BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Permit to Construct Electrical Facilities: Colorado River Substation Expansion Project	)))))	Application No. 10-_____ (Filed November 3, 2010) A1011005

APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES: COLORADO RIVER SUBSTATION EXPANSION PROJECT

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Dated: November 3, 2010

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INTRODUCTION

Pursuant to California Public Utilities Commission's (Commission or CPUC) General Order 131-D (GO 131-D), Southern California Edison Company (SCE) respectfully submits this Application for a permit to construct (PTC) authorizing SCE to construct the proposed project known as the Colorado River Substation Expansion Project (Project) near Blythe in Riverside County, California. The Project will interconnect renewable generation projects in the Blythe area of the Mohave Desert to the California Independent System Operator (CAISO)-controlled grid at the previously approved Colorado River Substation (CRS). The CRS was analyzed in the Devers-Palo Verde No.2 500kV Transmission Line (DPV2) Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) and was included in the Certificate of Public Convenience and Necessity (CPCN) issued by the CPUC for the DPV2 project in Decision (D.) 07-01-040, dated January 25, 2007 as modified pursuant to D.09-11-007, dated November 3, 2009[1].

1 In the Final EIR/EIS for SCE's Devers-Palo Verde No. 2 Transmission Line Project (October 2006) Volume 2 of 3 Environmental Analysis (Part 2) and Appendices, the Colorado River Substation, or CRS, location which was approved by the CPUC in D.09-11-007 was called the "Midpoint-DSW Substation:" Page E-12 states, "The Midpoint-DSW Substation was fully analyzed in this EIR/EIS as a component of the [Desert Southwest Transmission Project] DSWTP, and was found to be comparable to the Midpoint Substation location identified by SCE. Both sites are on BLM land, and no significant impacts would result from construction of a substation

Continued on the next page

For this PTC application, the Project consists of:

1. **Substation Expansion:** In order to accommodate renewable generator interconnections, the footprint of the previously approved 45 acre Colorado River 500/220 kV Substation, must be expanded to approximately 90 acres. The expanded substation site would be approximately 1,600 feet by 2,400 feet. Approximately 1,500 feet by 2,200 feet would be surrounded by a wall with two gates. The Project, along with the previously approved CRS, would be an ultimate 4480 MVA 500/220kV substation. The CRS will be equipped initially as a 2240 MVA 500/220kV substation.
2. **Generation Tie-line Connections:** The generators' 220 kV gen-tie lines would be interconnected into the CRS by constructing the final span of conductors from the interconnecting generators' final transmission line structures to the substation dead-end rack.
3. **Telecommunications Facilities:** Optical ground wire (OPGW) would be strung on the generators' gen-tie lines and would terminate inside the CRS. SCE would install the last span of OPGW between the switch rack and the interconnecting generators' first transmission line structures outside the CRS. SCE would make the final terminations to associated communications equipment installed inside the CRS.

BACKGROUND AND SUMMARY OF REQUEST

The CRS was identified as the Midpoint-DSW Substation, which is a component of the Desert Southwest Transmission Project Alternative, and described in Volume 2 of 3, Section E.2.1.3, pages E-9 through E-12 of the DPV2 Final EIR/EIS (October 2006). The CRS was approved by the CPUC in November, 2009 in D.09-11-007 approving SCE's Petition for Modification request to construct the California portion of DPV2. Since the Commission's approval of CRS, several large solar power projects have been proposed in the Blythe area. Two of these projects, the Blythe Solar Power Project (BSPP) and the Genesis Solar Energy Project (GSEP), have requested interconnection to the CAISO-controlled grid at the CRS. These

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at either site. As a result, this EIR/EIS concludes that the two sites are comparable, and equally environmentally superior/preferable."

Projects have received California Energy Commission (CEC) approval of their respective Application for Certification (AFC). As a result, the footprint of the CRS needs to be expanded to provide sufficient space for the required facilities for the 220 kV generation tie-lines to be interconnected to the SCE 500 kV transmission system at CRS. The estimated cost of this Project is $157 million, expressed in 2010 constant dollars.[2]

Solar Millennium, LLC and Chevron Energy Solutions propose to construct, own, and operate the BSPP, a concentrated solar thermal electric generating facility consisting of four adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each, for a total capacity of 1,000 MW. BSPP would be located on lands administered by the US Department of Interior Bureau of Land Management (BLM) and would interconnect into the CAISO grid at the CRS. The first two of the four BSPP plants are expected to become operational and connect to the CAISO grid in 2013 and 2014. The Large Generator Interconnection Agreement (LGIA) among Solar Millennium, SCE, and the CAISO is expected to be executed in the near future. The CEC approved the BSPP AFC on September 15, 2010.

Genesis Solar LLC, a Delaware LLC and wholly owned subsidiary of NextEra Energy Resources LLC (NextEra), proposes to construct, own, and operate the GSEP, a concentrated solar thermal electric generating facility consisting of two independent solar electric generating plants with nominal net electrical output of 125 MW each, for a total net electrical output of 250 MW. GSEP would be located on lands administered by the BLM and would interconnect into the CAISO grid at the CRS. The GSEP plants are expected to become operational and connect to the CAISO grid in 2013. The LGIA among Genesis Solar, SCE, and the CAISO is expected to be executed in the near future. The CEC approved the GSEP AFC on September 29, 2010.

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2 This is a conceptual estimate, prepared in advance of final engineering and prior to CPUC approval. Pension and benefits, administrative and general expenses are included in this estimate; however, allowance for funds used during construction is not. If SCE does not obtain abandoned plant rate incentives treatment for the Project at FERC, SCE would not finance the Project and would require the generators to fulfill their Project financing obligations.

