

**2009  
RENEWABLE RFP  
&  
IMPERIAL VALLEY BIDDERS'  
CONFERENCES**

**Hosted by Southern California Edison  
July 9, 2009  
Four Points by Sheraton LAX**

**WebEx:** <https://sce.webex.com/sce>

**Conference Name:** RAP RFP Bidders' Conference **Password:** RAPRFP

**OR Call-in:** 888-917-8036 / (Int'l) 773-756-4834 – **Passcode:** 7525886

# Overview of the Day

## 2009 Renewable RFP

### ◆ Overview (Mike Marelli) 9:00

- Overview of Proposal Conference Agenda
- Meet the Team
- Independent Evaluator
- Purchases of Renewable Energy
- Key to a Successful Proposal
- Tax Credit Impacts
- SCE's Renewable Energy Needs

### ◆ Part #1: RFP Materials (John Zoida) 9:30

- RFP Communications
- RFP Website
- Procurement Protocols
- Form of Seller's Proposal
- Term Sheet

### ◆ Part #2: Pro Forma PPA 10:00

#### (Susan Kappelman)

- PPA Overview & Assumptions
- Product
- Delivery Point
- Historic Data
- Seller's Financial Information (FIN 46)
- Payment Basics, Calculation & Adjustments
- Seller's Performance & Availability Obligations
- Credit and Collateral Requirements during Operation
- Changes from 2008 Pro Forma PPA
- Non-Modifiable Terms
- Development Security
- Scheduling
- Term Sheet

## BREAK 10:45

### ◆ Part #3: Short-Term Opportunities 11:00

#### (Nicole Neeman Brady)

- Outline New Fast Track Authority
- Discuss Options – EEI & WSPP
- Overview of General Terms

### ◆ Part #4: Proposal Evaluation 11:30

#### (Eric Lavik & Daniel Yu)

- Complete Pricing Packages
- Least-Cost / Best-Fit
- Renewable Premium Analysis
- TOD Factors
- Qualitative Factors
- Revenue Calculator

## LUNCH 12:15

### ◆ Part #5: Interconnection Service 1:30

#### (Nathan Smith)

- Interconnection Process
- CAISO's Cluster Study Methodology (LGIP, CLGIP, SGIP)
- Cost Allocation
- Transmission Project Cycle

## Imperial Valley Bidders' Conference 2:30

#### (Mike Marelli)

- Summary of 12/08 Sunrise Powerlink Decision
- Project and Construction Status
- Imperial Valley Renewable Resources
- Opportunities with SCE

## Scope of the Day

---

- Today, we will focus on SCE's 2009 Renewable RFP, including a separate conference discussion on opportunities in the Imperial Valley
- We will not be discussing the following SCE programs:
  - Renewable Standard Contracts
  - CREST Program
  - Net Metering or Distributed Generation
  - Rooftop Solar PV Solicitation
- All projects that meet the special programs listed above are eligible to submit to this solicitation provided they meet the requirements of this solicitation

# Meet the Team

NAMES	ROLES
Mike Marelli	Director of Renewable Contract Origination and Analysis
Dan Chase Susan Kappelman Bruce McCarthy Nicole Neeman Brady Dan Walker George Wiltsee John Zoida – RFP Project Manager	Renewable Power Origination
Eric Lavik Daniel Yu	Renewable Project Financial Analysis
Ayman Samaan Nathan Smith	Transmission/Interconnection - Grid Contracts
Beth Fox Liz Matthias – RFP Lead Attorney	Legal
Alex Delnik Mike Barker	Credit & Risk
Wayne Oliver	Independent Evaluator

# Independent Evaluator

---

- Merrimack Energy has been retained as the Independent Evaluator (IE) for this solicitation
  - Wayne J. Oliver – lead and key contact
  
- Primary role of the IE is to:
  - Monitor SCE's solicitation and negotiation processes to ensure fair and equal treatment of all potential counterparties
  - Monitor SCE's valuation methodologies and processes to ensure fair and equal treatment of all bids
    - Performs a parallel review and evaluation of all proposals
  
- The IE is privy to all proposal data, invited to participate in all negotiations and copied on all correspondence between SCE and sellers

# Purchases of Renewable Energy

---

- SCE continues to be the leader in the purchase of renewable power
  - In 2008, SCE purchased one tenth of all renewable power in the United States
  - SCE procures about 12.6 billion kilowatt-hours of renewable energy per year, more than any other U.S. utility
  - Since 2002, SCE has secured 48 renewable energy contracts with potential annual generation of 27.3 billion kilowatt-hours
    - Enough electricity to serve approx. 4.1 million homes for a year
- SCE has a continuing need to increase its renewable portfolio
- Generating resources focused on achieving RPS goals provide:
  - Best value for our customers
  - Early deliveries and large quantities from viable projects

# Key to a Successful Proposal

---

- SCE expects a robust solicitation response
  - 2008 RFP resulted in over 200 offers from 142 projects
- SCE recognizes that many projects and project sponsors may have unique issues to resolve or provisions to negotiate
  - SCE is willing to work with project sponsors through these issues, but must prioritize available internal resources in order to maximize progress toward RPS goals
  - Use the RFP materials to clearly articulate your proposal and any unique risks
- SCE routinely assesses and prioritizes projects likely to reach conclusion quickly
  - Key issues identified and “meeting of the minds” achieved
  - Willingness of counterparty to commit resources to negotiate final terms

# Key to a Successful Proposal *(cont.)*

---

- Competitively priced proposal
  - Projects that qualify for federal tax credits have an advantage
  - On-peak deliveries produce higher benefits, yielding higher value
- Early place in the interconnection queue
  - Provides priority for completing studies
  - Allows for earlier interconnection, which can potentially avoid future transmission upgrade costs
  - Helps bidders better understand their interconnection costs
- Demonstrated signs of a viable project
  - Site control
  - Permitting status
  - Strong financial backing
  - Realistic on-line dates and forecasted operating performance
- Thoughtful input to term sheet

# Tax Credit Impacts

---

- SCE is aware of the uncertainty surrounding the extension and employment of the investment and production tax credits beyond their current extension periods
- SCE has asked that pricing for all proposals be based on the assumption that the tax credits are extended
  - Pro Forma position is that termination rights are negotiated if credits are not extended by a date certain
- Price impacts assuming tax credits are not extended can be provided as additional information in the proposal

# SCE's Renewable Energy Needs

---

- SCE has a need for and will consider proposals for energy from all RPS eligible facilities
- SCE has both a near-term and long-term need for additional RPS eligible energy
  - Stated preference is for near-term deliveries
- SCE is particularly interested in projects that can interconnect in the Tehachapi and Imperial Valley region and deliver during peak periods

# Document Conflicts

---

- This presentation is intended to be a summary level discussion of the information and requirements established in the RFP Materials (it does not include all of the detailed information in the RFP Materials)
- To the extent that there are any inconsistencies between the information provided in this presentation and the requirements established in the RFP Materials, the RFP Materials shall govern
- To the extent that there are any inconsistencies in the RFP Materials, the hierarchy established in the Procurement Protocol shall govern

# Part #1: RFP Process & Materials

---

Presented by John Zoida

# RFP Communications

---

- SCE's Wholesale Energy Procurement Website
  - for conventional and renewable contracting opportunities -  
<http://www.SCE.com/EnergyProcurement/>
- SCE's Renewable and Alternative Power Webpage
  - with links to various renewable contracting programs -  
<http://www.sce.com/EnergyProcurement/renewables/>
- 2009 Renewable RFP Webpage
  - containing RFP schedule and downloadable materials -  
<http://www.SCE.com/renewRFP>
- All RFP-related communications should be sent to:  
[RenewableProposals@SCE.com](mailto:RenewableProposals@SCE.com) *and to*  
[Waynejoliver@aol.com](mailto:Waynejoliver@aol.com)

# RFP Website

[www.sce.com/renewRFP](http://www.sce.com/renewRFP)

**Protocols to be revised for Fast-Track products**

**Term Sheet to be revised for new Pro Formas**

**Fast-Track Pro Formas forthcoming**

RFP Materials	
Download all RFP Materials as a <b>single file (ZIP)</b> , or use the following links to download each document separately.	
Document	Description
Procurement Protocol	The RFP instructions.
<b>Appendix A:</b> <ul style="list-style-type: none"> <li>A-1 Proposal Structure Letter</li> <li>A-2 Seller's Proposal Template</li> <li>A-3 Term Sheet</li> </ul>	Information submitted electronically by Sellers by the Structure Due Date describing (i) mutual exclusivity and other selection limitations, (ii) certain commercial terms of the proposal, and (iii) any significant changes to the Pro Forma Agreement.
<b>Appendix B:</b> <ul style="list-style-type: none"> <li>B-1 Pro Forma Agreement</li> </ul>	SCE's form of the Renewable Power Purchase and Sale Agreement.
<b>Appendix C:</b> Form of Seller's Proposal	A description of information and organization required in Seller's Proposal (includes Non-Disclosure Agreement).
<b>Appendix D:</b> SCE's Transmission Ranking Cost Report	The results of SCE's latest transmission study providing transmission cost information relative to particular geographic clusters of renewable resources.
<b>Appendix E:</b> Revenue Calculator (Standard Version) Revenue Calculator (Non-Standard Version)	A Microsoft Excel Workbook for analyzing electric energy forecasts and estimating generating facility Energy Payments. For use only with offers that include banking, firming and shaping services for otherwise intermittent resources.
<b>Appendix F:</b> Alternate Wind Performance Standard	Alternative Seller's energy delivery performance obligation for wind proposals only (Optional).
<b>Appendix G:</b> CPUC Project Viability Calculator	The CPUC-issued calculator to be used by SCE to assess Proposals' viability attributes such as the company/development team, technology, and development milestones.
<b>Important Information</b>	
TOU Periods & Energy Allocation Factors	Time of Use Periods table and Energy Allocation Factors table.

