533	HANFORD ARMONA	HANFORD	CA	9343	KOSTER FAMILY REVOC TRUST	5225	N	VIA AMORE	FRESNO	CA	93711	1.5

Mascot Substation Alternate
300' Mailing List
November 10, 2009

APN	FIRST NAME	LAST NAME	SITUS HOUSE #	SITUS STREET	CITY	STATE	ZIP	OWNER NAME 1	OWNER NAME 2	MAIL HOUSE #	DIR	MAIL STREET	CITY	STATE	ZIP	ACRES
14120004000	DUTRA LIVING TRUST		5638	GRANGEVILLE	HANFORD	CA	9428	DUTRA LIVING TRUST		5220		FLINT	HANFORD	CA	93230	104.58
14120005000	DUTRA LIVING TRUST		8677	6TH		CA	9777	DUTRA LIVING TRUST		5220		FLINT	HANFORD	CA	93230	null
14100023000	STANLEY & TRACY	MYERS	null		HANFORD	CA		MYERS,STANLEY & TRACY REVOC TR		9488		ELDER	HANFORD	CA	93230	80
14130007000	JOE	SILVA	8501	7 1/2	HANFORD	CA	9102	SILVA,JOE R TRUST		645		C	LEMOORE	CA	93245	40
14130013000	SOARES,GEORGE & GLORIA REV FAM		8520	7 1/2	HANFORD	CA		SOARES,GEORGE & GLORIA REV FAM		7701		SILVA RANCH	SACRAMENTO	CA	95831	20
14090046000	ANTHONY & JUANITA	CARDOZA	6268	FARGO	HANFORD	CA	9768	CARDOZA,ANTHONY & JUANITA		6268		FARGO	HANFORD	CA	93230	2.12
14130014000	SOARES,GEORGE & GLORIA REV FAM		8348	7 1/2	HANFORD	CA	9102	SOARES,GEORGE & GLORIA REV FAM		7701		SILVA RANCH	SACRAMENTO	CA	95831	30
14130022000	DUTRA LIVING TRUST		8264	6TH	HANFORD	CA	9777	DUTRA LIVING TRUST		5220		FLINT	HANFORD	CA	93230	0.9
14090045000	ANTHONY & JUANITA	CARDOZA	6324	FARGO	HANFORD	CA	9768	CARDOZA,ANTHONY & JUANITA		6268		FARGO	HANFORD	CA	93230	18.07
14090043000	GARCIA,ANTONIO & MARIA 1996 FA		null		HANFORD	CA		GARCIA,ANTONIO & MARIA 1996 FA		6571		FARGO	HANFORD	CA	93230	20.19
14090042000	LOUIE & A	SILVA	null		HANFORD	CA		SILVA,LOUIE R & A GERALDINE TR		8030		7 1/2	HANFORD	CA	93230	70
14130043000	RICHARD & NANCY	HILDAHL	6481	FARGO	HANFORD	CA	9768	HILDAHL,RICHARD E & NANCY E		6481		FARGO	HANFORD	CA	93230	1
14090041000	MICHAEL	DIAS	7722	FARGO	HANFORD	CA	9770	DIAS,MICHAEL REV TRUST	AMND,GERMAINE REV TRUST	7696		GRANGEVILLE	HANFORD	CA	93230	60
14130052000	JAMES	ROGERS	null		HANFORD	CA		ROGERS,JAMES W IRREVOCABLE LIV		null		PO BOX 1579	HANFORD	CA	93232	128.41
14130055000	GARCIA,ANTONIO & MARIA FAMILY		null		HANFORD	CA	9461	GARCIA,ANTONIO & MARIA FAMILY		6571		FARGO	HANFORD	CA	93230	63.34
14130060000	BLANCHARD FARMS INC DBA BLANCH		8139	7TH	HANFORD	CA	9759	BLANCHARD FARMS INC DBA BLANCH		8139		7TH	HANFORD	CA	93230	105.91
14130061000	GARCIA,ANTONIO & MARIA 1996 FA		6571	FARGO	HANFORD	CA	9421	GARCIA,ANTONIO & MARIA 1996 FA		6571		FARGO	HANFORD	CA	93230	55.54
14090037000	BERT & TANIS	WILGENBURG	null		HANFORD	CA	9105	WILGENBURG,BERT & TANIS TRUST		6511		FLINT	HANFORD	CA	93230	210.79
14130069000	DIAS MICHAEL A & G FIRST AMEND		null		HANFORD	CA		DIAS MICHAEL A & G FIRST AMEND		7696		GRANGEVILLE	HANFORD	CA	93230	13.42
14130071000	DIAS MICHAEL A & G FIRST AMEND		null		HANFORD	CA		DIAS MICHAEL A & G FIRST AMEND		7696		GRANGEVILLE	HANFORD	CA	93230	13.42
14130075000	SOARES,GEORGE & GLORIA REV FAM		null		HANFORD	CA		SOARES,GEORGE & GLORIA REV FAM		7701		SILVA RANCH	SACRAMENTO	CA	95831	10.06
14130076000	TDH LAND & CATTLE LLC		8734	7 1/2	HANFORD	CA	9102	TDH LAND & CATTLE LLC		7794		GRANGEVILLE	HANFORD	CA	93230	10.06
14130079000	DUTRA LIVING TRUST		null		HANFORD	CA		DUTRA LIVING TRUST		5220		FLINT	HANFORD	CA	93230	10.1
14130080000	DUTRA LIVING TRUST		null		HANFORD	CA		DUTRA LIVING TRUST		5220		FLINT	HANFORD	CA	93230	82.34
14260001000	RICHARDS FAMILY LAND LLC		9181	8TH	HANFORD	CA		RICHARDS FAMILY LAND LLC		39	SE	6TH	LAWTON	OK	73501	157.48
14260021000	DIAS MICHAEL A & GERMAINE FIRS		null		HANFORD	CA		DIAS MICHAEL A & GERMAINE FIRS		7696		GRANGEVILLE	HANFORD	CA	93230	70
14260025000	PALMIRA	LUIS	6167	GRANGEVILLE	HANFORD	CA		LUIS,PALMIRA V TRUST		2181	N	M	TULARE	CA	93274	78.43
14090027000	CROSSNO FAMILY TRUST		6960	FARGO	HANFORD	CA	9174	CROSSNO FAMILY TRUST		10589		BOULDER CANYON	ALTA LOMA	CA	91737	31.54
14090006000	SILVA LOUIE R & GERALDINE TRUS		7722	FARGO	HANFORD	CA	9770	SILVA LOUIE R & GERALDINE TRUS		8030		7 1 2	HANFORD	CA	93230	null
14270012000	WARD PROPERTIES L P		null		HANFORD	CA		WARD PROPERTIES L P		2178	W	BERKSHIRE	HANFORD	CA	93230	0
14120001000	BERT & TANIS	WILGENBURG	8101	6TH	HANFORD	CA		WILGENBURG,BERT & TANIS TRUST		6511		FLINT	HANFORD	CA	93230	160
14270029000	WARD PROPERTIES L P		null		HANFORD	CA		WARD PROPERTIES L P		2178	W	BERKSHIRE	HANFORD	CA	93230	140.62
14270030000			null		HANFORD					null						null
16070021000	VIEIRA REVOC LIVING TRUST		10308	6TH	HANFORD	CA		VIEIRA REVOC LIVING TRUST	VIEIRA,BARBARA J TR	1423		17TH	LOS OSOS	CA	93402	60.6
14130023000	RENE	AYALA	8486	6TH	HANFORD	CA	9777	AYALA,RENE	JIMENEZ,LINDA	8486		6TH	HANFORD	CA	93230	0.87
14130024000	JCJ DAIRY INC		6158	GRANGEVILLE	HANFORD	CA		JCJ DAIRY INC		6335		LACEY	HANFORD	CA	93230	120
14130058000	SOARES,GEORGE & GLORIA REV FAM		7601	FARGO	HANFORD	CA	9447	SOARES,GEORGE & GLORIA REV FAM		7701		SILVA RANCH	SACRAMENTO	CA	95831	38.16
14130062000	MICHAEL	DIAS	7361	FARGO	HANFORD	CA	9769	DIAS,MICHAEL A TRUST	G,F A TRUST	502	W	GRANGEVILLE	HANFORD	CA	93230	80
14260080000	DON & JACKIE	GIACOMAZZI	9550	6TH	HANFORD	CA	9303	GIACOMAZZI,DON & JACKIE TRUST		9550		6TH	HANFORD	CA	93230	4.13
14270006000	WARD PROPERTIES L P		5530	LACEY	HANFORD	CA	9445	WARD PROPERTIES L P		2178	W	BERKSHIRE	HANFORD	CA	93230	151.24
16080010000	MICHAEL & EVELYN	GOMES	10957	6TH	HANFORD	CA	9324	GOMES,MICHAEL T SR & EVELYN M		10957		6TH	HANFORD	CA	93230	2.81
14260026000	PALMIRA	LUIS	null		HANFORD	CA		LUIS,PALMIRA V TRUST		2181	N	M	TULARE	CA	93274	72.48
14260065000			null		HANFORD					null						null
14260068000	LILIA	GIACOMAZZI	9624	6TH	HANFORD	CA	9303	GIACOMAZZI,LILIA REV TRUST DBA		9550		6TH	HANFORD	CA	93230	129.28
14260079000	GIACOMAZZI,DON & JACKIE FAMILY		null		HANFORD	CA		GIACOMAZZI,DON & JACKIE FAMILY		9550		6TH	HANFORD	CA	93230	1
16070090000	DANIEL & BELLE	LEAL	6236	!ANFORD ARMON	HANFORD	CA	8819	LEAL,DANIEL & BELLE LIVING TRU		6236		HANFORD ARMONA	HANFORD	CA	93230	38.59
16070099000	DRAXLER LAND COMPANY		10536	6TH	HANFORD	CA	8702	DRAXLER LAND COMPANY		6335		LACEY	HANFORD	CA	93230	7.1
16080011000	ALICIA	YKEMA	10911	6TH	HANFORD	CA	9324	YKEMA,ALICIA REV TRUST DBA 2 Y		10795		6TH	HANFORD	CA	93230	117.19
16070055000	ROGER & FLORENCE	DENHAM	10816	6TH	HANFORD	CA	8703	DENHAM,ROGER A & FLORENCE A		10816		6TH	HANFORD	CA	93230	4.42
16070056000	BARBARA	WIENS	10806	6TH	HANFORD	CA	8703	WIENS,BARBARA A LIVING TRUST		10806		6TH	HANFORD	CA	93230	3.2
990269316000	ALICIA	YKEMA	10911	6TH	HANFORD	CA	9324	YKEMA,ALICIA		10795		6TH	HANFORD	CA	93230	117.19
990273606000	WARD PROPERTIES L P		5530	LACEY	HANFORD	CA	9445	WARD PROPERTIES L P		2178	W	BERKSHIRE	HANFORD	CA	93230	151.24
991269316000	ALICIA	YKEMA	10911	6TH	HANFORD	CA	9324	YKEMA,ALICIA		10795		6TH	HANFORD	CA	93230	117.19
995191881000	RICHARD	TIPTON	10612	6TH	HANFORD	CA	8702	TIPTON,RICHARD J		10654		6TH	HANFORD	CA	93230	2.5
995195110000	DANIEL & BELLE	LEAL	6233	!ANFORD ARMON	HANFORD	CA		LEAL,DANIEL & BELLE LIVING TRU		6236		HANFORD ARMONA	HANFORD	CA	93230	149.74
16070057000	RICHARD & MARGARET	TIPTON	10612	6TH	HANFORD	CA	8702	TIPTON,RICHARD J & MARGARET		10612		6TH	HANFORD	CA	93230	2.5
16070064000	TIPTON FAMILY LIVING TRUST		10654	6TH	HANFORD	CA	8702	TIPTON FAMILY LIVING TRUST		10654		6TH	HANFORD	CA	93230	2.94
16080042000	STATE OF CALIFORNIA		5941	LACEY	HANFORD	CA	9308	STATE OF CALIFORNIA		null						4.24
16080043000	ATSMA-CAMERON FAMILY LIMITED P		5811	LACEY	HANFORD	CA	9308	ATSMA-CAMERON FAMILY LIMITED P		5811		LACEY	HANFORD	CA	93230	185.01
16120001000	ALICIA	YKEMA	null		HANFORD	CA		YKEMA,ALICIA REV TRUST		10795		6TH	HANFORD	CA	93230	90.96
16130045000	DANIEL & BELLE	LEAL	6233	!ANFORD ARMON	HANFORD	CA		LEAL,DANIEL & BELLE LIVING TRU		6236		HANFORD ARMONA	HANFORD	CA	93230	149.74
16080032000	AUDOMERO & CELIA	RODRIGUEZ	null		HANFORD	CA	8704	RODRIGUEZ,AUDOMERO & CELIA		10175		6TH	HANFORD	CA	93230	2.5
16080041000	STATE OF CALIFORNIA		5939	LACEY	HANFORD	CA	9308	STATE OF CALIFORNIA		null						6.62

