



**Welcome to the  
SDG&E 2016  
BioRAM  
Request for Offers  
Bidders' Conference**

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# SDG&E 2016 BioRAM Request for Offers Bidders' Conference

*July 6, 2016 | 1pm to 4pm*

*Hosted by Web Event Services*

*Dial-in: (866) 835-8905*

*Conference ID number: 1674068*

<https://engage.vevent.com/rt/sempra/index.jsp?seid=145>

# Bidders' Conference Outline

- |   |   |
|---|---|
| <b>1. Welcome and Legal Disclaimer</b><br>1:00pm - 1:10pm   | Fernando Valero   Partnerships & Programs<br>Manager  |
| <b>2. SDG&amp;E and Supplier Diversity</b><br>1:10pm - 1:15pm   | Steve Taylor   E&FP Generation and Supply<br>Manager & E&FP Diversity Champion  |
| <b>3. RFO Goal, Scope,<br/>&amp; Evaluation Process</b><br>1:15pm - 2:30pm                                | Dean Kinports   Senior Energy Policy Advisor<br>Harry Judd   Independent Evaluator<br>Scot Rolfe   Principal Business Analyst |
| <b>4. PPA, Bid Submission &amp; Q&amp;A<br/>Session</b><br>2:30pm - 3:00pm                                | Mike Ruzzo   Senior Energy Administrator  |
| <b>5. Interconnection<br/>Transmission and Distribution<br/>&amp; Q&amp;A Session</b><br>3:00pm - 4:00 pm | Ramsey Ayass   Senior Engineer<br>Mike Turner   Principal Engineer  |

## Legal Disclaimers: Anti-Trust Guidelines & Document Conflict

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### Anti-trust:

*All participants in today's meeting shall comply with anti-trust guidelines. These guidelines direct meeting participants to avoid discussions of topics or behavior that would result in anti-competitive behavior, including restraint of trade and conspiracy to create unfair or deceptive business practices or discrimination, allocation of production, imposition of boycotts and exclusive dealing arrangements.*

### Document Conflict:

*This presentation is intended to be a summary level discussion of the information and requirements established in the BioRAM RFO Materials. To the extent that there are any inconsistencies between the information provided in this presentation and the requirements in the BioRAM RFO Materials, the BioRAM RFO Materials shall govern.*

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# Welcome

Fernando Valero | Partnerships & Programs Manager

# Overview of Solicitation

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- SDG&E is committed to the State's RPS goals and to continue to be compliant with RPS regulations.
- SDG&E worked together with the CPUC and other IOUs to develop a successful auction process. We have tried to incorporate lessons learned from the prior RAM RFOs and will continue to watch closely and learn from these solicitations.
- SDG&E is issuing this auction-style RFO in response to Resolution 4770-E from the CPUC.
- Assessment and selection transparency is paramount to us. Our Independent Evaluator, Harry Judd, will be involved in every step of the process.

## General Q&A Guidance

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- SDG&E will post questions and answers on the solicitation website at: <http://www.sdge.com/procurement/2016BioRAM>
- Questions can be submitted to [RAMSolicitation@semprautilities.com](mailto:RAMSolicitation@semprautilities.com), with copy to the IE, until the question submittal deadline
- Questions received and answers will be posted to the website periodically
- Deadline to submit questions is July 15, 2016
- Offers are due by July 28, 2016

# **SDG&E and Supplier Diversity**

Steve Taylor | Generation & Supply Manager



# Background on Diverse Business Enterprises (DBE) Program

- *SDG&E encourages Women, Minority, Disabled Veteran, Lesbian, Gay, Bisexual and Transgender (LGBT) Business Enterprises (“Diverse Business Enterprises” or “DBE”s) to participate in the BioRAM RFO*
- *General Order (GO) 156*
  - GO 156 adopted by the CPUC in 1986, with electric procurement reporting added in 2012
    - Sets rules governing the development of programs to increase participation of DBEs in procurement of contracts from utilities as required by CPUC Code
    - Goal is to promote greater competition among utility suppliers by expanding the available supplier base and to encourage greater economic opportunity for women, minority, disabled veteran, and LGBT owned businesses historically left out of utility procurement
  - SDG&E encourages developers to utilize DBEs during various stages of project development and construction. SDG&E will require developers to identify and verify their DBE contractors and/or subcontractor spending, if any.