# Procurement Protocols – Commercial Terms

---

- Eligible Renewable Energy Resources Eligibility
  - Refer to CEC’s RPS Eligibility Guidebook (THIRD Edition)  
<http://www.energy.ca.gov/renewables/documents/>
  - CEC Pre-Certification is encouraged
  - New, Existing or Repowered
- Product
  - All Attributes: Energy, Capacity, Green Attributes, Resource Adequacy, etc.
- Location
  - In-State
  - Out-of-State
- Term
  - Short-Term: 1 Month up to 10 Years
  - Long-Term:  $\geq$  10 Years
- Quantity
  - Minimum: 1.5 MW
  - Maximum: No Stated Maximum
- Delivery Points
  - Within CAISO: Point of Interconnection within CAISO control area
  - Outside CAISO: Point of Interconnection with local grid, CAISO Intertie, Trading Hub

# Procurement Protocols – SCE Preferences

---

- Location (in descending order)
  - In Tehachapi or Sunrise areas
  - In CAISO
  - In California
  - Outside California, In WECC
  
- Delivery Start Date
  - Prior to 2014
  
- Collateral during Term of Contract (Performance Assurance)
  - SCE not required to post
  - For all contracts other than the Fast Track, Seller to post 5% of the notional value of total energy payments expected to be made during the term of the contract
  - For Fast Track opportunities, please check the website

# Procurement Protocols – Key Deliverables

---

- Proposal Submittal Part I – Email Delivery (August 14<sup>th</sup>)
  - Proposal Structure Letter (\*.doc)
  - Seller’s Proposal Template (\*.xls)
  - Term Sheet (\*.xls)
  
- Proposal Submittal Part II – Physical Delivery (August 21<sup>st</sup>)
  - Hard Copy of Complete Proposal Package (4 binders)
  - Electronic Copy of Complete Proposal Package (CD/DVD)
  - “Originals Envelope” for executed documents and redlines of:
    - Transmittal Letter
    - Seller’s Acknowledgements<sup>1</sup>
    - Non-Disclosure Agreement<sup>1</sup>

<sup>1</sup>Must be acceptable to SCE and executed by Seller in order to receive short-list notification.

# Procurement Protocols – Key Deliverables *(cont.)*

---

- Curing Deficiencies (~3 days following SCE notification)
  - Complete Proposal Package
    - Proposal Structure Letter, Seller's Proposal Template, Term Sheet
    - Revenue Calculator
  - ERR
  - WECC Delivery Point
  - $\geq 1.5$  MW
  
- Upon Short-List Acceptance
  - Short-List Deposit
    - The greater of (\$25,000) or (Contract Capacity x \$3 per kW)
    - Cash or LOC
  - Executed Copy of Exclusivity Agreement
    - Lasting until the earlier of SCE's rejection of Proposal or 180 days of Short-List Notification
  - Copy of Filed Interconnection Application

# Proposal Structure Letter (PSL)

---

- Read PSL carefully, including examples
- Adhere to format set out in the template
- Needs to clearly state all proposal options and criteria by which SCE can select Sellers' Proposal(s); e.g.:
  - At Site X, 1 solar PV project with 1 price, 1 term length, with no other options
  - 1 solar PV project at 1 site, with 2 pricing options and 2 term lengths (15 year and 20 year); SCE may select only 1 of the 4 options
  - 1 wind project consisting of 3 phases; SCE must select phase 1 before selecting phase 2, and phases 1 & 2 before selecting phase 3
- Each proposal and option (e.g., price, term length, delivery point, etc.) needs a separate SPT
- Save as Excel version 2002 (not pdf)

# Seller's Proposal Template (SPT)

- Read instructions page
- Fill out every field
- Read each pop-up message carefully
- Each proposal and option (e.g., price, term length, delivery point, etc.) needs a separate SPT
- Save as Excel version 2002 (not pdf)

E. GENERATING FACILITY					
Facility Name:				Resource Type:	
Street:				Product Type:	
City:				Resource Vintage:	
State:		Zip Code:		Latitude:	
				Longitude:	
F. PRICING, CONTRACT TERM, MUTUAL EXCLUSIVITY					
1st Year Contract Price (\$/MWh):		Contract Term:		Mutual	
Annual Price Escalation:		Forecasted Initial Operation Date:		Exclusivity:	
Performance Assurance Amount:					
G. OPERATING CHARACTERISTICS					
Capacity Factor:		Net Nameplate Capacity:	INITIAL	FINAL	
Wind Resource Class:					

# Term Sheet

---

- Read instructions page
- Fill out every field
- Read each pop-up message carefully
- Each contract that Seller intends to negotiate if short-listed requires a separate Term Sheet
- Save as Excel version 2002 (not pdf)

ARTICLE ONE: Special Conditions

Does Seller require material changes to any provision contained within this Article?

Is Seller's proposed Contract Price based on provisions w/in this Article that are different from SCE's pro forma provisions?

If "Yes" to either of the above, please explain here

[Large empty text area for explanation]

# Part #2: Pro Forma Standard PPA

---

Presented by Susan Kappelman

# Focus of this Presentation

---

- This presentation will focus on the:
  - Differences between SCE's 2008 and 2009 Renewable Pro Forma Agreements for Standard Products
  - Key terms
- This presentation will not address all of the terms and conditions in the Pro Forma Agreement

# Pro Forma Agreement Assumptions

---

- Contains the specific terms and conditions under which SCE is willing to purchase the bundled product
- Is focused on the sale and purchase of the electric energy produced by the Generating Facility
- It is structured under the assumption that:
  - Seller's Proposal is based upon the green field development of a new Generating Facility
  - SCE will be the Scheduling Coordinator
  - Interconnection of the Generating Facility will be in the CAISO's Control Area

## Seller's Identification of Issues with Agreement

---

- Seller is no longer required to submit redline of the Agreement in the Proposal
- Seller is to submit a Term Sheet as part of the proposal package, which should include its proposed material deviations from the Pro Forma Agreement
- Seller will be encouraged to submit redlines of the Agreement as soon as possible following notification of short-listing

# Non-Modifiable Terms

---

- CPUC has ordered that four PPA terms may not be modified (highlighted in the Pro Forma PPA in bright green):
- Standard Term #1:
  - “CPUC Approval” means a final and non-appealable order of the CPUC, without conditions or modifications unacceptable to the Parties, or either of them, which contains the following terms:
    - a) Approves this Agreement in its entirety, including payments to be made by the Buyer, subject to CPUC review of the Buyer’s administration of the Agreement; and
    - b) Finds that any procurement pursuant to this Agreement is procurement from an eligible renewable energy resource for purposes of determining Buyer’s compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables Portfolio Standard (Public Utilities Code Section 399.11 et seq.), Decision 03-06-071, or other applicable law.

CPUC Approval will be deemed to have occurred on the date that a CPUC decision containing such findings becomes final and non-appealable.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #2 (including footnote):

“Green Attributes” means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Project, and its avoided emission of pollutants. Green Attributes include but are not limited to Renewable Energy Credits, as well as:

- (1) Any avoided emission of pollutants to the air, soil or water such as sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and other pollutants;
- (2) Any avoided emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere;<sup>[6]</sup>
- (3) The reporting rights to these avoided emissions, such as Green Tag Reporting Rights.

[6] Avoided emissions may or may not have any value for GHG compliance purposes. Although avoided emissions are included in the list of Green Attributes, this inclusion does not create any right to use those avoided emissions to comply with any GHG regulatory program.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #2 (cont.)

Green Tag Reporting Rights are the right of a Green Tag Purchaser to report the ownership of accumulated Green Tags in compliance with federal or state law, if applicable, and to a federal or state agency or any other party at the Green Tag Purchaser's discretion, and include without limitation those Green Tag Reporting Rights accruing under Section 1605(b) of The Energy Policy Act of 1992 and any present or future federal, state, or local law, regulation or bill, and international or foreign emissions trading program. Green Tags are accumulated on a MWh basis and one Green Tag represents the Green Attributes associated with one (1) MWh of energy.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #2 (cont.)