Appendix F

FIELD MANAGEMENT PLAN

FOR MASCOT SUBSTATION PROJECT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

List of Terms

CDHS	California Department of Health Services
C/L	center line
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
ELF	Extremely Low Frequency
EMF	electric and magnetic fields
FMP	field management plan
GO	General Order
IARC	International Agency for Research on Cancer
kV	kilovolt
LWS	light weight steel
mG	milliGauss
MVA	megavolt-ampere
MW	megawatt
NIEHS	National Institute of Environmental Health Sciences
NRPB	National Radiation Protection Board
PEA	Proponents Environmental Assessment
PG&E	Pacific Gas and Electric
RAPID	Research and Public Information Dissemination
R-O-W	right-of-way
SCE	Southern California Edison
T/L	transmission line
TSP	tubular steel pole
VAR	volt ampere reactive
WHO	World Health Organization

I. EXECUTIVE SUMMARY

This document is Southern California Edison Company's (SCE) Field Management Plan (FMP) for the proposed Mascot Substation Project (Proposed Project). SCE proposes to construct a new 66/12 kilovolt (kV) substation called Mascot Substation (Proposed Substation). The new subtransmission line segments would connect the Proposed Substation to two existing subtransmission lines; the Hanford-Liberty 66 kV subtransmission line and the Goshen-Hanford 66 kV subtransmission line. The Proposed Project includes the following components:

- A new 66/12 kilovolt (kV) distribution substation on an approximately five-acre site
- Construction of new 66 kV subtransmission line segments to serve the Proposed Substation; more specifically, the Goshen-Hanford 66 kV subtransmission line would be looped into Proposed Substation and the Hanford-Liberty 66 kV subtransmission line, approximately two miles away, would be tapped and connected to the Proposed Substation with a new single-circuit 66 kV subtransmission line segment
- Construction of four new 12 kV distribution circuits
- Facilities to connect the Proposed Substation to SCE's existing telecommunication system

SCE provides this FMP in order to inform the public, the California Public Utilities Commission (CPUC), and other interested parties of its evaluation of "no-cost and low-cost" magnetic field reduction design options for this project, and SCE's proposed plan to apply these design options to this project. This FMP has been prepared in accordance with CPUC Decision

No. 93-11-013 and Decision No. 06-01-042 relating to extremely low frequency (ELF)[1] electric and magnetic fields (EMF). This FMP also provides background on the current status of scientific research related to possible health effects of EMF, and a description of the CPUC's EMF policy.