The proposed BSPP and GSEP projects are identified by the BLM as renewable energy "fast track"[3] projects. These projects will assist California and its investor-owned utilities to meet California's Renewable Portfolio Standards and Greenhouse Gas emissions reduction requirements, including the requirements set forth in Senate Bill (SB) 1078 (California Renewable Portfolio Standard Program), Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006), and the Governor's Executive Order S-14-08[4] to increase the state's Renewable Energy Standard to 33% renewable energy by 2020**.** The Governor's office also established a California Renewable Energy Action Team (REAT) focused on facilitating agency coordination to achieve timely approvals of renewable projects in compliance with federal and state environmental laws[5]. The Governor's office, REAT, and other federal and state efforts have lent support for projects such as BSPP and GSEP that are striving for timely regulatory approvals to qualify for stimulus funds available through the American Recovery and Reinvestment Act.

ENVIRONMENTAL REVIEW

In order to construct the Project, SCE must first obtain a PTC from the CPUC. Typically, an application for a PTC would be accompanied by a Proponent's Environmental Assessment (PEA). However, this PTC application relies upon PEA-equivalent information to satisfy the requirements under GO 131-D[6] The PEA-equivalent information can be found in the following documents:

1. The DPV2 Final EIR/EIS (Volume 1 of 3, Section C.4.4.1 and Volume 2 of 3, Section E.2.1.3) (October 2006), as certified by the CPUC in its decisions D.07-01-040 and D.09-11-007:
    - DPV2 Final EIR/EIS

[3] http://www.blm.gov/ca/st/en/prog/energy/fasttrack.html
[4] http://gov.ca.gov/executive-order/11072/
[5] http://gov.ca.gov/index.php?/fact-sheet/11071/

- CPUC D.07-01-040

- CPUC D.09-11-007

2. The CEC's Supplemental Staff Assessment for BSPP (July, 8 2010), APPENDIX A, Colorado River Substation Expansion and BSPP Interconnection Actions Impact Analysis:
    - CEC BSPP Supplemental Staff Assessment, July 8, 2010 (see "Transmission System Engineering, Appendix A")

3. The CEC's Revised Staff Assessment Supplement for GSEP (July, 2 2010), D-5 Transmission System Engineering Appendix A, Colorado River Substation Expansion and GSEP Interconnection Actions Impact Analysis Testimony of Suzanne Phinney, D Env. and CEC's Revised Staff Assessment, June 11, 2010 for the GSEP:

    - CEC GSEP Revised Staff Assessment Supplement (See "D.5 TRANSMISSION SYSTEM ENGINEERING APPENDIX A")

    - CEC GSEP Revised Staff Assessment

4. BLM's Final PA/EIS for BSPP
    - BLM BSPP Final PA/EIS dated August 2010, Volume 1 of 2, Section ES.4, ES.5, 2.2.1, and 2.3.4

5. BLM's Final PA/EIS for GSEP

Continued from the previous page
[6] GO 131-D, Section IX.B.1.e

- BLM GSEP Final PA/EIS dated August 2010, Volume 1 of 3, Section ES.4, ES.5, 2.2.1, ES.

As stated earlier, the CRS was subject to full environmental review in the October 2006 DPV2 Final EIR/EIS and approved by the CPUC in D.09-11-007. A partial environmental review of the CRS Expansion was conducted by the CEC for the BSPP and GSEP and by the BLM for the GSEP in their respective permitting proceedings. The CEC evaluated the expansion of the CRS as part of its Docket Number 09-AFC-6 in the context of BSPP and as part of its Docket Number 09-AFC-8 in the context of GSEP.

Regarding BSPP (09-AFC-6), on July 8, 2010, the CEC published a Supplemental Staff Assessment which includes as Appendix A, the relevant CEQA review of the CRS Expansion and BSPP interconnection actions impact analysis. The predecessor to this CEC supplemental staff assessment was the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) issued on March 11, 2010, which was a joint document published by both the CEC and the BLM. However, on April 7, 2010, the CEC and BLM determined that they would each develop and publish separate final environmental documents for BSPP.

Regarding GSEP (09-AFC-8), on July 2, 2010, the CEC published a Revised Staff Assessment Supplement, which combined with the CEC's Revised Staff Assessment published on June 11, 2010, represents the CEC's complete environmental analysis for GSEP. The predecessor to the July Revised Staff Assessment Supplement and the June Revised Staff Assessment was a Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) issued on March 11, 2010, which was a joint document published by both the CEC and BLM. However, on April 7, 2010 the CEC and BLM determined that they would each develop and publish separate final environmental documents for GSEP.

SCE respectfully requests that the CPUC review the CEQA record reflected in the CEC dockets and supplement the CEQA record, if necessary, to assure adequacy for CPUC approval of this Application.

The above-mentioned documents are included as references in this Application, where appropriate, as the sources of information required to be included in an application for a Permit to Construct pursuant to GO 131-D, Section IX.B

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:

Angela Whatley
Attorney
Southern California Edison Company
Post Office Box 800
Rosemead, California 91770
Phone: (626) 302-3618
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) 302-1063
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[7] 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 and statement of income as of June 30, 2010. 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 Relief Act of 1986 provisions requiring capitalization of interest during construction for income tax purposes.

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[7] Application No. 93-06-022, filed June 15, 1993, regarding approval of a Self-Generation Deferral Agreement between Mobil Oil Corporation Torrance Refinery and Southern California Edison.

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[8], 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.

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

Much of the information required to be included in this PTC application pursuant to GO 131-D, Section IX.B is found in the CEC's Staff Assessments for both BSPP and GSEP. Information can also be found in the BLM EISs for both BSPP and GSEP. Required PTC application information has been cross-referenced to the relevant BSPP and GSEP Staff Assessments in the following text. The PTC application requirements of GO 131-D, Section IX.B are in italics, and the Staff Assessment references follow in plain text.