Green Attributes do *not* include:

- (i) Any energy, capacity, reliability or other power attributes from the Project,
- (ii) Production tax credits associated with the construction or operation of the Project and other financial incentives in the form of credits, reductions, or allowances associated with the Project that are applicable to a state or federal income taxation obligation,
- (iii) Fuel-related subsidies or “tipping fees” that may be paid to Seller to accept certain fuels, or local subsidies received by the generator for the destruction of particular preexisting pollutants or the promotion of local environmental benefits, or
- (iv) Emission reduction credits encumbered or used by the Project for compliance with local, state, or federal operating and/or air quality permits.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #2 (cont.)

If the Project is a biomass or biogas facility and Seller receives any tradable Green Attributes based on the greenhouse gas reduction benefits or other emission offsets attributed to its fuel usage, it shall provide Buyer with sufficient Green Attributes to ensure that there are zero net emissions associated with the production of electricity from the Project.

(b) Green Attributes. Seller hereby provides and conveys all Green Attributes associated with all electricity generation from the Project to Buyer as part of the Product being delivered. Seller represents and warrants that Seller holds the rights to all Green Attributes from the Project, and Seller agrees to convey and hereby conveys all such Green Attributes to Buyer as included in the delivery of the Product from the Project.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #6

Seller, and, if applicable, its successors, represents and warrants that throughout the Delivery Term of this Agreement that:

- (i) The Project qualifies and is certified by the CEC as an Eligible Renewable Energy Resource (“ERR”) as such term is defined in Public Utilities Code Section 399.12 or Section 399.16; and
- (ii) The Project’s output delivered to Buyer qualifies under the requirements of the California Renewables Portfolio Standard.

To the extent a change in law occurs after execution of this Agreement that causes this representation and warranty to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in law.

## Non-Modifiable Terms *(cont.)*

---

- Standard Term #17

Governing Law. THIS AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW. TO THE EXTENT ENFORCEABLE AT SUCH TIME, EACH PARTY WAIVES ITS RESPECTIVE RIGHT TO ANY JURY TRIAL WITH RESPECT TO ANY LITIGATION ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

# Product

---

- “Product” means:
  - All electric energy produced by the Generating Facility, net of Station Use
  - All Green Attributes, Capacity Attributes, and Resource Adequacy Benefits generated by, associated with or attributable to the Generating Facility
- “Green Attributes” means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Project, and its avoided emission of pollutants. Green Attributes include but are not limited to Renewable Energy Credits...(see Pro Forma for complete definition)
- “Capacity Attributes” means any and all current or future defined characteristics, certificates, tags, credits, ancillary service attributes, or accounting constructs, howsoever entitled, including any accounting construct counted toward any resource adequacy requirements, attributed to or associated with the Generating Facility or any unit of generating capacity of the Generating Facility during the Term

## Product *(cont.)*

---

- “Resource Adequacy Benefits” means the rights and privileges attached to the Generating Facility that satisfy any entity’s resource adequacy obligations, as those obligations are set forth in any Resource Adequacy Rulings and shall include any local, zonal or otherwise locational attributes associated with the Generating Facility
- SCE takes delivery of the Product beginning at Initial Synchronization
  - From the Effective Date until the end of the Term, Seller can not sell the Product (or any portion thereof) to any entity other than SCE
- SCE is not obligated to purchase Product during:
  - An outage of the Generating Facility
  - A Force Majeure under Article Five
  - A reduction or curtailment of deliveries ordered by the CAISO
  - A reduction or curtailment of deliveries pursuant to the terms of an agreement with a Transmission Provider

# Delivery Point

---

- Pricing Node for the Generating Facility, or PNode, a term used by the CAISO
- For Generating Facilities interconnected outside of the CAISO Control Area, the Delivery Point shall be:
  - The intertie point where Seller's Transmission Provider ties to the CAISO's Control Area ("CAISO Intertie") and Seller's Scheduling Coordinator schedules energy to SCE, as Scheduling Coordinator, via an Inter-SC Trade
  - A liquid power trading hub or hubs outside of the CAISO Control Area (e.g., Mid-C)
  - A point to be determined by SCE
- Significant changes will need to be made for Generating Facilities located outside the CAISO

# Scheduling & Forecasting

---

- Seller has the option of using SCE as its Scheduling Coordinator
  - Significant contract changes will need to be made to PPA if SCE is not the Scheduling Coordinator
- Base Load Generating Facilities
  - Sellers will be responsible for forecasting Metered Amounts to SCE (including a 30-day rolling Forecast and updates before the operating hour)
  - SCE will be responsible for submitting the energy schedule based on Seller's forecast
  - SCE will be responsible for all CAISO Charges, provided that Seller's Energy Deviations do not exceed a plus or minus three percent Performance Tolerance Band

# Scheduling & Forecasting *(cont.)*

---

- **Base Load Generating Facilities**
  - Sellers will be responsible for forecasting Metered Amounts to SCE (including a 30-day rolling Forecast and updates before the operating hour)
  - SCE will be responsible for submitting the energy schedule based on Seller's forecast
  - SCE will be responsible for all CAISO Charges, provided that Seller's Energy Deviations do not exceed a plus or minus three percent Performance Tolerance Band
  
- **Intermittent Generating Facilities**
  - Sellers will be responsible for forecasting the Availability (including a 30-day rolling forecast and updates 20-minutes before the operating hour)
  - SCE will be responsible for turning the Availability information into Schedules or accept the CAISO's PIRP Schedules
  - SCE will be responsible for all PIRP forecasting fees

# Payment Basis

---

- Seller will be paid on “Metered Amounts”
- “Metered Amounts” means the electric energy produced by the Generating Facility and expressed in kWh, as measured by the CAISO Approved Meter\* or Check Meter
- “CAISO Approved Meter” means a CAISO approved revenue quality meter or meters, CAISO approved data processing gateway or remote intelligence gateway, telemetering equipment and data acquisition services sufficient for monitoring, recording and reporting, in real time, all electric energy produced by the Generating Facility less Station Use

\* or respective Balancing Authority’s approved meter

## Payment Basis *(cont.)*

---

- If the CAISO Approved Meter does not measure, or is not compensated to measure, the energy at the Delivery Point, SCE will apply a line loss factor or transformation loss factor to adjust the Metered Amounts in the above formula
- SCE may furnish and install one Check Meter on the high voltage side of each step-up transformer (or any other location at SCE's sole discretion) at the Generating Facility; each Check Meter must be interconnected with SCE's communication network to permit:
  - Periodic, remote collection of revenue quality meter data
  - Back-up real time transmission of operating-quality meter data through the Telemetry System

# Energy Payment Calculation

- ◆ Energy Payments are calculated based upon the following formula:

$$\text{TOD PERIOD ENERGY PAYMENT} = A \times B \times C$$

Where:

A = Energy Price

B = Energy Payment Allocation Factor for the TOD Period

C = Sum of Metered Amounts for the TOD Period

- ◆ No change in the Energy Payment Allocation Factors from the 2008 RFP:

Energy Payment Allocation Factors			
<i>Season</i>	<i>TOD Period</i>	<i>Calculation Method</i>	<i>Energy Payment Allocation Factor</i>
Summer	On-Peak	Fixed Value.	3.13
	Mid-Peak	Fixed Value.	1.35
	Off-Peak	Fixed Value.	0.75
Winter	Mid-Peak	Fixed Value.	1.00
	Off-Peak	Fixed Value.	0.83
	Super-Off-Peak	Fixed Value.	0.61

# Payment Adjustments

---

- Baseload Generating Facilities
  - Seller will be responsible for CAISO Charges when Energy Deviations (i.e., the difference between the Final Hour Ahead Scheduled and Settlement Amounts) exceed a plus or minus three percent Performance Tolerance Band in any Settlement Interval
  - “Settlement Amounts” means the Metered Amounts adjusted by Delivery Losses
  
- Intermittent Generating Facilities
  - Seller will bear financial responsibility in the event that Seller does not provide real-time communications of availability or does not report changes in availability within 20 minutes after Seller becomes aware of the event which caused the availability change and Energy Deviations exceed a plus or minus three percent Performance Tolerance Band

# Seller's Energy Delivery Performance Obligation

---

- No Change from 2008
- For Base Load Generating Facilities:  
**90%** of the Expected Annual Net Energy Production during the prior **12** month period
- For Wind Generating Facilities:  
**100%** of the annual P-95 Value from the Final Wind Report will be used to determine Expected Annual Net Energy Production
- For Non-Wind Intermittent Generating Facilities:  
**140%** of the Expected Annual Net Energy Production during the prior **24** month period

## Seller's Energy Delivery Performance Obligation *(cont.)*

---

- An Event of Deficient Energy Deliveries means that the sum of:
  - Qualified Amounts, and
  - Any Lost Outputis *less than* Seller's Energy Delivery Performance Requirement
- The Energy Replacement Damage Amount is based on a calculation of replacement energy, using a:
  - New definition for Market Price as prices from the Integrated Forward Market for EZ Gen Hub SP-15
  - \$50/MWh ceiling
  - \$20/MWh floor
- “Lost Output” means Qualified Amounts that Generating Facility was available to produce and could not deliver due to:
  - Force Majeure
  - An Event of Default where SCE is the Defaulting Party