The "no-cost and low-cost" magnetic field reduction design options that are incorporated into the design of the Proposed Project are as follows:

- Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs
- Arrange conductors of proposed subtransmission line for magnetic field reduction
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction
- Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines
- Configure the transfer and operating buses with the transfer bus closest to the nearest property line

Table 1 on page 8 summarizes "no-cost and low-cost" magnetic field reduction design options that SCE considered for the Proposed Project.

SCE's plan for applying the above "no-cost and low-cost" magnetic field reduction design options for the Proposed Project is consistent with CPUC's EMF policy and with the direction of leading national and international health agencies. Furthermore, the plan complies

[1] The extremely low frequency is defined as the frequency range from 3 Hz to 3,000 Hz.

with SCE's EMF Design Guidelines[2], and with applicable national and state safety standards for new electrical facilities.

[2] EMF Design Guidelines, August 2006.

Table 1. Summary of "No-cost and Low-cost" Magnetic Field Reduction Design Options

Area No.	Location[3]	Adjacent Land Use[4]	MF Reduction Design Options Considered	Estimated Cost to Adopt	Design Option(s) Adopted? (Yes/No)	Reason(s) if not adopted
Mascot Substation	Located approximately south of Grangeville Blvd. and west of 7 ½ Ave. outside of the city of Hanford, California	5	• Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines • Configure the transfer and operating buses with the transfer bus closest to the nearest property line	• No-Cost • No-Cost	• Yes • Yes	

[3] This column shows the major cross streets, existing subtransmission lines, or substation name as reference points.

[4] Land usage codes are as follows: 1) schools, licensed day-cares, and hospitals, 2) residential, 3) commercial/industrial, 4) recreational, 5) agricultural, and 6) undeveloped land.

Area No.	Location[3]	Adjacent Land Use[4]	MF Reduction Design Options Considered	Estimated Cost to Adopt	Design Option(s) Adopted? (Yes/No)	Reason(s) if not adopted
66 kV Source sub-transmission line Segment 1	Tap location on Hanford Armona Rd. between 7th and 8th Ave. Line travels approximately 2 miles north to Grangeville Blvd.	2,5	• Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Arrange conductors of proposed subtransmission line for magnetic field reduction • Utilize subtransmission line construction that reduces the space between conductors compared with other designs	• No-Cost[5] • No-Cost • No-Cost	• Yes • Yes • Yes	
66 kV Source sub-transmission line Segment 2	Tap location on Grangeville Blvd.	5	• Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Arrange conductors of proposed subtransmission line for magnetic field reduction • Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction	• No-Cost[6] • No-Cost • No-Cost	• Yes • Yes • Yes	

[5] Included in the preliminary design

[6] *ibid*

II. BACKGROUND REGARDING EMF AND PUBLIC HEALTH RESEARCH ON EMF

There are many sources of power frequency[7] electric and magnetic fields, including internal household and building wiring, electrical appliances, and electric power transmission and distribution lines. There have been numerous scientific studies about the potential health effects of EMF. After many years of research, the scientific community has been unable to determine if exposures to EMF cause health hazards. State and federal public health regulatory agencies have determined that setting numeric exposure limits is not appropriate.[8]

Many of the questions about possible connections between EMF exposures and specific diseases have been successfully resolved due to an aggressive international research program. However, potentially important public health questions remain about whether there is a link between EMF exposures and certain diseases, including childhood leukemia and a variety of adult diseases (e.g., adult cancers and miscarriages). As a result, some health authorities have identified magnetic field exposures as a possible human carcinogen. As summarized in greater detail below, these conclusions are consistent with the following published reports: the National Institute of Environmental Health Sciences (NIEHS) 1999[9], the National Radiation Protection Board (NRPB) 2001[10], the International Commission on non-Ionizing Radiation Protection (ICNIRP) 2001, the California Department of Health Services (CDHS) 2002[11], and the International Agency for Research on Cancer (IARC) 2002[12].

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7 In U.S., it is 60 Hertz (Hz).

8 CPUC Decision 06-01-042, p. 6, footnote 10

9 National Institute of Environmental Health Sciences' Report on Health Effects from Exposures to Power-Line frequency Electric and Magnetic Fields, NIH Publication No. 99-4493, June 1999.

10 National Radiological Protection Board, Electromagnetic Fields and the Risk of Cancer, Report of an Advisory Group on Non-ionizing Radiation, Chilton, U.K. 2001

11 California Department of Health Services, An Evaluation of the Possible Risks from Electric and Magnetic Fields from Power Lines, Internal Wiring, Electrical Occupations, and Appliances, June 2002.

12 World Health Organization / International Agency for Research on Cancer, IARC Monographs on the evaluation of carcinogenic risks to humans (2002), Non-ionizing radiation, Part 1: Static and extremely low-frequency (ELF) electric and magnetic fields, IARCPress, Lyon, France: International Agency for Research on Cancer, Monograph, vol. 80, p. 338, 2002

The federal government conducted EMF research as a part of a $45-million research program managed by the NIEHS. This program, known as the EMF RAPID (Research and Public Information Dissemination), submitted its final report to the U.S. Congress on June 15, 1999. The report concluded that:

- "The scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak."[13]

- "The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard."[14]

- "The NIEHS suggests that the level and strength of evidence supporting ELF-EMF exposure as a human health hazard are insufficient to warrant aggressive regulatory actions; thus, we do not recommend actions such as stringent standards on electric appliances and a national program to bury all transmission and distribution lines. Instead, the evidence suggests passive measures such as a continued emphasis on educating both the public and the regulated community on means aimed at reducing exposures. NIEHS suggests that the power industry continue its current practice of siting power lines to reduce exposures and continue to explore ways to reduce the creation of magnetic fields around transmission and distribution lines without creating new hazards."[15]

In 2001, Britain's NRPB arrived at a similar conclusion:

> "After a wide-ranging and thorough review of scientific research, an independent Advisory Group to the Board of NRPB has concluded that the power frequency electromagnetic fields that exist in the vast majority of homes are not a cause of cancer in general. However, some epidemiological studies do indicate a possible small risk of childhood leukemia associated with exposures to unusually high levels of power frequency magnetic fields."[16]

In 2002, three scientists for CDHS concluded:

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13 National Institute of Environmental Health Sciences, NIEHS Report on Health Effects from Exposures to Power-Frequency Electric and Magnetic Fields, p. ii, NIH Publication No. 99-4493, 1999