# Diverse Supplier Certification and Eligibility

- *SDG&E Support of DBE's*
  - Supplier diversity goals are part of every executives' department goals and are a component of every employee's compensation goals
  - 42.7% of SDG&E's goods and services procurement dollars were spent with DBE's in 2015
  - \$105 million of our energy procurement dollars were spent with DBE's in 2015
- *For certification\* and eligibility under GO 156, a DBE firm must meet the following requirements:*
  - 1) Must be a business enterprise:
    - a) that is at least 51% owned by a Woman, Minority, Disabled Veteran, or LGBT individual or group(s), or
    - b) if a publically owned business, at least 51% of the stock of which is owned by one or more DBE individual(s) or group(s), ; and,
  - 2) whose management and daily business operations are controlled by one or more of those DBE owners

*\*Certification does not guarantee any business enterprise the right to bid or receive a contract.*

# Diverse Supplier Certification and Eligibility (*continued*)

- ***Obtaining Certification\****
  - ***Minority, Woman or LGBT Owned Business***
    - California Public Utilities Commission (CPUC) Supplier Clearinghouse <http://www.thesupplierclearinghouse.com/>
  - ***Service Disabled Veteran Business***
    - State of California, General Services Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS) <http://www.dgs.ca.gov/pd/Programs/OSDS.aspx>
  - ***Others Offering Certification***
    - Regional affiliates of the National Minority Supplier Development Council (NMSDC)
    - Small Business Administration 8(a) (SBA)
    - Women Business Enterprise Council (WBEC-WEST)
    - State and municipal government agencies

*\*Certification does not guarantee any business enterprise the right to bid or receive a contract.*

# Supplier Diversity Contact Information

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- *SDG&E Supplier Diversity Team Websites*
  - <http://www.sempra.com/about/supplier-diversity/>
  - <http://www.cpuc.ca.gov/puc/supplierdiversity/>

*Erica Beale*

*Program Manager -Supplier Diversity & Supplier Relations SDG&E*

[EBeale@semprautilities.com](mailto:EBeale@semprautilities.com)

858-636-5538

*Steve Taylor*

*E&FP DBE Ambassador/ Generation & Supply Manager*

[STaylor@semprautilities.com](mailto:STaylor@semprautilities.com)

858-654-6361

# Overview of Schedule, Product, Procurement Targets and Eligibility Requirements

Dean Kinports | Senior Energy Policy Advisor

# BioRAM Program Overview & Procurement Targets

## **Governor Brown's Emergency Proclamation**

- Issued on October 30, 2015, specifically to protect public safety and property from potential wildfire that may result from bark beetle-caused tree mortality and drought
- Tasked Cal-Fire, California Natural Resources Agency, Caltrans, California Energy Commission to immediately identify High Hazard Zones

## **CPUC Resolution E-4770 (BioRAM Resolution)**

- Issued on March 13, 2016, authorizing SDG&E to issue this expedited solicitation process standard RAM contract with modifications (BioRAM PPA)
  - soliciting a minimum of 10 MW of baseload biomass renewable generation with facilities using biofuel feedstock from designated High Hazard Zones
  - for existing facilities, 5-year, 10-year, 15-year, or 20-year delivery terms, with SDG&E's option to extend 5-year PPAs for up to five, one-year extensions (for a cumulative total of ten consecutive contract years).
  - for new facilities, 10-year, 15-year, or 20-year delivery terms.
  - for both existing and new facilities, SDG&E has a preference for PPAs with shorter delivery terms