# Availability Guarantee & Lost Production Payment

---

In Addition, for Wind Generating Facilities:

- Seller must also guarantee an annual minimum wind turbine availability of 95% in Term Years one through five and 90% wind turbine availability in Term Years six through ten
- Availability shall be based on the wind turbine manufacturer's availability calculation and methodology
- The Availability Guarantee Lost Production Payment shall be a credit against Energy Replacement Damage Amount owed by Seller, but shall not otherwise replace or reduce Seller's obligation to pay the Energy Replacement Damage Amount

# Seller's Energy Delivery Performance Obligation

## *Alternate Standard for Wind Powered Generating Facilities*

---

- Seller's Energy Delivery Performance Requirement for each Term Year is determined by multiplying:
  - The estimate of Metered Amounts calculated by using actual Site wind speeds and a Generating Facility Power Curve *times*
  - Seller's Generating Facility Efficiency Guarantee which is 90% for Terms Years 1 through 10 and then declines by 0.5% for each subsequent Term Year
- The Generating Facility Power Curve will be developed by an Independent Performance Engineer hired by SCE
- An Event of Deficient Energy Deliveries means that:
  - The sum of Qualified Amounts during all non-Lost Output Settlement Intervals during a Term Year is *less than*
  - Seller's Energy Delivery Performance Requirement

# Development Security

## *Prior to Operation of the Generating Facility*

---

- Amount
  - \$60 per kW of Generating Facility Contract Capacity for Base Load Generating Facilities.
  - \$30 per kW of Generating Facility Contract Capacity for Intermittent Generating Facilities.
  - 50% due within thirty (30) days of the Effective Date.
  - 50% due within thirty (30) days of CPUC Approval.
- Refund
  - In whole or part on a prorated basis based upon Seller demonstrating the full Contract Capacity before Firm Operation Date, or
  - Forfeited for failure of Seller to commence Initial Operation by the Startup Deadline

# Credit and Collateral Requirements

## *During the Operation of the Generating Facility*

---

- Amount
  - Sellers are required to provide and maintain Performance Assurance in the amount equal to five percent of the notional value of the total Energy Payments expected to be made under the Agreement
  
- Form
  - Performance Assurance may be posted as cash or as a letter of credit
  - The Performance Assurance may be satisfied by a Guaranty Agreement from a Guarantor that is acceptable to SCE

# Credit and Collateral Requirements *(cont.)*

*During the Operation of the Generating Facility*

---

## Additional Seller Credit Requirements:

- An attornment agreement between SCE, Seller and Seller's lender
- Seller organized as a bankruptcy remote, special purpose entity
- An exclusive contract with SCE for entire output of the Generating Facility

## Insurance (modified from 2008)

---

- Starting on the Effective Date and continuing until the Term ends, Seller shall maintain in force at its sole expense, valid and collectible insurance
  - Workers' compensation insurance
  - Employer's liability insurance
  - Commercial general liability insurance must bear a minimum limit per occurrence of not less than One Million dollars (\$1,000,000)
  - Commercial automobile liability insurance covering bodily injury and property damage with a combined single limit of not less than One Million dollars (\$1,000,000) per occurrence
  - Excess liability insurance on a following form basis with limits of not less than Ten Million dollars (\$10,000,000) per occurrence

## Seller's Financial Information (FIN 46 compliance)

---

- If SCE believes the revenue from the PPA accounts for less than 90%, but more than 50%, of Seller's revenue, SCE shall require further information from Seller to make a definitive determination
- In that event SCE makes a definitive determination, Seller shall be required to provide SCE with Seller's Financial Information

# PGC Funding

---

- CPUC has established a limitation for SCE on the total costs expended above the applicable Market Price Referent for the procurement of eligible renewable energy resources to achieve the annual procurement targets established under the RPS Legislation (“Above MPR Cost Limit”)
- The Market Price Referent will be established by the CPUC for all IOU renewable solicitations after all of the IOUs have developed their short lists
- If SCE’s Above MPR Cost Limit is exhausted, SCE may limit its procurement to the quantity of eligible renewable energy resources that can be procured at or below the applicable Market Price Referent
- Alternatively, SCE may, but is not required to, voluntarily procure eligible renewable energy resources at prices above the applicable Market Price Referent

# Availability Information and Meteorological Data

*(Applicable to Wind and Solar Generating Facilities)*

---

- Seller must install a telecommunication system to provide SCE cumulative available capacity on a real-time basis
- Seller must report Actual Availability throughout the Term
- Seller shall provide a minimum of one year recorded meteorological data if SCE has no historic meteorological data

# Part #3: Short-Term Opportunities

---

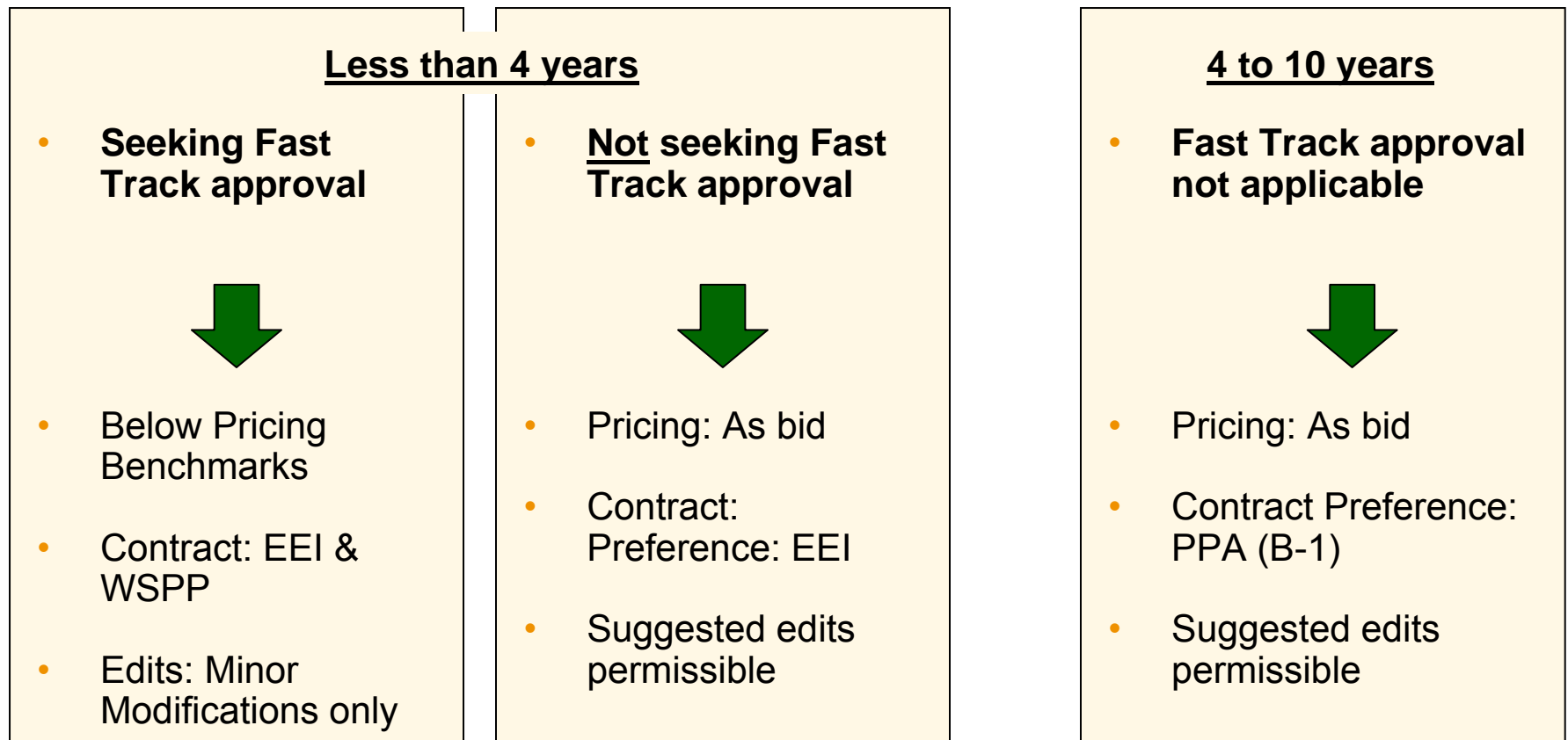
Presented by  
Nicole Neeman Brady

# Purpose

---

- Fast Track option for contracts under 4 years
  - Outline New Decision 09-06-050
  - Discuss Options – EEI & WSPP
  - Overview of General Terms
- Other Short-Term Contracting Opportunities