14 *ibid.*, p. iii

15 *ibid.*, p. 37 - 38

16 NRPB, NRPB Advisory Group on Non-ionizing Radiation Power Frequency Electromagnetic Fields and the Risk of Cancer, NRPB Press Release May 2001

> "To one degree or another, all three of the [C]DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage.
>
> They [CDHS] strongly believe that EMFs do not increase the risk of birth defects, or low birth weight.
>
> They [CDHS] strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.
>
> To one degree or another they [CDHS] are inclined to believe that EMFs do not cause an increased risk of breast cancer, heart disease, Alzheimer's disease, depression, or symptoms attributed by some to a sensitivity to EMFs. However, all three scientists had judgments that were "close to the dividing line between believing and not believing" that EMFs cause some degree of increased risk of suicide, or
>
> For adult leukemia, two of the scientists are 'close to the dividing line between believing or not believing' and one was 'prone to believe' that EMFs cause some degree of increased risk."[17]

Also in 2002, the World Health Organization's (WHO) IARC concluded:

> "ELF magnetic fields are possibly carcinogenic to humans"[18], based on consistent statistical associations of high-level residential magnetic fields with a doubling of risk of childhood leukemia...Children who are exposed to residential ELF magnetic fields less than 0.4 microTesla (4.0 milliGauss) have no increased risk for leukemia…. In contrast, "no consistent relationship has been seen in studies of childhood brain tumors or cancers at other sites and residential ELF electric and magnetic fields."[19]

In June of 2007, the WHO issued a report on their multi-year investigation of EMF and the possible health effects. After reviewing scientific data from numerous EMF and human health studies, they concluded:

> "Scientific evidence suggesting that everyday, chronic low-intensity (above 0.3-0.4 μT [3-4 mG]) power-frequency magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukaemia."[20]

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17 CDHS, An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances, p. 3, 2002

18 IARC, Monographs, Part I, Vol. 80, p. 338

19 *ibid*., p. 332 - 334

20 WHO, Environmental Health Criteria 238, EXTREMELY LOW FREQUENCY FIELDS, p. 11 - 13, 2007

> "In addition, virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern."[21]
>
> "A number of other diseases have been investigated for possible association with ELF magnetic field exposure. These include cancers in both children and adults, depression, suicide, reproductive dysfunction, developmental disorders, immunological modifications and neurological disease. The scientific evidence supporting a linkage between ELF magnetic fields and any of these diseases is much weaker than for childhood leukemia and in some cases (for example, for cardiovascular disease or breast cancer) the evidence is sufficient to give confidence that magnetic fields do not cause the disease"[22]
>
> "Furthermore, given both the weakness of the evidence for a link between exposure to ELF magnetic fields and childhood leukemia, and the limited impact on public health if there is a link, the benefits of exposure reduction on health are unclear. Thus the costs of precautionary measures should be very low."[23]

III. APPLICATION OF THE CPUC'S "NO-COST AND LOW-COST" EMF POLICY TO THIS PROJECT

Recognizing the scientific uncertainty over the connection between EMF exposures and health effects, the CPUC adopted a policy that addresses public concern over EMF with a combination of education, information, and precaution-based approaches. Specifically, Decision 93-11-013 established a precautionary based "no-cost and low-cost" EMF policy for California's regulated electric utilities based on recognition that scientific research had not demonstrated that exposures to EMF cause health hazards and that it was inappropriate to set numeric standards that would limit exposure.

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21 *ibid*., p. 12
22 *ibid*., p. 12
23 *ibid*., p. 13

In 2006, the CPUC completed its review and update of its EMF Policy in Decision 06-01-042. This decision reaffirmed the finding that state and federal public health regulatory agencies have not established a direct link between exposure to EMF and human health effects,[24] and the policy direction that (1) use of numeric exposure limits was not appropriate in setting utility design guidelines to address EMF,[25] and (2) existing "no-cost and low-cost" precautionary-based EMF policy should be continued for proposed electrical facilities. The decision also reaffirmed that EMF concerns brought up during Certificate of Public Convenience and Necessity (CPCN) and Permit to Construct (PTC) proceedings for electric and transmission and substation facilities should be limited to the utility's compliance with the CPUC's "no-cost and low-cost" policies.[26]

The decision directed regulated utilities to hold a workshop to develop standard approaches for EMF Design Guidelines and such a workshop was held on February 21, 2006. Consistent design guidelines have been developed that describe the routine magnetic field reduction measures that regulated California electric utilities consider for new and upgraded transmission line and transmission substation projects. SCE filed its revised EMF Design Guidelines with the CPUC on July 26, 2006.

"No-cost and low-cost" measures to reduce magnetic fields would be implemented for this project in accordance with SCE's EMF Design Guidelines. In summary, the process of evaluating "no-cost and low-cost" magnetic field reduction measures and prioritizing within and between land usage classes considers the following:

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[24] CPUC Decision 06-01-042, Conclusion of Law No. 5, mimeo. p. 19 ("As discussed in the rulemaking, a direct link between exposure to EMF and human health effects has yet to be proven despite numerous studies including a study ordered by this Commission and conducted by DHS.").

[25] CPUC Decision 06-01-042, mimeo. p. 17 - 18 ("Furthermore, we do not request that utilities include non-routine mitigation measures, or other mitigation measures that are based on numeric values of EMF exposure, in revised design guidelines or apply mitigation measures to reconfigurations or relocations of less than 2,000 feet, the distance under which exemptions apply under GO 131-D. Non-routine mitigation measures should only be considered under unique circumstances.").

[26] CPUC Decision 06-01-042, Conclusion of Law No. 2, ("EMF concerns in future CPCN and PTC proceedings for electric and transmission and substation facilities should be limited to the utility's compliance with the Commission's low-cost/no-cost policies.").

1. SCE's priority in the design of any electrical facility is public and employee safety. Without exception, design and construction of an electric power system must comply with all applicable federal, state, and local regulations, applicable safety codes, and each electric utility's construction standards. Furthermore, transmission and subtransmission lines and substations must be constructed so that they can operate reliably at their design capacity. Their design must be compatible with other facilities in the area and the cost to operate and maintain the facilities must be reasonable.

2. As a supplement to Step 1, SCE follows the CPUC's direction to undertake "no-cost and low-cost" magnetic field reduction measures for new and upgraded electrical facilities. Any proposed "no-cost and low-cost" magnetic field measures, must, however, meet the requirements described in Step 1 above. The CPUC defines "no-cost and low-cost" measures as follows:

- Low-cost measures, in aggregate, should:
  - Cost in the range of 4 percent of the total project cost.
  - Result in magnetic field reductions of "15% or greater at the utility ROW [right-of-way]…"[27]

The CPUC Decision stated,

> "We direct the utilities to use 4 percent as a benchmark in developing their EMF mitigation guidelines. We will not establish 4 percent as an absolute cap at this time because we do not want to arbitrarily eliminate a potential measure that might be available but costs more than the 4 percent figure. Conversely, the utilities are encouraged to use effective measures that cost less than 4 percent."[28]

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[27] CPUC Decision 06-01-042, p. 10
[28] CPUC Decision 93-11-013, § 3.3.2, p.10.