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

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, substations, etc., and a proposed schedule for authorization, construction, and commencement of operation of the facilities.*

- Please see: CEC Docket 09-AFC-6, BSPP Supplemental Staff Assessment APPENDIX A entitled "COLORADO RIVER SUBSTATION EXPANSION AND BSPP INTERCONNECTION ACTIONS IMPACT ANALYSIS."

- Please see: CEC Docket 09-AFC-8, GSEP Revised Staff Assessment Supplement (July 2010) Section D.5 entitled "TRANSMISSION SYSTEM ENGINEERING APPENDIX A COLORADO RIVER SUBSTATION EXPANSION AND GSEP INTERCONNECTION ACTIONS IMPACT ANALYSIS Testimony of Suzanne Phinney, D Env."

- 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 and Project area maps are provided in the BSPP Staff Assessment in Section D-Alternatives, Appendix B as Figure 4.

- Maps of current land use including designation of parks, recreational, and scenic areas are provided in the BSPP Staff Assessment Section C.6.13 as Figures 1 & 2.

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 the BSPP SA Section B.2

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.*

- County of Riverside:

  The County of Riverside provided a position statement to SCE indicating their support for the Colorado River Substation Expansion Project. A copy of the County's position statement is attached hereto as Appendix F.

- Native American Heritage Commission

  On July 22, 2008, as part of the cultural resource inventory for the DPV2 T/L and Midpoint Substation Project, SCE's consultant notified and requested review of the Midpoint Substation (i.e., the Colorado River Substation) from the Native American Heritage Commission (NAHC) and was advised to contact specific tribes for comments and responses. The NAHC also indicated in their response that a search of its Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area. A copy of the NAHC response may be found in Appendix F. Both the CEC and BLM consulted with the NAHC and appropriate Native American Tribes for the BSPP and the GSEP Projects. The relevant references are provided below:

  CEC BSPP Revised Staff Assessment, Part 2 (July 1, 2010), Section C.3 Cultural Resources and Native American Values – See C.3-32 – C.3-38

  CEC GSEP Cultural Resources Section to the Revised Staff Assessment (June 22, 2010), Section C.3 Cultural Resources – See C.3-47 – C.3-55

  BLM's Final EIS for BSPP (August 2010), Volume 1, Chapter 5, Section 5.2.3 Tribal Consultation for the BSPP

  BLM GSEP Final EIS (August 2010), Volume 1, Chapter 5, Section5.2.3 Tribal Consultation for the GSEP

e. *A PEA equivalent 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. If a PEA equivalent is filed, it may include the data described in items a. through e. above.*

- The references to the relevant documents are provided above.

G. Compliance With GO 131-D, Section X

GO 131-D, 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 G 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 131-D; and (2) issuance of a PTC authorizing SCE to construct the Project.

SCE proposes the following schedule for this Application:

Date	Event
November 3, 2010	PTC Application filed
November 4, 2010	Draft Focused Supplemental EIR Issued
December 3, 2010	PTC Application accepted as complete
December 21, 2010	Comments on Draft Focused Supplemental EIR Due
January 10, 2011	Final Focused Supplemental EIR Issued
February / March 2011	ALJ Proposed Decision Issued
March / April 2011	Commission Final Decision, PTC Issued

I. Statutory Authority

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

J. Public Notice

Pursuant to GO 131-D, 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 131-D. 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, an agency service list, and a property owner service list are contained in Appendix E.

K. Supporting Appendices And Attachments

Appendices A through G listed below are made a part of this Application:

1. Appendix A: Balance Sheet and Statement of Income as of June 30, 2010
2. Appendix B: List of Counties and Municipalities Served by SCE
3. Appendix C: Colorado River Substation Expansion Project Schedule
4. Appendix D: Notice of Application for a Permit to Construct
   List of Newspapers publishing the Notice of Application for a Permit to Construct
5. Appendix E: Certificate of Service of Notice of Application for a Permit to Construct
   Agency Service List
   300-foot Property Owners list
6. Appendix F: Agency Communications
7. Appendix G: EMF Field Management Plan

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 Focused Supplemental EIR for this Project.

M. Request For Ex Parte Relief

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

N. Request For Timely Relief

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

CONCLUSION

SCE requests that the Commission issue a PTC authorizing SCE to construct the Project set forth in this Application upon completion of its review of this Application and certification of the Focused Supplemental EIR.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

/s/Les Starck

By: Les Starck
Vice President

/s/Angela Whatley

By: Angela Whatley
Attorney for
SOUTHERN CALIFORNIA EDISON COMPANY
2244 Walnut Grove Avenue
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Rosemead, California 91770
Telephone: (626) 302-3618
Facsimile: (626) 302-1926

Dated: November 3, 2010

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 3rd day of November 2010, at Rosemead, California.