# Short-Term Contracting Opportunities (<10 Yrs.)



# Summary of Decision 09-06-050

---

- Establishes Price Benchmarks and Fast Track Contract Review Processes for Short-Term Contracts
- Fast Track Treatment Requirements:
  - Tier 2 Advice Letter Process
    - CPUC Approval effective in 30 days from advice letter filing unless suspended by PUC staff or protested by third parties
  - Facilities;
    - In commercial operations or
    - Will commence commercial operations within 6 months of contract execution
  - Very Short-Term Contracts (< 4 years)
    - Levelized Price (including firming and shaping) does not exceed:
      - 150% of forward price for a same term, non-renewable energy contract and
      - 90% of the MPR for a contract of 10 years
    - Requires a Pro Forma Contract with only “minor modifications”
  - Moderately Short-Term Contracts (4 to 10 years)
    - Benchmarks and Process still being determined by the CPUC
- Requires PRG & IE Review of Short-Term Contracts

# Contracting Structures & Product Types

---

For Fast Track contracts:

- In an effort to be simple and efficient, SCE will require the use of a Master Agreement with a Confirmation as the contracting structure
- SCE intends to use SCE specific EEI and WSPP Confirmations as the contracting options
- SCE's preference is the EEI

# What are the EEI & WSPP?

---

- Standardized contracts for wholesale physical power transactions
  - Base document with standard legal terms and conditions supporting each individual transaction
  
- Why a Master Agreement?
  - Each market participant has own preferences
  - Bilateral negotiation of long term PPA can take months
  - Consensus document — flexible, workable, even-handed, reciprocal framework
  - Industry/market development
    - liquidity
  - More consistent power products and hedging possibilities
    - certainty and reliability

# EEI vs WSPP

---

- Documents differ with terms and definitions
- EEI:
  - Agreement bilaterally negotiated between each party
    - Elections detailed in Cover Sheet, Collateral Annex, and Optional Provisions
  - This structure is SCE's preference due to greater clarity of issues
- WSPP:
  - WSPP agreement is a tariff on file with the FERC
  - Each party that is a signatory to the WSPP tariff agreement can transact under that agreement with any other signatory
- Information and documents are available on websites:
  - EEI: <http://www.eei.org/ourissues/ElectricityGeneration/Pages/MasterContract.aspx>
  - WSPP: [http://www.wspp.org/documents\\_agreement.php](http://www.wspp.org/documents_agreement.php)
- Transactions outlined in Confirmation and governed by Master Agreements

# Form of Confirmation

---

- Will be posted to website as Appendices B-2 through B-5
- Sets out the commercial terms of the Transaction
  - Type of Product
  - Quantity (Firm and Unit Contingent)
  - Price (Index plus premium)
  - Delivery Period (Term)
  - Delivery Point
    - WREGIS and
    - Liquid Trading Hub – e.g. SP15 EZ gen Hub, PV, Mid-C, COB
  - CPUC Non-Modifiable Terms
  - Collateral during Term of Contract (i.e. Performance Assurance)
  - And Special Provisions for only this Transaction
- Documents will be posted to the SCE RFP website around July 17, 2009; dependent upon submission to the CPUC

# Other Short-Term Contracting Opportunities

---

- SCE will continue to solicit and contract for short-term opportunities that do not meet the current requirements of the Fast Track authority (e.g. 4-10 year terms)
- SCE's preference will be for those short-term opportunities suggesting the use of the long form Pro Forma PPA
  - The EEI and WSPP Confirmations in their current form are not appropriately structured for transactions of 4 years or greater.
- Please submit all short-term proposals, other than Fast Track opportunities, using the long form Pro Forma PPA
- Short-term proposals will be reviewed and considered with all 2009 RFP submissions
- If you have any additional questions, please email [RenewableProposals@SCE.com](mailto:RenewableProposals@SCE.com) and [Waynejoliver@aol.com](mailto:Waynejoliver@aol.com)

# Part #4: Evaluation of Proposals

---

Presented by

Eric Lavik and Daniel Yu

# Energy Price Assumptions

---

***Proposed Energy Prices must be developed with consistent assumptions. Energy Prices must assume the following:***

- Direct Assignment Costs - Seller bears the Direct Assignment Costs because there is no reimbursement of these costs to Seller
- Network Upgrades - Seller bears the cost of initially paying for Network Upgrades\* (unless the Network Upgrades are pre-funded and such pre-funding has been approved by the CPUC prior to Proposal Due Date)
- Awards - Production Tax Credits, Investment Tax Credits and all other awards that Seller reasonably expects to apply
- Performance Assurance\*\* - The amount of Performance Assurance that Seller intends to post as represented in the Seller's Proposal Template; recommendation is to assume 5% pro forma
- Energy Price will be adjusted in each time of delivery ("TOD") by the Energy Payment Allocation Factors set forth in Exhibit K to the Pro Forma PPA
- Seller must represent, warrant, and covenant that the energy price it submits assumes that Seller will provide SCE with the development security required by SCE

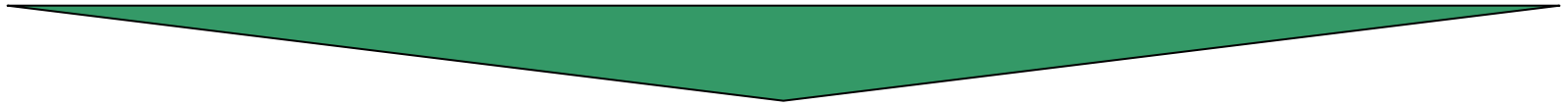
\* Developer is entitled to repayment with interest over a 5 year period following initial operation. Interest will be calculated in accordance with FERC's regulations at 18 C.F.R. §35.19a(a)(2)(iii).

\*\* SCE strongly recommends Sellers to post the pro forma Performance Assurance amount equal to 5% of the notional value of the total expected energy payments throughout the entire term)

# Least-Cost / Best-Fit

---

***SCE's short-list is developed utilizing the least-cost / best-fit methodology, incorporating both quantitative and qualitative factors.***



**Least Cost** – minimize the net cost impact on customers of the addition of resources

- Direct costs are tied to signing a contract for renewable generation (i.e., energy payments to the renewable developer)
- Indirect costs are those created by the secondary impacts of adding projects to the system and SCE's balance sheet (e.g., the costs of additional transmission and debt equivalence)
- Offsetting benefits are derived from the reduced capacity/energy needs

**Best Fit** – maximize the value of products that “fit” better into SCE's resource portfolio

- Accounting for the viability of the project based on company/development team, technology, and development milestones
- Assessing seller concentration, transmission area, portfolio fit of COD, resource diversity, and other additional qualitative factors

# Renewable Premium Analysis

## Levelized Costs

### Contract Payments

- Based on the proposed energy price, expected generation profile and contract term

### Transmission Cost

- Cost adders for required network upgrades based on relevant Transmission Ranking Cost Report

### Debt Equivalence Cost

- Cost of mitigating contract commitments on SCE's balance sheet

### Integration Cost\*

- Cost of maintaining a reliable energy supply

## Levelized Benefits

### Energy Value

- Ventyx's Planning & Risk model is used to perform hourly, least-cost dispatch of SCE resource portfolio with and without generic resources
- Value is derived from the change in total portfolio production cost
- Captures remarketing & dispatchability characteristics of evaluation

### Capacity Value

- The maximum production amount that SCE can reasonably rely upon during peak periods

*Proposals are ranked based on a net levelized cost basis that weighs costs and benefits to SCE's resource portfolio:*

$$\{\text{Levelized Costs}\} - \{\text{Levelized Benefits}\} = \text{Renewable Premium}$$

\*Per D.04.07.029, the integration costs will be deemed to be \$0/MWh for SCE's 2009 RPS Renewable Premium analysis pending future CPUC action.