# RFO Schedule / PPA Execution and Approval

Jun - Jul  
2016

- RFO issued and SDG&E begins accepting bids: June 28, 2016
- Bidders Conference: July 6, 2016 via web-conference
- Deadline to Submit Questions: July 15, 2016
- **Deadline to Submit Offers: must be submitted electronically via PowerAdvocate® by 12 p.m. PST (noon) on July 28, 2016**

Oct - Nov  
2016

- Notification to winning and contingent bidders on October 4, 2016
- Winning bidders' acceptance/withdrawal by November 11, 2016
- RAM PPA execution by November 8, 2016
- Appreciation letters to unsuccessful bidders to be sent by November 8, 2016

Dec 2016 -  
Jan 2017

- SDG&E submits Tier 2 Advice Letter for CPUC approval of BioRAM PPAs, December 13, 2016 (prop)
- Anticipated CPUC Approval (prior to any appeal and/or suspension), January 10, 2017

# Eligibility Requirements

## Resource:

- Resources must be CEC-certifiable as an eligible renewable resource;
- Resources must utilize a commercially proven technology;
- Resources must be new or existing facilities; provided, that an existing facility may participate in BioRAM without restriction if the existing facility is not currently delivering energy pursuant to an existing contractual agreement with SDG&E, PG&E or SCE, or if such an agreement exists but it is scheduled to terminate within 36 months of the utility's expected date of CPUC approval for the utility's PPA from that RAM auction, as estimated by that utility's RAM Bidding Protocol (expected CPUC approval date is January 10, 2017);
- Resources must sell its entire output to SDG&E (full buy/sell) or all output in excess of onsite load to SDG&E (excess sales);
- Resource must demonstrate a fuel supply plan for the delivery term that includes fuel sourced from high hazard zones, as are designated by CAL FIRE or successor agency as a percentage of total fuel burned.

## Project Start Date:

- Offers must provide an anticipated delivery start date that is **within 36 months after the expected CPUC BioRAM PPA Approval date.**



# Eligibility Requirements

## Project Capacity:

- All capacity ratings specified in this RFO must be nameplate capacities for **alternating current (“ac”)** generation as provided to the bulk power transmission or distribution system. **Offers that provide direct current (“dc”) ratings will be rejected for nonconformance.**
- BioRAM Resources must provide a minimum contract size of greater than 3 MW installed nameplate capacity

## Location/Site Control:

- BioRAM Projects must be located within the service territories of SDG&E, PG&E or SCE, or able to be dynamically transferred via pseudo-tie into the CAISO.
- The Respondent must have, at time of bidding, full site control for the duration of the 5, 10, 15 or 20-year power purchase agreement, as applicable, evidenced by documentation of:
  - Direct ownership
  - Lease
  - Option to lease or purchase upon PPA approval. The option must be an exclusive option to the Bidder effective until the completion of the RFO cycle.

# Eligibility Requirements

## Interconnection:

- Respondents must: (i) have a completed Phase II interconnection study, or have an interconnection agreement; and (ii) provide a copy of the most recent completed Phase II study or interconnection agreement must be included in the offer.
- If the project is an existing facility, Respondent must provide the facility's interconnection agreement, and if a QF, an affidavit that there will be no anticipated material modification to their facility and that Respondent may proceed to the completion of an interconnection agreement with the CAISO
- For projects dynamically transferred via pseudo-tie into the CAISO, Respondents must: (i) provide a completed Phase II interconnection study or interconnection agreement, and (ii) provide documentation certifying the existence of dynamic transfer arrangements with a sufficient level of detail for SDG&E to determine conformance with Category 1 content specifications, RFO requirements, and to ensure that the dynamic transfer arrangement conforms with all other California state laws and decisions issued by the California Public Utilities Commission, the California Energy Commission, and any other regulatory authorities with jurisdiction over utility procurement in California.
- Note: If shortlisted, Respondent's interconnection documents must be: 1) in the name of the same entity that will execute the BioRAM PPA, or 2) shall have been assigned to such entity by the time Respondent accepts its position on the shortlist.