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

Appendix A

BALANCE SHEET AND STATEMENT OF INCOME

AS OF JUNE 30, 2010

SOUTHERN CALIFORNIA EDISON COMPANY

BALANCE SHEET

JUNE 30, 2010

A S S E T S

(Unaudited)

(Millions of Dollars)

UTILITY PLANT:	
Utility plant, at original cost	$26,070
Less - Accumulated depreciation	(6,047)
	20,023
Construction work in progress	2,682
Nuclear fuel, at amortized cost	339
	23,044
OTHER PROPERTY AND INVESTMENTS:	
Nonutility property - less accumulated depreciation of $95	68
Nuclear decommissioning trusts	3,083
Other Investments	82
	3,233
CURRENT ASSETS:	
Cash and equivalents	85
Short-term investments	6
Receivables, less allowances of $53 for uncollectible accounts	731
Accrued unbilled revenue	542
Inventory	323
Prepaid taxes	200
Derivative assets	78
Regulatory assets	338
Other current assets	51
	2,354
DEFERRED CHARGES:	
Regulatory assets	5,058
Derivative assets	197
Other long-term assets	327
	5,582
	$34,213

SOUTHERN CALIFORNIA EDISON COMPANY

BALANCE SHEET

JUNE 30, 2010

CAPITALIZATION AND LIABILITIES

(Unaudited)

(Millions of Dollars)

CAPITALIZATION:	
Common stock	$2,168
Additional paid-in capital	561
Accumulated other comprehensive loss	(17)
Retained Earnings	5,204
Common shareholder's equity	7,916
Preferred and preference stock not subject to redemption requirements	920
Long-term debt	7,129
	15,965
CURRENT LIABILITIES:	
Short-term debt	215
Accounts payable	971
Accrued taxes	31
Accrued interest	180
Customer deposits	229
Derivative liabilities	179
Regulatory liabilities	457
Deferred income taxes	52
Other current liabilities	445
	2,759
DEFERRED CREDITS:	
Deferred income taxes	3,959
Deferred investment tax credits	94
Customer advances	124
Derivative liabilities	1,188
Pensions and benefits	1,725
Asset retirement obligations	3,278
Regulatory liabilities	3,391
Other deferred credits and other long-term liabilities	1,730
	15,489
	$34,213

SOUTHERN CALIFORNIA EDISON COMPANY

STATEMENT OF INCOME

6 MONTHS ENDED JUNE 30, 2010

(Unaudited)

(Millions of Dollars)

OPERATING REVENUE	$4,406
OPERATING EXPENSES:	
Fuel	175
Purchased power	1,220
Other operation and maintenance	1,468
Depreciation, decommissioning and amortization	629
Property and other taxes	130
Total operating expenses	3,622
OPERATING INCOME	784
Interest income	3
Other income	70
Interest expense - net of amounts capitalized	(206)
Other expenses	(26)
INCOME BEFORE INCOME TAX	625
INCOME TAX EXPENSE	134
NET INCOME	491
Less: Dividends on preferred and preference stock not subject to mandatory redemption	26
NET INCOME AVAILABLE FOR COMMON STOCK	$465

Appendix B

LIST OF COUNTIES AND MUNICIPALITIES SERVED BY SCE

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

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

Appendix C

COLORADO RIVER SUBSTATION PROJECT SCHEDULE

Proposed Colorado River Substation Expansion Project Schedule

Date	Event
November 3, 2010	PTC Application Filed
November 4, 2010	Draft Focused Supplemental EIR Issued
December 3, 2010	PTC Application Accepted As Complete
December 21, 2010	Comments on Draft Focused Supplemental EIR Due
January 10, 2011	Final Focused Supplemental EIR Issued
February / March 2010	ALJ Proposed Decision Issued
March / April 2011	Commission Final Decision, PTC Issued
May 2011	Pre-Construction Activities Involving Ground Disturbance
August 2011	Commence construction
Third Quarter 2013	Construction complete
Third Quarter 2013	Commence operation

Appendix D

NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT

NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT

COLORADO RIVER SUBSTATION EXPANSION PROJECT
Date: November 3, 2010

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 Colorado River Substation Expansion Project (Proposed Project). The Proposed Project will facilitate the interconnection of solar development projects in the Blythe area of the Mohave Desert to SCE's electric transmission system and includes the following elements for this PTC application:

1. **Substation Expansion:** In order to accommodate renewable generator interconnections, the footprint of the previously approved 45 acre Colorado River 500/220 kV Substation (formerly referred to as the Desert Southwest Midpoint Substation), must be expanded to approximately 90 acres. The expanded substation site would be approximately 1,600 feet by 2,400 feet. Approximately 1,500 feet by 2,200 feet would be surrounded by a wall with two gates. The Project, along with the previously approved CRS, would be an ultimate 4480 MVA 500/220kV substation. The CRS will be equipped initially as a 2240 MVA 500/220kV substation.

2. **Generation Tie-line Connections:** The generators' 220 kV gen-tie lines would be interconnected into the CRS by constructing the final span of conductors from the interconnecting generators' final transmission line structure to the substation dead-end rack.

3. **Telecommunications Facilities:** Optical ground wire (OPGW) would be strung on the generators' gen-tie lines and would terminate inside the CRS. SCE would install the last span of OPGW between the switch rack and the interconnecting generators' first transmission line structures outside the CRS. SCE would make the final terminations to associated communications equipment installed inside the CRS.

The Proposed Project is scheduled to be operational by the third quarter of 2013 to support the requested interconnection dates of the solar developers.

Environmental Assessment: Solar Millennium, LLC and Chevron Energy Solutions submitted an Application for Certification (AFC) for the Blythe Solar Power Project (BSPP) to the California Energy Commission (CEC) on August 24, 2009, seeking authority to construct, own and operate BSPP. The application includes the expansion of the approved SCE Colorado River 500/220kV Substation that would be constructed, owned, and operated by SCE. The CEC released its Revised Staff Assessment for the project on June 4, 2010. The CEC approved the BSPP AFC on September 15, 2010. Genesis Solar, LLC (a wholly owned subsidiary of NextEra Energy Resources, LLC) submitted an AFC to the CEC on August 31, 2009, seeking authority to construct, own and operate the Genesis Solar Energy Project (GSEP). The application includes the expansion of the approved SCE Colorado River 500/220kV Substation that would be constructed, owned and operated by SCE. The CEC released its Staff Analysis and Draft EIS for the project on March 26, 2010. The CEC approved the GSEP AFC on September 29, 2010.