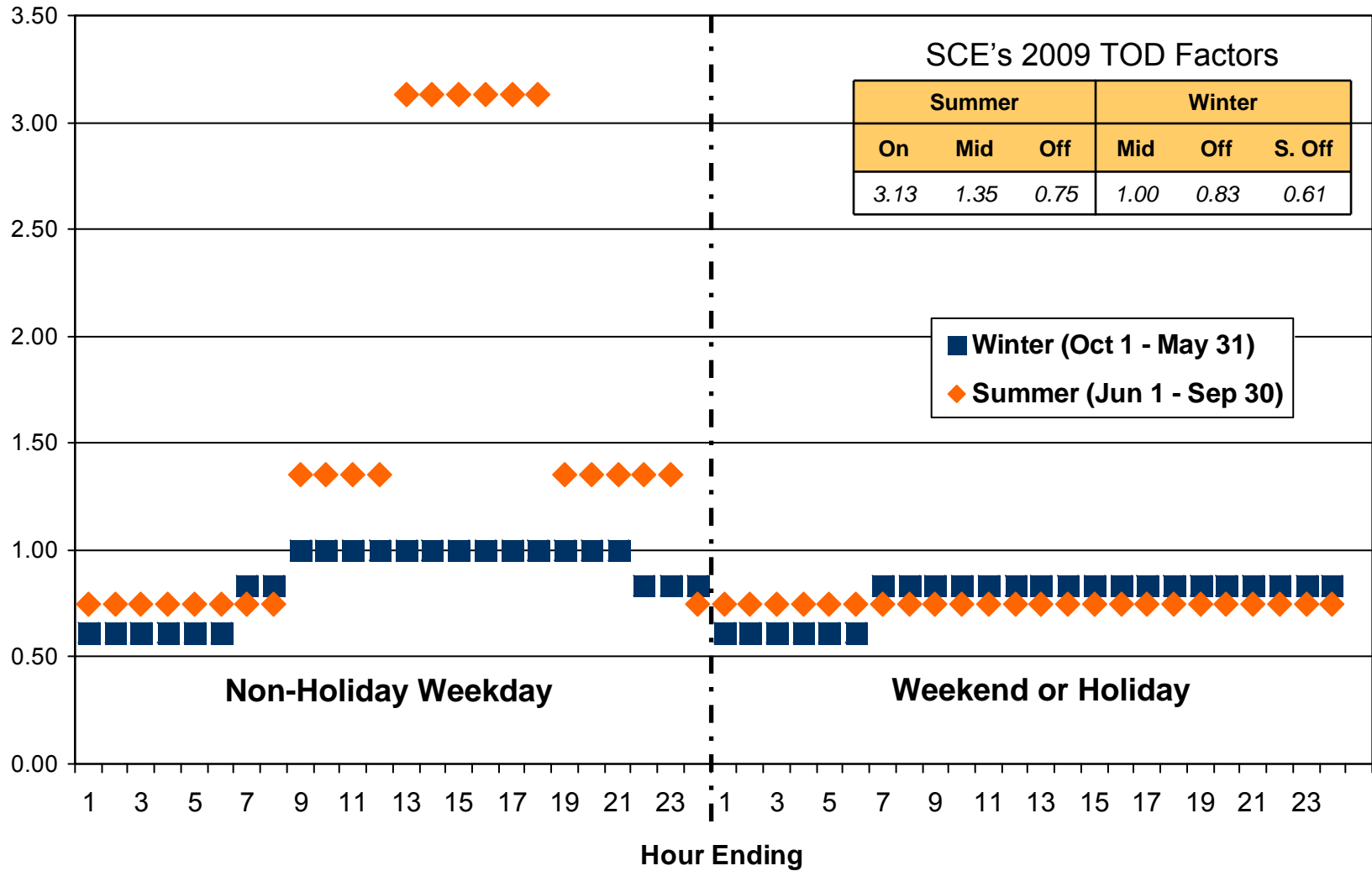
# Revenue Calculator

---

- General Inputs
  - Input general project info (*name, generating technology, GMM, etc.*)
  - Bid price
    - Levelized
    - Escalating
  - Commercial Online date and termination date
  - Installed Capacity
  - Degradation Factors, if applicable
  
- Revenue Calculator by Delivery Type
  - Traditional Must-take at Time of Generation Products
    - 365 x 24 delivery of as-is energy at first point of interconnection
  - Shaped, Banked, or Firmed Products
    - Delivery schedule by TOU-8 time periods by month
  
- If you have any additional questions, please email [RenewableProposals@SCE.com](mailto:RenewableProposals@SCE.com) and [Waynejoliver@aol.com](mailto:Waynejoliver@aol.com)

# Energy Payment – TOD Factors

TOD Factor



# Viability Score

---

- The project viability calculator (PVC) is a tool for the utilities to evaluate the viability of a renewable energy project, relative to all other projects that bid into the solicitation.
- The PVC uses standardized categories and criteria to quantify a project's strengths and weaknesses in key areas of renewable project development

# Viability Score - *Example*

Category	Criteria	Priority	Weight
<b>Company / Development Team</b>	Project Development Experience	VH	4
	Ownership / O&M Experience	L	1
<b>Category Weight</b>	<b>25%</b>		
<b>Technology</b>	Technical Feasibility	VH	4
	Resource Quality	M	2
	Manufacturing Supply Chain	H	3
<b>Category Weight</b>	<b>35%</b>		
<b>Development Milestones</b>	Site Control	VH	4
	Permitting Status	VH	4
	Project Financing Status	VH	4
	Interconnection Progress	VH	4
	Transmission Requirements	H	3
	Reasonableness of COD	H	3
<b>Category Weight</b>	<b>40%</b>		
<i>must equal 100% --&gt; 100%</i>			

# Additional Qualitative Factors

---

***Following the Project Viability Calculator qualitative assessment, SCE considers additional qualitative characteristics to determine advancement onto or exclusion from the short-list or tiebreakers, if any. These additional characteristics may include:***

- Transmission Area (e.g., Tehachapi, Sunrise, within SCE's load pocket)
- Portfolio Fit of COD
- Seller Concentration
- Performance Assurance amount that Seller intends to post
- Expected Generation (GWh/year)
- Dispatchability and Curtailability
- Contract Price
- Alternative Renewable Premium (i.e., Renewable Premium including Integration Costs)
- Benefits to minority and low income communities
- Environmental impacts of Seller's proposed project on California's water quality and use
- Resource Diversity
- Local Reliability
- Environmental Stewardship

# Part #5: Interconnection Service

---

Presented by Nathan Smith

# Interconnection

---

- The purpose of the interconnection process is to identify which upgrades are required to safely and reliably interconnect a specific interconnection application
- The interconnection process is independent of the power purchase agreement process
- Processing of applications for interconnection of generation to (i) SCE's distribution system, and (ii) that part of CAISO's controlled grid (transmission system) that SCE owns, operates, and maintains, is the responsibility of SCE's Grid Contracts group
- Wholesale interconnection applications could be managed by either SCE or CAISO

# The Wholesale Interconnection Application

---

- An interconnection application's point of interconnection to SCE's electric system determines to which entity the interconnection application is submitted
  - Interconnection directly to the CAISO controlled grid (that part of SCE's system under CAISO control) is processed by the CAISO under the CAISO Tariff
  - Interconnection to SCE's distribution system is processed by SCE under the Wholesale Distribution Access Tariff (WDAT); in addition to interconnection service, a project that connects to SCE's distribution service will need to apply for wholesale distribution service (pursuant to Section 15.2 of the WDAT) to transmit generator output from the point of interconnection to the CAISO Controlled Grid
- Interconnection to non-SCE owned facilities is processed by the facility owner and may require evaluation by SCE as an affected system

# Processing and Study

---

## **Project size determines the procedure for processing the application and the study methodology**

- Projects greater than 20 MW
  - Cluster study Methodology
  - Processed under the Clustering Large Generator Interconnection Procedures (CLGIP) for SCE
  - Processed under the Large Generator Interconnection Procedures (LGIP) for CAISO
- Projects equal to or less than 20MW
  - Serial study methodology
  - Processed under the Standard Small Generator Interconnection Procedures (SGIP) for both SCE and CAISO

# CAISO LGIP and SCE's CLGIP

---

- Application
  - Two queue cluster windows per year (open for 120 days each)
  - Application and estimated study deposit - \$250,000.00
    - Applicant is responsible for the actual cost of the study
  - Deposit in lieu of proof of site exclusivity - \$250,000.00
  - Current cluster window closes July 31, 2009
  - Next cluster window will be open October 1, 2009 – January 31, 2010
  
- Phase I Study
  - Interconnection request are grouped for study purposes
  - One network analysis for the entire cluster
  - Applicant to post security for 20% of required interconnection facilities, distribution facilities, and, the greater of 20% of the network upgrades costs or \$500K, after the Phase I Study is complete
  - Applicant is at risk for posted security upon withdrawal of application
  - Generator's cost responsibility for network upgrades are fixed after the Phase I Study
  - Estimated schedule for completion is 270 calendar days after the close of the queue cluster window

# CAISO LGIP and SCE's CLGIP *(cont.)*

---

- Phase II Study
  - Eligible interconnection request from the two previous Phase I Studies are incorporated into one Phase II Study
  - Limited modifications to interconnection request are allowed between Phase I and Phase II
  - Applicant to post security for 100% of required facilities cost after the Phase II Study is complete
  - Runs concurrently with the Transmission Planning Process
  - Actual network upgrades to be constructed are determined
  - Estimated schedule is 330 calendar days from January 1 of each calendar year

# CAISO LGIP and SCE's CLGIP *(cont.)*

---

- **Interconnection Agreement Phase**
  - Execution of a Large Generator Interconnection Agreement, or Small Generator Interconnection Agreement
  - For CAISO interconnection applications, the interconnection agreement is a three party agreement
  - Disputed portions of the agreement's appendices are negotiated for a period of 90 days following the transmittal of the final Phase II Study report to the applicant
  - Applicant must execute the agreement, initiate dispute resolution, or request the unexecuted agreement be filed at FERC within the 90 day period.
  - If none of the above actions have been taken within the 90 day period, the interconnection application will be deemed withdrawn
  - Once the agreement is accepted by FERC and other preceding requirements have been met, final engineering procurement and construction of the network upgrades, distribution upgrades, and participating transmission owner's interconnection facilities commence
  