3. The CPUC provided further policy direction in Decision 06-01-042, stating that, "[a]lthough equal mitigation for an entire class is a desirable goal, we will not limit the spending of EMF mitigation to zero on the basis that not all class members can benefit."[29] While Decision 06-01-042 directs the utilities to favor schools, day-care facilities and hospitals over residential areas when applying low-cost magnetic field reduction measures, prioritization within a class can be difficult on a project case-by-case basis because schools, day-care facilities, and hospitals are often integrated into residential areas, and many licensed day-care facilities are housed in private homes, and can be easily moved from one location to another. Therefore, it may be practical for public schools, licensed day-care centers, hospitals, and residential land uses to be grouped together to receive highest prioritization for low-cost magnetic field reduction measures. Commercial and industrial areas may be grouped as a second priority group, followed by recreational and agricultural areas as the third group. Low-cost magnetic field reduction measures will not be considered for undeveloped land, such as open space, state and national parks, and Bureau of Land Management and U.S. Forest Service lands. When spending for low-cost measures would otherwise disallow equitable magnetic field reduction for all areas within a single land-use class, prioritization can be achieved by considering location and/or density of permanently occupied structures on lands adjacent to the projects, as appropriate.

This FMP contains descriptions of various magnetic field models and the calculated results of magnetic field levels based on those models. These calculated results are provided only for purposes of identifying the relative differences in magnetic field levels among various

[29] CPUC Decision 06-01-042, p. 10

transmission or subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed. This is because magnetic field levels depend upon a variety of variables, including load growth, customer electricity usage, and other factors beyond SCE's control. The CPUC affirmed this in D. 06-01-042 stating:

> "Our [CPUC] review of the modeling methodology provided in the utility [EMF] design guidelines indicates that it accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields."[30]

IV. PROJECT DESCRIPTION

Southern California Edison proposes to construct the new 66 kilovolt (kV)-12 kV Mascot Substation (Proposed Substation), one loop-in 66 kV source subtransmission line, and one single-circuit 66 kV source subtransmission line (Proposed Project). The Proposed Substation would be constructed in unincorporated Kings County, California. Construction of the Proposed Project's 66 kV source lines would connect to the existing Goshen-Hanford 66 kV subtransmission line and the Hanford-Liberty 66 kV subtransmission line and would occur in unincorporated Kings County. The Proposed Substation would be an unstaffed, automated 56 MVA 66/12 kV low-profile substation capable of an ultimate build-out of 112 MVA. The

[30] CPUC Decision 06-01-042, p. 11

substation components include a 66 kV switchrack, circuit breakers, disconnect switches, two (2) 28 MVA transformers, capacitor banks and a 12 kV switchrack.

For the purpose of evaluating "no-cost and low-cost" magnetic field reduction design options, the Proposed Project is divided into three parts:

- Part 1: Proposed Mascot 66 kV Subtransmission Lines
- Part 2: Mascot 66/12 kV Substation
- Part 3: Project Alternatives

Part 1: Proposed Mascot 66 kV Subtransmission Lines

For the purpose of field reduction evaluation, the proposed subtransmission lines will be divided into two segments as follows:

Segment 1

The new subtransmission line segment connection between the Proposed Substation and the existing Hanford-Liberty 66 kV subtransmission line would be approximately 2 miles long and parallels an existing Pacific Gas and Electric (PG&E) powerline. Approximately two existing wood poles along the Hanford-Liberty 66 kV subtransmission line would be removed and replaced with two new wood poles, and approximately one new tubular steel pole (TSP) would be installed to facilitate tapping the existing subtransmission line.

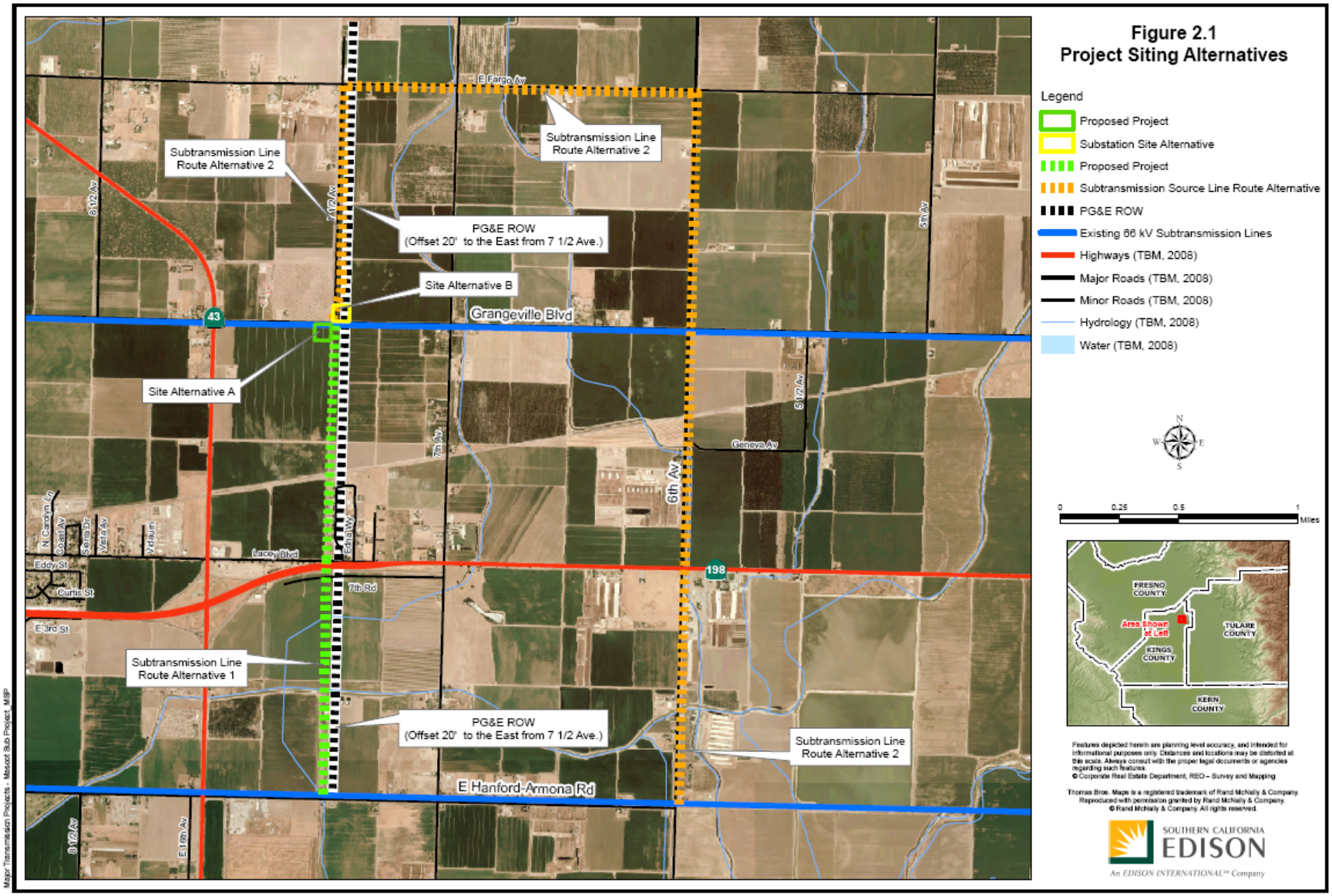
From the tap location on Hanford Armona Road between 7th and 8th Avenue, the route then travels north to Grangeville Boulevard (Proposed Substation location). The proposed Hanford-Liberty-Mascot 66 kV subtransmission line segment will be constructed on single-circuit poles along this route. This segment is approximately 2 mile long.