SCE's PTC application relies, in part, on environmental analyses conducted by the CEC and the Bureau of Land Management (BLM). The following environmental documentation related to the

Proposed Project and the respective interconnection projects can be found at the CPU, CEC, and BLM Websites:

- The DPV2 Final EIR/EIS (2006)
- The CEC's Supplemental Staff Assessment for BSPP (July, 8 2010)
- The CEC's Revised Staff Assessment Supplement for GSEP (July, 2 2010)
- Bureau of Land Management's Final PA/EIS for BSPP
- Bureau of Land Management's Final PA/EIS for GSEP

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:

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

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 (no later than **December 3, 2010**) 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 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 4th Floor
San Francisco, CA 94102

AND

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

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.

Additional Project Information: To review a copy of SCE's Application, or to request further information, please visit SCE's project website at **www.sce.com/DPV2** or contact:

Louis Davis
Region Manager
Southern California Edison
24487 Prielipp Rd.
Wildomar, CA 92595
Phone: (951) 249-8468
Email: Louis.Davis@sce.com

LIST OF NEWSPAPERS
PUBLISHING THE NOTICE FOR A
PERMIT TO CONSTRUCT

The Press-Enterprise
3450 Fourteenth Street
Riverside, CA 92501

The Desert Sun
750 North Gene Autry Trail
Palm Springs, California 92262

Palo Verde Valley Times
153 S. Broadway
Blythe, CA 92225

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 the **NOTICE OF APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U-338-3) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES: COLORADO RIVER SUBSTATION EXPANSION 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 3rd day of November, 2010, at Rosemead, California.

_/s/Meraj Rizvi
Project Analyst
SOUTHERN CALIFORNIA EDISON COMPANY

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

COLORADO RIVER SUBSTATION PROJECT AGENCY SERVICE LIST		
Supervisor Marion Ashley Chairman, Board of Supervisors County of Riverside Administrative Center 4080 Lemon Street Riverside, CA 92501	Ms. Carolyn Syms Luna Planning Director County of Riverside Administrative Center 4080 Lemon Street Riverside, CA 92501	Mr. Bill Luna County Executive Officer County of Riverside Administrative Center 4080 Lemon Street Riverside, CA 92501
Ms. Chantell Griffin Planning Commission Secretary County of Riverside Administrative Center 4080 Lemon Street, 9th Floor P.O. Box 1409 Riverside, CA 92502	Docket Clerk California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102	Karen Clopton, Chief ALJ California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102
California Energy Commission Melissa Jones, Executive Director 1516 Ninth Street Sacramento, CA 95814-5512	Department of Transportation Division of Aeronautics, MS # 40 Gary Cathey, Chief P. O. Box 942874 Sacramento, CA 94274-0001	California Natural Resources Agency Lester A. Snow, Secretary 1416 Ninth St., Suite 1311 Sacramento, CA 95814
California Department of Transportation Cindy McKim, Director PO Box 942873 Sacramento, CA 94273-0001	Department of Health Care Services David Maxwell-Jolly, Director 1501 Capitol Ave. Sacramento, CA 94234-7320	State Water Resources Control Board Tom Howard, Executive Director 1001 “I” Street Sacramento, CA 95814
California Department of Fish and Game John McCamman, Director 1416 Ninth Street, 12th Floor Sacramento, CA 95814	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765	California Department of Transportation District 8 Dr. Raymond W. Wolfe, Director 464 W. 4th Street San Bernardino, CA 92401
California Air Resources Board Attn: Stationary Source 1001 “I” Street PO Box 2815 Sacramento, CA 95812	California Regional Water Quality Control Board Colorado River Basin Region 7 73-720 Fred Waring Dr., Suite 100 Palm Desert, CA 92260	Bureau of Land Management Palm Springs South Coast Field Office John Kalish, Field Manager 1201 Bird Center Drive Palm Springs, CA 92262

PROPOSED COLORADO RIVERS SUB
300' RADIUS PROPERTY OWNERSHIP LIST
09-22-2010

APN	MAILING CITY/STATE	MAILING ZIP	SITUS ADDRESS	SITUS CITY/STATE/ZIP	COUNTY	ACRE
879-080-025	WASHINGTON DC	21401	N/A	BLYTHE CA, 92225	RIVERSIDE	160.00
879-080-010	THOUSAND OAKS CA	91320	N/A	BLYTHE CA, 92225	RIVERSIDE	160.00
879-080-016	IRVINE CA	92612	N/A	BLYTHE CA, 92225	RIVERSIDE	80.00
879-080-018	LA PUENTE CA	91744	N/A	BLYTHE CA, 92225	RIVERSIDE	80.00
879-080-020	WASHINGTON DC	21401	N/A	BLYTHE CA, 92225	RIVERSIDE	160.00
879-080-027	WASHINGTON DC	21401	N/A	BLYTHE CA, 92225	RIVERSIDE	82.40
879-080-022	WASHINGTON DC	21401	N/A	BLYTHE CA, 92225	RIVERSIDE	895.09

DATA SOURCE: RIVERSIDE COUNTY PARCEL DATA

Appendix F

AGENCY COMMUNICATIONS

County of Riverside

RIVERSIDE OFFICE:
4080 Lemon Street, 5th Floor
Riverside, CA 92502-1647
(951) 955-1040
Fax (951) 955-2194

DISTRICT OFFICE/MAILING ADDRESS:
73-710 Fred Waring Drive, Suite 222
Palm Desert, CA 92260-2574
(760) 863-8211
Fax (760) 863-8905

SUPERVISOR JOHN J. BENOIT
FOURTH DISTRICT

Oct. 28, 2010

Mr. Louis Davis
Region Manager
Southern California Edison
244887 Prielipp Drive
Wildomar, CA 92595

Subject: Support for Red Bluff Substation and Colorado River Substation Expansion Projects

Dear Mr. Davis:

I appreciate the briefing you provided regarding Southern California Edison's (SCE) proposed Red Bluff Substation and Colorado River Substation (Devers-Palo Verde No. 2) Expansion projects. As outlined in your briefing, these new electrical facilities will allow major solar projects in eastern Riverside County to interconnect and deliver clean electricity to the power grid.