- **Withdrawal**
  - Refunds of the study deposit and security are net of SCE and CAISO cost incurred.
  - A portion of the study deposit is refundable yet the amount that is subject to refund diminishes over the study phase
  - Up to 50% of the required security for network upgrades is refundable under certain conditions
  - Security for transmission operators interconnection facilities and distribution upgrades is released under certain conditions

# Small Generator Interconnection Procedures (SGIP)

---

- Application - \$1,000 deposit, complete data, and proof of site control; scoping meeting
- Feasibility Study – execution of study agreement; additional \$1,000 deposit for study cost (applicant pays actual study costs); complete data; study duration is 30 business days if CAISO Tariff and 30 business days if WDAT
- System Impact Study – execution of study agreement(s); additional deposit(s) based on estimated study cost (applicant pays actual study costs); study duration if CAISO Tariff is 45 business days for transmission study and 30 business days for distribution study (if applicable); study duration if WDAT is 30 business days for distribution study and 45 business days for transmission study (if applicable)
- Facilities Study – execution of study agreement; additional deposit based on estimated study cost (applicant pays actual study cost); study duration if CAISO Tariff is 45 business days, or 30 business days if only interconnection facilities are required; study duration if WDAT is 45 business days, or 30 business days if only interconnection facilities are required

# Small Generator Interconnection Procedures *(cont.)*

---

- Interconnection Agreement - If CAISO Tariff, applicant requests interconnection agreement within 30 business days of completion of Facilities Study, interconnection agreement tendered within 5 business days of applicant's request, applicant executes interconnection agreement within 30 business days of receipt
  - If WDAT Tariff, interconnection agreement tendered within 5 business days of completion of Facilities Study and applicant's agreement to pay for the identified facilities, applicant executes interconnection agreement within 30 business days of receipt
  - If under the WDAT the applicant has requested wholesale distribution service, SCE will tender a wholesale distribution service agreement as well which the applicant would execute within 30 business days
- Both WDAT and CAISO SGIP's provide for a "Fast Track Process" \*
  - Require less time to complete than the study process outlined above
  - Applicable to small generating facilities that are no larger than 2 MW and meets specific codes, standards, and certification requirements as identified in Attachments 3 and 4 of the WDAT and CAISO SGIP
  - See WDAT and CAISO SGIP Section 2 for the applicability and description of the "Fast Track Process" \*

\* Not to be confused with Fast Track option for short-term contracts under 4 years

# Cost Allocation

---

- Cluster interconnection studies
  - Analysis is performed for either a group of interconnection request or for an individual interconnection request (group of one)
  - The estimated costs of the required upgrades shall be assigned to all interconnection request in the study group pro rata based upon maximum megawatt electrical output of each proposed large generating facility
  - The estimated costs of the required upgrades for interconnection request studied separately shall be assigned solely to that interconnection request.
  - Network upgrades cost are capped after the Phase I Study
  - Delivery network upgrades costs are allocated amongst all generators seeking full deliverability based upon load flow impacts as determined by the generation distribution factor methodology

## Cost Allocation *(cont.)*

---

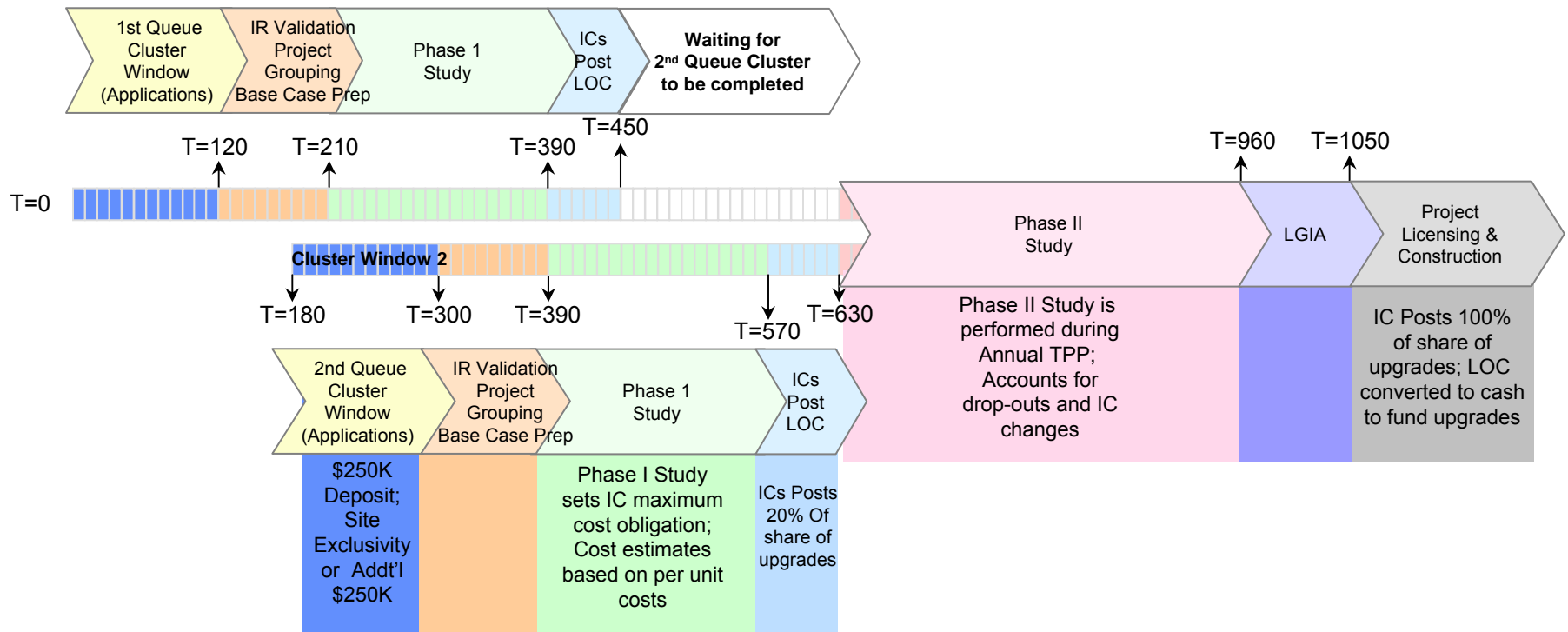
- Serial interconnection studies
  - Cost allocation is based upon the application queue
  - Triggering entity is cost-responsible for the required upgrade
  - Methodology allows for changes in cost allocation until the queue ahead is exhausted

## Cost Allocation *(cont.)*

---

- Network upgrades costs
  - Financed by the applicant
  - Refunded to the applicant after the generating facility goes into service over a five year term
  
- Distribution system upgrades costs
  - Applicant is required to pay actual cost
  - Non-refundable
  
- Interconnection facilities costs
  - Specific to the interconnection request
  - Applicant is required to pay actual cost
  - Non-refundable

# Cluster Study Timeline



# Interconnection Agreement

---

- Interconnection Agreements contain:
  - Estimated cost and schedule
  - Defines the network upgrades, distribution upgrades, and interconnection facilities to be constructed
  - Identifies major milestones
  - Defines the point of interconnection
  - Specifies the required financial obligations
  
- Interconnection Agreements do not contain:
  - Provisions for power procurement
  - Generation tie-lines
  - Access to SCE rights-of-way

# Transmission Project Cycle

---

- Execution of Interconnection Agreement
- Plan of Service Engineering
- Routing
- Land Surveys
- Environmental Studies
- Permitting / Licensing
- Final Engineering
- Easements / Land Acquisitions
- Procurement
- Construction
- Energization

## Additional Information

---

- The CAISO Tariff can be found on the CAISO website at:  
<http://www.caiso.com/docs/2002/06/11/2002061110300427214.html>
  - CAISO's LGIP is Appendix GG to the CAISO Tariff
  - CAISO's SGIP is Appendix AA to the CAISO Tariff
  
- SCE's WDAT and interconnection requirements for wholesale generation can be found at:  
<http://www.sce.com/AboutSCE/Regulatory/openaccess/>
  - SCE's CLGIP is Attachment H to the WDAT
  - SCE's SGIP is Attachment G to the WDAT

# **Imperial Valley Bidder's Conference**

---

Presented by Mike Marelli

# Focus of this Presentation

---

- This presentation will focus on:
  - Key elements of the Commission's December 2008 decision approving Sunrise Powerlink
  - The planned size and route of Sunrise Powerlink transmission lines in the Imperial Valley
  - Sunrise Powerlink project and construction status
  - Imperial Valley renewable resources
  - Opportunities with SCE

# Summary of Decision 08-12-058

---

- In approving the Sunrise Project, the CPUC considered eight possible projects
- As required by CPUC §§ 1001, 1002(a), the CPUC selected Sunrise based on its evaluation of the following 5 factors:
  1. Whether there is a need for the proposed project
  2. The project's effect on the environment
  3. The project's effect on recreational and park areas
  4. The project's effect on historical and aesthetic values
  5. The project's effect on community values

(Decision, at 2-8, 19-20)

## Summary of Decision 08-12-058 *(cont.)*

---

- Several project alternatives were rejected due to the significant impact they would have on the 5 factors
  - e.g., running through significant portions of state parks
- Sunrise Powerlink was ranked fourth in having the least environmental impact
- Sunrise chosen because it advances other goals
  - Reduces Greenhouse gases
  - Provides significant net economic benefits in the most reasonable amount of time
- Adding new transmission (like Sunrise) would “create a more robust southern California transmission system, and provide insurance against unexpected high load growth...”