Segment 2

In addition, the existing Goshen-Hanford 66 kV subtransmission line that parallels Grangeville Boulevard would be looped into the Proposed Substation. Approximately three TSPs and one light weight steel (LWS) pole would be installed to connect the existing Goshen-Hanford 66 kV subtransmission line to the Proposed Substation, creating the Hanford-Mascot and Goshen-Mascot 66 kV subtransmission lines.

The information presented in this section is based on preliminary engineering design, and refinement during final engineering design may result in components that are modified from the descriptions provided in this FMP. SCE engineers added magnetic field reduction measures early in the design phase for this project. The total project cost will include "low-cost" magnetic field reduction measures in the proposed designs.

Figure 1. Project Area and Proposed 66 kV Subtransmission Line Routes



V. EVALUATION OF "NO-COST AND LOW-COST" MAGNETIC FIELD REDUCTION DESIGN OPTIONS

Please note that following magnetic field models and the calculated results of magnetic field levels are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions (see §VII-Appendix A for more detailed information about the calculation assumptions and loading conditions) and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location when the Proposed Project is constructed.

- **Part 1: Proposed Mascot 66 kV Subtransmission Lines**

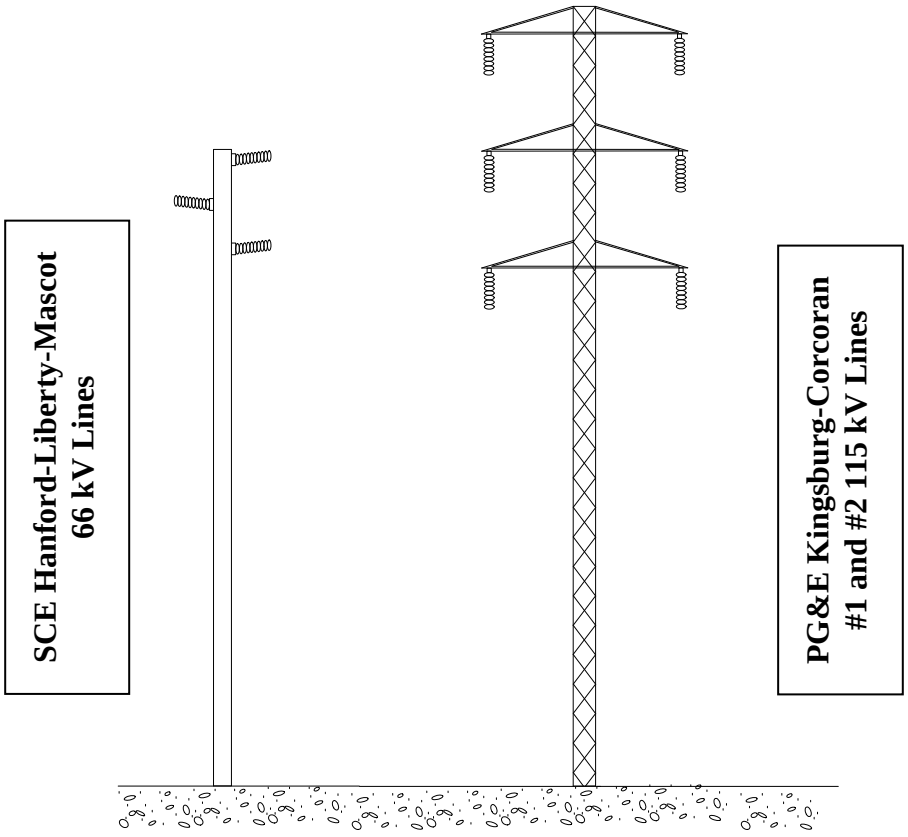
Segment 1

The proposed design used for Segment 1 is shown in Figure 2. The proposed 66 kV subtransmission line will be constructed on single-circuit structures. Based on preliminary designs, the wood and LWS poles will be approximately 70 feet in height, and TSPs will be approximately 65 to 85 feet in height. The poles will be located in utility franchise or easement. For EMF analysis, field levels at 10 feet from the center line (C/L) of the structure for a single circuit. Currently, there are no schools along the Segment 1 of the Proposed 66 kV subtransmission line route. The proposed route for Segment 1 runs through mostly agricultural land with scattered residences.

No-Cost Field Reduction Measures: The proposed design for Segment 1 includes the following no-cost field reduction measure:

1. Utilize structure heights that meet or exceed SCE's EMF preferred design criteria.
2. Utilize subtransmission line construction that reduces the space between conductors compared with other designs
3. Arrange conductors of proposed subtransmission line for magnetic field reduction

Figure 2. Proposed Hanford-Liberty-Mascot 66 kV Single-Circuit and Existing PG&E Double-Circuit 115 kV Subtransmission Lines - Segment 1 (Looking North)



Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 3 and Table 2 show the calculated magnetic field levels for proposed design. These calculations were made using the typical proposed structure height of 70 feet.

Figure 3. Calculated Magnetic Field Levels[31] for the Proposed Hanford-Liberty-Mascot 66 kV and Existing Subtransmission Lines Segment 1 (Looking North)

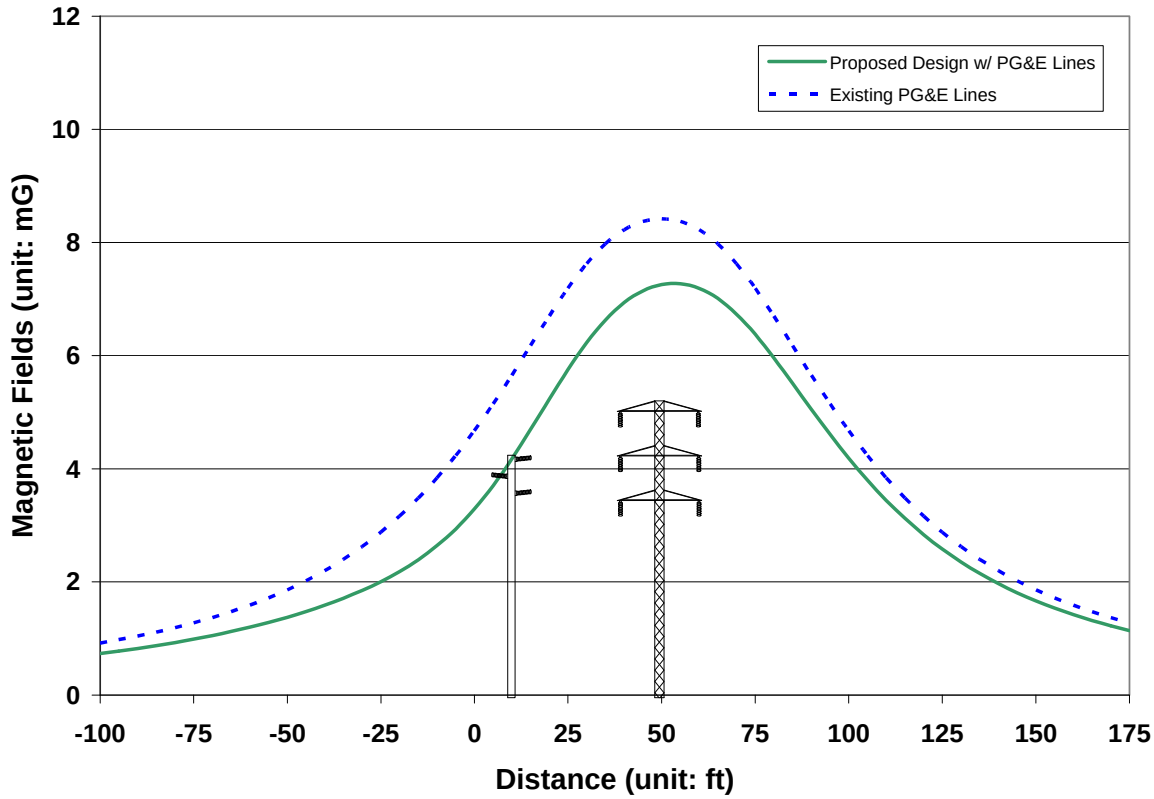


Table 2. A Comparison of Calculated Magnetic Field Levels[32] for Segment 1				
Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Existing PG&E Double Circuit 115 kV Lines	4.7	N/A	7.2	N/A
Proposed Single-Circuit 66 kV Design	3.3	30%	5.2	28%