As Supervisor for Riverside County's Fourth District, representing the eastern two-thirds of Riverside County, I wholeheartedly support these projects. The Fourth District is a prime spot for renewable energy projects, several of which are making significant advances in the permitting process as fast-track projects.

Renewable energy infrastructure and economic development are vitally needed. These projects will position Riverside County and SCE in meeting its renewable energy goals. They will also provide a boost to our local economy, providing much needed construction jobs and other economic benefits.

Thank you for your efforts to keep my office informed on these projects and their status. I appreciate SCE's efforts to help lead the nation toward a brighter, cleaner future.

Sincerely,

John J. Benoit

JOHN J. BENOIT
Fourth District Supervisor

JJB:das

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

July 24, 2008

William T. Eckhardt
Senior Archaeologist
ICF JONES & STOKES
9775 Businesspark Ave., Suite 200
San Diego, CA 92131

Sent by Fax: 858-578-0573
Number of Pages: 2

Re: Proposed Devers to Palo Verde II 500 kV Transmission Line and Midpoint Substation Project, Riverside County

Dear Mr. Eckhardt:

The Native American Heritage Commission was able to perform a record search of its Sacred Lands File (SLF) for the affected project area. The SLF failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the Sacred Lands File does not guarantee the absence of cultural resources in any 'area of potential effect (APE).'

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the nearest tribes that may have knowledge of cultural resources in the project area. A List of Native American contacts are attached to assist you. The Commission makes no recommendation of a single individual or group over another. It is advisable to contact the person listed; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area (APE).

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

PS: There are several cultural sites in proximity

Native American Contacts
Riverside County
July 24, 2008

Cahuilla Band of Indians
Anthony Madrigal, Jr., Chairperson
P.O. Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
(951) 763-2631

(951) 763-2632 Fax

Joseph R. Benitez (Mike)
P.O. Box 1829 Chemehuevi
Indio , CA 92201
(760) 347-0488

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Chemehuevi Reservation
Charles Wood, Chairperson
P.O. Box 1976 Chemehuevi
Chemehuevi Valley , CA 92363
chemehuevit@yahoo.com
(760) 858-4301
(760) 858-5400 Fax

Torres-Martinez Desert Cahuilla Indians
Raymond Torres, Chairperson
PO Box 1160 Cahuilla
Thermal , CA 92274
(760) 397-0300
(760) 397-8146 Fax

Colorado River Reservation
Michael Tsosie, Cultural Contact
Route 1, Box 23-B Mojave
Parker , AZ 85344 Chemehuevi
symi@rraz.net
(928) 669-9211
(928) 669-5675 Fax

Twenty-Nine Palms Band of Mission Indians
Mike Darrell, Chairperson
46-200 Harrison Place Chemehuevi
Coachella , CA 92236
tribal-epa@worldnet.att.net
(760) 775-5566
(760) 775-4639 Fax

AhaMaKav Cultural Society, Fort Mojave Indian Tribe
Linda Otero, Director
P.O. Box 5990 Mojave
Mohave Valley , AZ 86440
ahamakav@citlink.net
(928) 768-4475
(928) 768-7996 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose Southern California Edison Devers to Palo Verde II 500 kV Transmission Line and Midpoint Substation Project located in eastern Riverside County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Appendix G

EMF FIELD MANAGEMENT PLAN

FOR COLORADO RIVER SUBSTATION PROJECT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

List of Terms

CDHS	California Department of Health Services
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
DPV	Devers – Palo Verde
DPV2	Devers – Palo Verde No. 2
ELF	Extremely Low Frequency
EMF	electric and magnetic fields
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FMP	field management plan
gen-tie	generation tie line
GO	General Order
IARC	International Agency for Research on Cancer
kV	kilovolt
kVA	kilovolt-ampere
LWS	light weight steel
mG	milliGauss
MVA	megavolt-ampere
NIEHS	National Institute of Environmental Health Sciences
NRPB	National Radiation Protection Board
RAPID	Research and Public Information Dissemination
ROW	right-of-way
SCE	Southern California Edison Company
T/L	transmission line
TSP	tubular steel pole
VAR	volt ampere reactive
WHO	World Health Organization

EXECUTIVE SUMMARY

This document is Southern California Edison Company's (SCE) Field Management Plan (FMP) for the proposed Colorado River Substation Expansion Project (Proposed Project). SCE proposes to construct the Proposed Project near the City of Blythe in Riverside County, California (Figure 1) to interconnect solar development projects in the Blythe area of the Mohave Desert to SCE's previously approved Colorado River Substation. The Project site was one of three sites analyzed in the Devers-Palo Verde No. 2 (DPV2) 500 kV Transmission Line (T/L) Final Environmental Impact Statement (FEIS)/Environmental Impact Report (FEIR). The site (Figure 1) was determined to be environmentally acceptable in the DPV2 FEIS/FEIR and was included in the Certificate of Public Convenience and Necessity (CPCN) issued by the California Public Utilities Commission (CPUC) for the DPV2 Project in Decision (D.)07-01-040, dated January 25, 2007 as modified in D.09-11-007, dated November 20, 2009. The following is a summary of the Proposed Project major electrical components common to multiple solar development projects that are described more fully in this document:

- **Colorado River Substation Expansion Project (Project):** Expand the previously approved 45-acre Colorado River 500/220kV Substation (CRS) to approximately 90 acres. The expanded substation site would be approximately 1,600 feet by 2,400 feet. Approximately 1,500 feet by 2,200 feet would be surrounded by a wall with two gates. The Project, along with the previously approved CRS, would be an ultimate 4480 MVA 500/220kV substation. The CRS will be equipped initially as a 2240 MVA 500/220kV substation.