(Decision, at 148, 254-257, 282-285)

## Summary of Decision 08-12-058 *(cont.)*

---

### **CPUC's Commitment in Approving Sunrise:**

- The CPUC stated that “[w]e intend to use all of the regulatory tools at our disposal so that the renewable resources enabled by Sunrise are developed.”
- Examples of the CPUC's commitment to this goal includes:
  - Exercising “vigilant oversight” over the IOU's procurement practices
  - Requiring the utilities to conduct a special bidder's conference for Sunrise
  - Seeking ongoing comments regarding the RPS procurement system

(Decision, at 263-267)

# Transmission Construction Overview

---

## New Construction

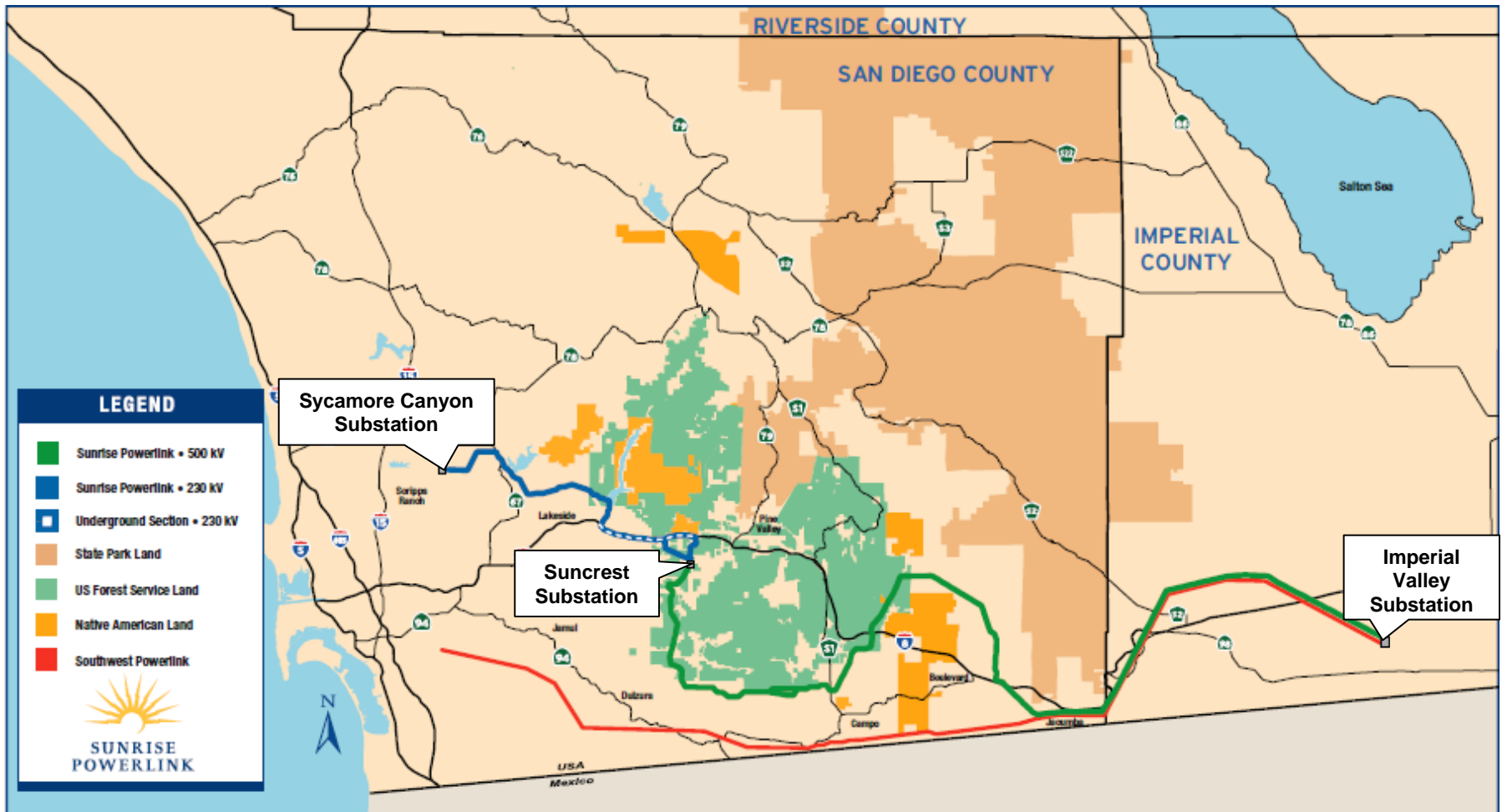
- 123 miles of new high voltage transmission line
  - 1,000 MW capacity
  - Initiates at Imperial Valley substation near El Centro
  - 500 kV for 92.5 miles, then converts to 230 kV for 30.3 miles at the new Modified Route D Substation
  - Terminates at Sycamore Canyon substation in central San Diego

## 500 kV Route (east to west)

- Follows I-8 / Southwest Powerlink for 36 miles
- Loops north of I-8 for 17 miles
- Returns to within 5 miles of Southwest Powerlink for 13 miles through Hauser Wilderness Area
- Cuts north near Barrett Substation and travel underground in Alpine Boulevard to the west
- Returns to overhead adjacent at I-8 until termination

Source: CPUC Sunrise Powerlink FAQ

# Approved Route



Source: <http://www.sdge.com/sunrisepowerlink/maps.html>

# Project and Construction Status

---

- Sunrise Powerlink Transmission Project approved via CPUC Decision on December 18<sup>th</sup>, 2008
  - One condition of this approval is that each utility must hold a special Bidders Conference event focusing on Sunrise Powerlink and Imperial County
  - IOUs will report back to CPUC regarding this experience and the reasonableness of another similar session in 2010
  - Energy Division will specifically monitor Imperial Valley proposals submitted in response to each IOU's 2009 solicitation
  
- Project in-service date of June 2012, with a total estimated cost of \$1.883 billion
  
- Currently in pre-construction phase, which includes:
  - Procuring long-lead equipment
  - Land right acquisition
  - Environmental surveys
  - Detailed engineering design

# Imperial Valley Renewable Resources

- Sunrise Powerlink is designed to tap the 1,900 MW of Imperial Valley renewable capacity by 2015
  - CAISO estimates 1,000 MW of geothermal capacity and 900 MW of solar thermal capacity is available in the Imperial Valley; SCE will also accept proposals for other CEC-approved renewable technology interconnecting to the Sunrise Powerlink
- SCE has demonstrated leadership in procuring geothermal and solar thermal power
- As such, SCE encourages the development of renewable energy systems along the Sunrise Powerlink line



**Geothermal**



**Solar Thermal**

# Imperial Valley Focus

---

- SCE will give special consideration for projects in the Imperial Valley that interconnect to the Sunrise Powerlink line as described in the Protocol
- Sunrise Powerlink is dedicated to renewable resources  
Commitment, by transmission line owner SDG&E, not to contract for any length of term with conventional coal generators via Sunrise Powerlink, and to replace any approved renewable energy contract deliverable via Sunrise Powerlink that fails with a viable contract with a renewable generator located in Imperial Valley (e.g., a minimum of 2,253 GWh per year).
- Interested developers should submit via SCE's standard RFP process

# Questions on Sunrise Powerlink

---

- To find information on transmission projects in California, visit the CPUC website:
  - <http://www.cpuc.ca.gov/PUC/energy/transmission.htm>
- For specific information related to the Sunrise Powerlink, please visit:
  - <http://www.cpuc.ca.gov/PUC/energy/Transmission/A0512014.htm>
- Or for FAQs related to Sunrise:
  - <http://www.cpuc.ca.gov/NR/rdonlyres/C8A101A4-8C4E-4E5B-A010-E5155E4711AD/0/SunriseQA103108.doc>

# Renewable Commitment: RPS Goals

---

- SCE is the leading U.S. purchaser of renewable electricity
  - 16% of SCE's electricity is from renewable resources
  - SCE procured 65% of all U.S. solar generation production in 2008
- California stakeholders have highlighted 33% renewable resources as an important goal
  - CPUC's 33% RPS Implementation Analysis demonstrated feasibility, identifying costs and tradeoffs of approach options
  - Currently pending legislation (SB 14 and AB 64) seek to establish 33% targets by 2020; voluntarily adopted as an RPS goal by SDG&E
  - Supported by Governor Schwarzenegger



**Development of renewable resources in the Imperial Valley will play a critical role in achieving these shared goals**