31 This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

32 This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

Recommendations for Segment 1: *The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria, no further low-cost field reduction measures are recommended.*

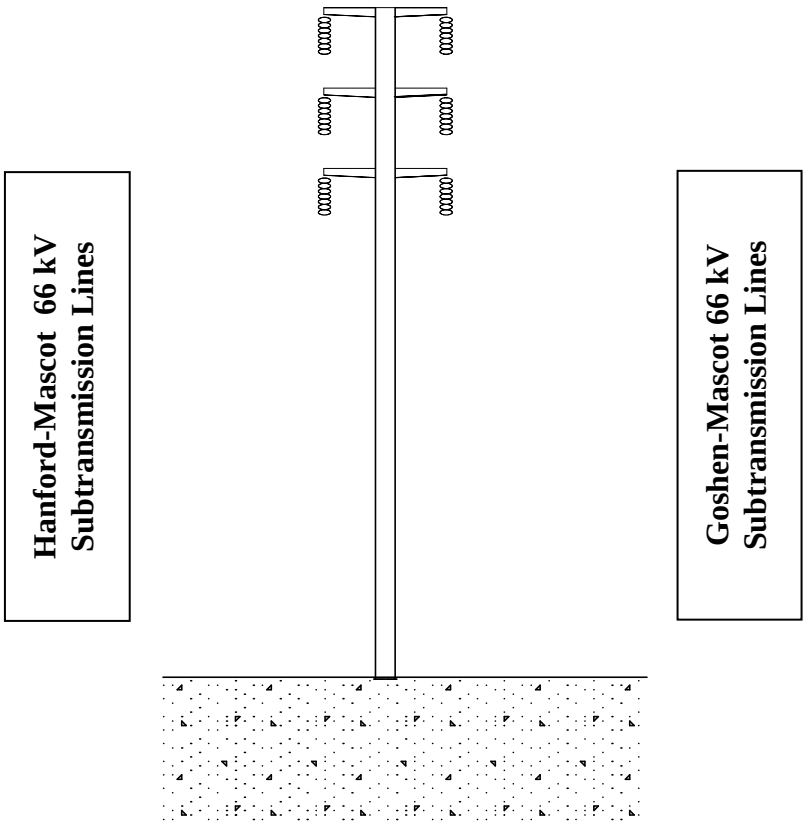
Segment 2

The proposed design used for Segment 2 is shown in Figure 4. The proposed 66 kV subtransmission line will be constructed on double-circuit structures. Based on preliminary designs, the LWS poles will be approximately 70 feet in height, and TSPs will be approximately 65 feet in height. The poles will be located in utility franchise or easement. Currently, there are no schools along the Segment 2 of the proposed 66 kV subtransmission line route. The proposed route for Segment 2 runs through mostly agricultural land.

No-Cost Field Reduction Measures: The proposed design for Segment 2 includes the following no-cost field reduction measure:

1. Utilize structure heights that meet or exceed SCE's EMF preferred design criteria.
2. Arrange conductors of proposed subtransmission line for magnetic field reduction
3. Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction

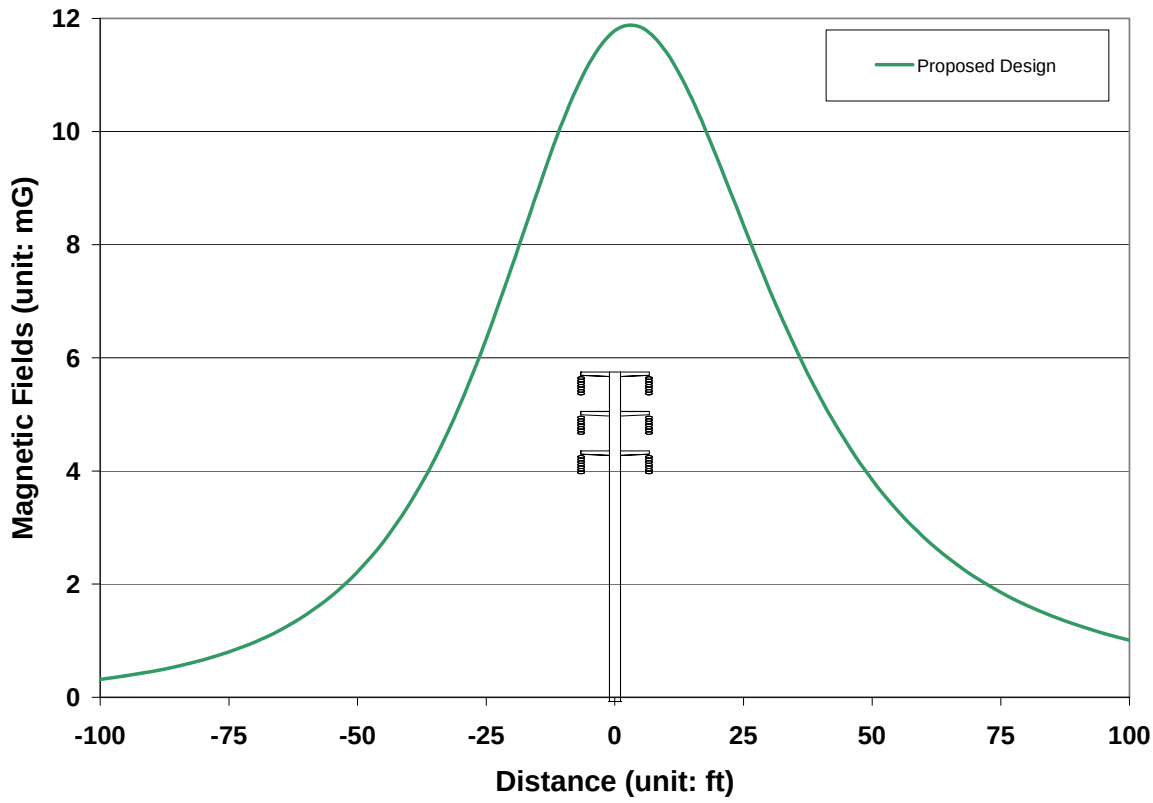
Figure 4. Proposed Double Circuit Tap Goshen-Mascot 66 kV and Hanford-Mascot 66 kV Subtransmission Lines - Segment 2 (Looking North)



Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 5 and Table 3 show the calculated magnetic field levels for proposed design. These calculations were made using the typical proposed structure height of 65 feet.