- **Generation Tie-line Connections:** The generators' 220 kV gen-tie lines would be interconnected into the CRS by constructing the final span of conductors from the interconnecting generators' final transmission line structure to the substation dead-end rack.

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)[9] 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:

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

Table 1 on page 7 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 option(s) 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

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

with SCE's EMF Design Guidelines[10], and with applicable national and state safety standards for new electrical facilities.

[10] EMF Design Guidelines, August 2006.

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

Area No.	Location[11]	Adjacent Land Use[12]	MF Reduction Design Options Considered	Estimated Cost to Adopt	Design Option(s) Adopted? (Yes/No)	Reason(s) if not adopted
Colorado River Substation	Located on an approximately 160 acre parcel of land located approximately 1.5 miles south of Interstate 10 and 4.75 miles east of Wileys Well Road, in the County of Riverside, California. The Project would be generally located in the eastern portion of the parcel. The approximate center of the Project would be at 33.59 degrees North and 114.82 degrees West.	6	• Placing major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines.	• No-Cost	• Yes	

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

[12] 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.

BACKGROUND REGARDING EMF AND PUBLIC HEALTH RESEARCH ON EMF

There are many sources of power frequency[13] 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.[14]

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[15], the National Radiation Protection Board (NRPB) 2001[16], the International Commission on non-Ionizing Radiation Protection (ICNIRP) 2001, the California Department of Health Services (CDHS) 2002[17], the International

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

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

15 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.

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

17 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.

Agency for Research on Cancer (IARC) 2002[18] and the World Health Organization (WHO) 2007[19].

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."[20]
- "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."[21]
- "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."[22]

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

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18 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

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

20 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

21 *ibid.*, p. iii

22 *ibid.*, p. 37 - 38

small risk of childhood leukemia associated with exposures to unusually high levels of power frequency magnetic fields."[23]

In 2002, three scientists for CDHS concluded:

"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."[24]

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

"ELF magnetic fields are possibly carcinogenic to humans"[25], 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."[26]

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:

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

24 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

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

26 *ibid.*, p. 332 - 334

"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."[27]

"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."[28]

"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"[29]

"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."[30]

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

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27 WHO, Environmental Health Criteria 238, EXTREMELY LOW FREQUENCY FIELDS, p. 11 - 13, 2007
28 *ibid*., p. 12
29 *ibid*., p. 12
30 *ibid*., p. 13

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.

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,[31] and the policy direction that (1) use of numeric exposure limits was not appropriate in setting utility design guidelines to address EMF,[32] 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.[33]

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.

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31 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.").

32 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.").

33 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.").

"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:

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]…"[34]

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

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

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."[35]

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."[36] 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.

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

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 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."[37]

PROJECT DESCRIPTION

SCE proposes to construct the Proposed Project near the City of Blythe in Riverside County, California (Figure 1) to interconnect solar development projects in the Blythe area of the Mohave Desert to SCE's previously approved Colorado River Substation. The Project site was one of three sites analyzed in the Devers-Palo Verde #2 (DPV2) 500 kV Transmission Line (T/L) Final Environmental Impact Statement (FEIS)/Environmental Impact Report (FEIR). The

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

site (Figure 1) was determined to be environmentally acceptable in the DPV2 FEIS/FEIR and was included in the Certificate of Public Convenience and Necessity (CPCN) issued by the California Public Utilities Commission (CPUC) for the DPV2 Project in Decision (D).07-01-040, dated January 25, 2007 as modified in D.09-11-007, dated November 20, 2009. The following is a summary of the Proposed Project major electrical components common to multiple solar development projects that are described more fully in this document:

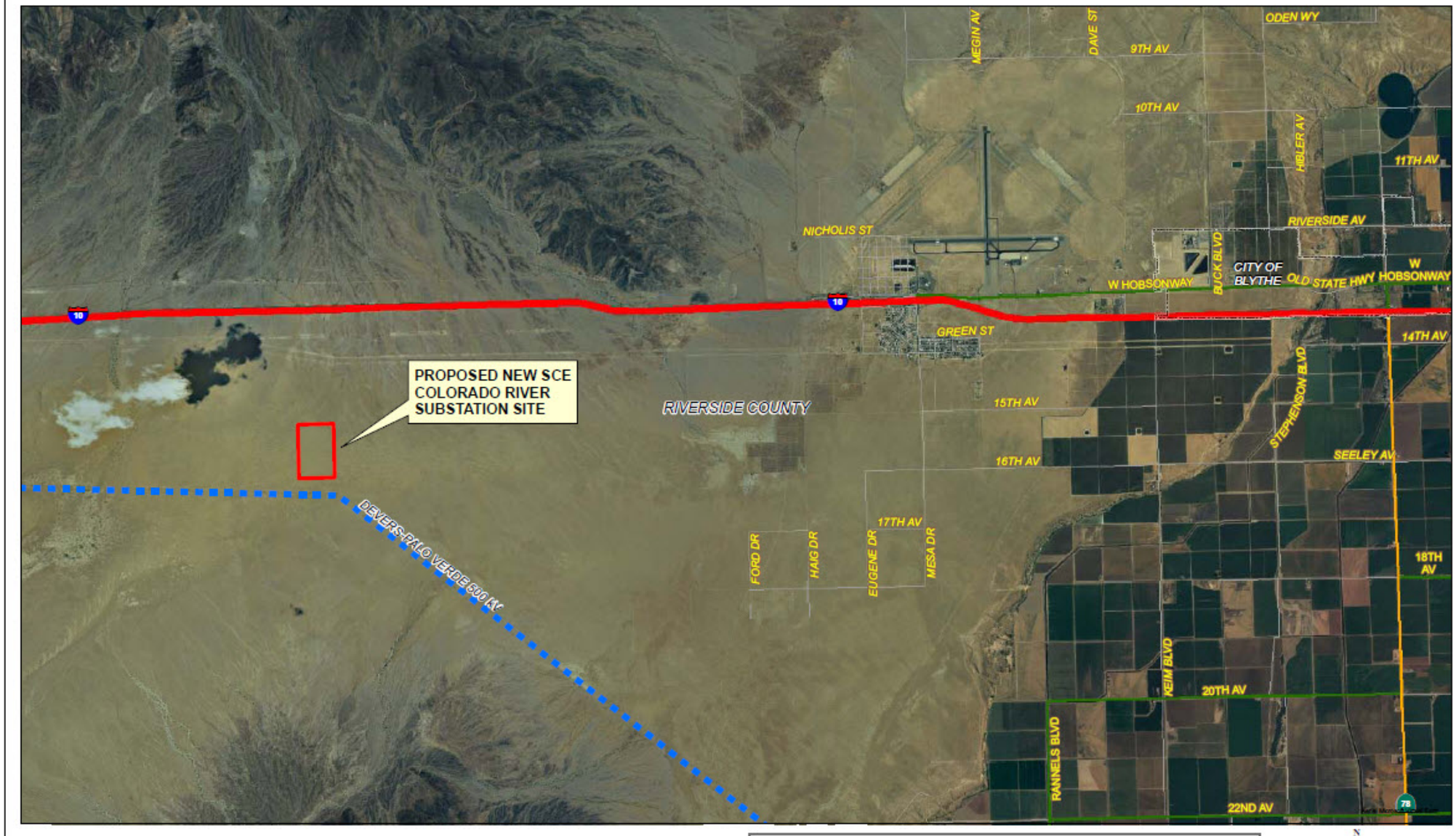
- Colorado River Substation Expansion Project (Project): Expand the previously approved 45-acre Colorado River 500/220kV Substation (CRS) to approximately 90 acres. The expanded substation site would be approximately 1,600 feet by 2,400 feet. Approximately 1,500 feet by 2,200 feet would be surrounded by a wall with two gates. The Project, along with the previously approved CRS, would be an ultimate 4480 MVA 500/220kV substation. The CRS will be equipped initially as a 2240 MVA 500/220kV substation.
- Arrangements of the 500 kV and 220 kV substation power equipment shall be based on the use of an ultimate breaker-and-a-half configuration. Many of the positions, however, will have only one termination, making those positions effectively double bus-double breaker configurations.
- The 500 kV switchyard will feature eleven (11) circuit breakers, 23 sets of disconnect switches, with the necessary potential devices, surge arresters, wave traps, bus and conductors for the termination of four transmission lines and a line reactor.
- There will be four AA 500/220kV Transformer Banks composed of thirteen single phase units. This provides a spare unit available to allow the removal of one unit from service without taking an entire bank out of service. There will be three (3) 45

MVAR reactors connected to the tertiary bus of each transformer bank, along with Station Light & Power transformers. Each bank will provide station service power for its own fans.

- The new 220kV switchyard will feature nine (9) circuit breakers, eighteen (18) disconnect switches, with the necessary potential devices, surge arresters, bus and conductors to terminate three transmission lines.

This project description is based on planning level assumptions. Exact details would be determined following completion of preliminary and final engineering, identification of field conditions, availability of labor, material, and equipment, and compliance with applicable environmental and permitting requirements.

Figure 1. Proposed SCE Colorado River Substation Site



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

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 T/Ls and subtransmission lines entering and exiting the substation.

A substation checklist, as shown in Table 2, 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 2. 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 500 kV rated transformer(s) 50 feet or more from the substation property line?	Yes	
2	Are 220 kV rated transformer(s) 50 feet or more from the substation property line?	N/A	
3	Are 500 kV rated switch-racks, capacitor banks & bus 40 feet or more from the substation property line?	Yes	
4	Are 220 kV rated switch-racks, capacitor banks & bus 40 feet or more from the substation property line?	Yes	
5	Are underground cable duct banks 12 feet (or more) from the substation property line?	Yes	
6	Are the transfer & operating bus configured with the transfer bus facing the nearest property/fence line? (Note: This is typically applicable for 66 kV, and 115 kV substations)	N/A	

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 Colorado River 500/220 kV Substation:

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

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.

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 **APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY (U-338-3) FOR A PERMIT TO CONSTRUCT ELECTRICAL FACILITIES: COLORADO RIVER SUBSTATION EXPANSION PROJECT** on all parties identified below. 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.

Karen Clopton Chief Administrative Law Judge California Public Utilities Office 505 Van Ness Avenue San Francisco, CA 94102	Melissa Jones Executive Director California Energy Commission 1516 9th Street, MS3-39 Sacramento, CA 95814-5512

Executed this 3rd day of November, 2010, at Rosemead, California.

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Meraj Rizvi
Project Analyst
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