Figure 5. Calculated Magnetic Field Levels[33] for the Proposed Hanford-Mascot 66 kV and Goshen-Mascot 66 kV Subtransmission Lines Segment 2 (Looking North)



[33] This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

Table 3. Calculated Magnetic Field Levels[34] for Segment 2				
Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Proposed Double-Circuit 66 kV Design	10.2	N/A	11.4	N/A

Recommendations for Segment 2: *The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria, no further low-cost field reduction measures are recommended.*

Part 2: Mascot 66/12 kV Substation

Generally, magnetic field values along the substation perimeter are low compared to the substation interior because of the distance from the perimeter to the energized equipment. Normally, the highest magnetic field values around the perimeter of a substation result from overhead power lines and underground duct banks entering and leaving the substation, and are not caused by substation equipment. Therefore, the magnetic field reduction design options generally applicable to a substation project are as follows:

- Site selection for a new substation;
- Setback of substation structures and major substation equipment (such as bus, transformers, and underground cable duct banks, etc.) from perimeter;
- Field reduction for transmission lines and subtransmission lines entering and exiting the substation.

[34] This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

The Substation Checklist, as shown in Table 4, is used for evaluating the no-cost and low-cost design options considered for the substation project, the design options adopted, and reasons that certain design options were not adopted if applicable.

Table 4. Substation Checklist for Examining No-cost and Low-cost Magnetic Field Reduction Design Options

No.	No-Cost and Low-Cost Magnetic Field Reduction Design Options Evaluated for a Substation Project	Design Options Adopted? (Yes/No)	Reason(s) if not Adopted
1	Are 66 kV rated transformer(s) 15 feet from the substation property line?	Yes	
2	Are 66 kV rated switch-racks, capacitor banks & bus 8 feet (or more) from the substation property line?	Yes	
3	Are 66kV rated transfer & operating buses configured with the transfer bus facing the nearest property line?	Yes	
4	Are underground cable duct banks greater than 12 feet from side of property line?	Yes	

Part 3: Project Alternatives

This FMP includes only "no-cost and low-cost" magnetic field reduction design options for SCE's Proposed Routes and Proposed Substation site. SCE's Proponent's Environmental Assessment (PEA) contains various alternative line routes and substation site(s). Comparable "no-cost and low-cost" magnetic field reduction options for the Proposed Project can be applied to all alternative subtransmission routes and substation sites. A Final FMP will be prepared should an alternative route be approved.

VI. FINAL RECOMMENDATIONS FOR IMPLEMENTING "NO-COST AND LOW-COST" MAGNETIC FIELD REDUCTION DESIGN OPTIONS

In accordance with the "EMF Design Guidelines", filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042, SCE would implement the following "no-cost and low-cost" magnetic field reduction design options for Proposed Project:

For Proposed Mascot 66 kV Subtransmission Line Route Segment 1:

- Utilize structure heights that meet or exceeds SCE's EMF preferred design criteria
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs
- Arrange conductors of proposed subtransmission line for magnetic field reduction
    - Proposed phasing arrangement: BCA (top to bottom, or equivalent)

For Proposed Mascot 66 kV Subtransmission Line Route Segment 2:

- Utilize structure heights that meet or exceeds SCE's EMF preferred design criteria
- Arrange conductors of proposed subtransmission line for magnetic field reduction
    - Proposed phasing arrangement: ABC – ABC (top to bottom, or equivalent)
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction

For Proposed Mascot 66/12 kV Substation:

- Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines

- Configure the transfer and operating buses with the transfer bus closest to the nearest property line

The recommended "no-cost and low-cost" magnetic field reduction design options listed above are based upon preliminary engineering designs, and therefore, they are subject to change during the final engineering designs. If the final engineering designs are different than preliminary engineering designs, SCE would implement comparable "no-cost and low-cost" magnetic field reduction design options. If the final engineering designs are significantly different (in the context of evaluating and implementing CPUC's "no-cost and low-cost" EMF Policy) than the preliminary designs, a Final FMP will be prepared.

SCE's plan for applying the above "no-cost and low-cost" magnetic field reduction design options uniformly for the Proposed Project is consistent with the CPUC's EMF Decisions No. 93-11-013 and No. 06-01-042, and also with recommendations made by the U.S. NIEHS. Furthermore, the recommendations above meet the CPUC approved EMF Design Guidelines as well as all applicable national and state safety standards for new electrical facilities.

VII. APPENDIX A: TWO-DIMENTIONAL MODEL ASSUMPTIONS AND YEAR 2012 FORECASTED LOADING CONDITIONS

Magnetic Field Assumptions:

SCE uses a computer program titled "MFields"[35] to model the magnetic field characteristics of various transmission designs options. All magnetic field models and the calculated results of magnetic field levels presented in this document are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed.

Typical two-dimensional magnetic field modeling assumptions include:

- All subtransmission lines were modeled using forecasted peak loads (see Table 5, 6 and 7 below)
- All conductors were assumed to be straight and infinitely long
- A 18-foot sag was assumed for PG&E 115 kV subtransmission designs
- A 12-foot sag was assumed for the Hanford-Liberty-Mascot 66 kV, Hanford-Mascot 66 kV, and Goshen-Mascot 66 kV subtransmission line designs
- Magnetic field strength was calculated at a height of three feet above ground
- Resultant magnetic fields values were presented in this FMP
- All line currents were assumed to be balanced (i.e. neutral or ground currents are not considered)
- Terrain was assumed to be flat
- Project dominant power flow directions were used.

35 SCE, MFields for Excel, Version 2.0, 2007.

Table 5. Year 2012 Forecasted Loading Conditions for Proposed 66 kV and 115 kV Subtransmission Lines Segment 1	
Circuit Name	**Current (Amp)**
Proposed Hanford-Liberty-Mascot 66 kV subtransmission line	150
Existing PG&E Kingsburg-Corcoran #1 115 kV subtransmission line	100
Existing PG&E Kingsburg-Corcoran #2 115 kV subtransmission line	100

Table 6. Existing PG&E 115 kV Subtransmission Line Loads	
Circuit Name	**Current (Amp)**
Existing PG&E Kingsburg-Corcoran #1 115 kV subtransmission line	100
Existing PG&E Kingsburg-Corcoran #2 115 kV subtransmission line	100

Table 7. Year 2012 Forecasted Loading Conditions for Proposed 66 kV Subtransmission Lines Segment 2	
Circuit Name	**Current (Amp)**
Hanford-Mascot 66 kV subtransmission line	350
Goshen-Mascot 66 kV subtransmission line	400

Notes:

1. Forecasted loading data is based upon scenarios representing load forecasts for the second quarter of 2012. The forecasting data is subject to change depending upon

availability of generations, load increase, changes in load demand, and by many other factors.

2. All existing line loading data is derived from historical data.
3. Load flow for Table 5 and 6 is assumed in the same direction
4. Load flow for Table 7 is assumed in the opposite direction

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of the **APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES WITH VOLTAGES BETWEEN 50 KV AND 200 KV: MASCOT SUBSTATION PROJECT** on the Chief Administrative Law Judge, by placing the copy in a sealed envelope and causing such envelope to be delivered by hand or by overnight courier to the offices of the Commission or other addressee(s).

Executed this 25th day of November, 2009, at Rosemead, California.

/s/ Melissa Schary
MELISSA SCHARY
Project Analyst
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