# Eligibility Requirements

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## **Developer Experience:**

- The Respondent and/or members of the project development team must have experience. Respondents must provide evidence of having completed, or begun construction, of a project using a technology similar to the offered technology, that is at least 1 MW nameplate capacity.
- The Respondent will maintain contractual control of the facilities and be responsible for development, land acquisition, permitting, financing and construction for the facilities. Respondents must provide a description of how operational control will be maintained.

## **Other Incentives Not Permitted:**

- Respondents shall not have sought Small Generator Incentive Program (SGIP) benefits, California Solar Incentives (CSI) or Net Energy Metering (NEM) Program benefits for the projects being offered and shall not plan to seek or participate in such programs for the entire term of the PPA.

# Role of the Independent Evaluator

Harold Judd | Accion Group

# Overview Independent Evaluator

*ACCION GROUP (ACCION) is approved by the CPUC as the Independent Evaluator for the RFO.*

*ACCION was founded in 2001 and has experienced professionals with extensive industry experience in the areas of:*

- Evaluation & Dispatch Modeling
- Transmission & Distribution Systems
- Power Plant Construction & Operation
- Risk Analysis
- Legal Services (contracting & contract review)
  - PPA / APSA / Green Field Development / Turnkey Projects

*Harry Judd has more than thirty years of experience in regulated industries and emerging markets; His experience includes the following:*

- 85 Independent Evaluator engagements over the previous ten years
- Consultant providing crucial guidance to major clients including BPA, PGE, the Nuclear Decommissioning Finance Committee, the Georgia Public Service Commission, and the Hawaiian Electric Company

# Bid Conformance

- *IE's role in the BioRAM RFO:*
  - Monitor the Standards of Conduct to
    - Ensure equal treatment of all bids
    - Set separation of the Company's Evaluation Team & Bidders
    - Support clear & consistent Communication & Messaging
    - Create confidence in the Market regarding the Process
  - Review Draft Documents & Process before PUC Filing
  - Provide Independent Contact for Bidders
  - Inform PUC of status, complaints & issues
- *Bids should comply with all the requirements of the RFO*
  - Any bids that are rejected because of conformance issues will be discussed with the IE
  - Any bids that are accepted that may have minor conformance issues will also be discussed with the IE
  - The goal is to ensure all bidders are treated in a fair manner

# Overview of the BioRAM Offer Evaluation Process

Scot Rolfe | Principal Business Analyst

# Evaluation process for the BioRAM RFO

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Once the bids are received and the relevant data is identified and extracted to a database, the evaluation process for the BioRAM RFO will consist of the following steps:

1. Screen the bids for conformance with the BioRAM eligibility requirements
2. Analyze the bids using SDG&E's Least-Cost / Best-Fit (LCBF) evaluation methodology to create an initial quantitative ranking, and a subsequent final ranking which may modify the initial ranking based on qualitative criteria
3. Select winning bids for projects based on the final ranking



# Pricing Options – FCDS or Energy Only

## Full Capacity Deliverability Status (FCDS):

1. FCDS projects are capable of providing resource adequacy, and generally have a higher value than energy-only projects.
2. Projects which are located in SDG&E's local area are capable of providing local resource adequacy under CPUC and CAISO resource adequacy programs. Projects outside of SDG&E's local area are capable of providing system resource adequacy, which is less valuable than local resource adequacy.
3. FCDS projects capable of providing local resource adequacy are valued higher than FCDS projects capable of providing system resource adequacy.
4. FCDS projects must commit to achieve FCDS as close to COD as possible, but no later than the end of 2025.
5. The bid price will be multiplied by the FCDS TOD factors as shown below for deliveries in each TOD period:

FCDS TIME OF DAY PRICE MULTIPLIERS						
Location	Summer On-Peak	Summer-Semi-Peak	Summer Off-Peak	Winter On-Peak	Winter Semi-Peak	Winter Off-Peak
Local	2.304	1.204	0.853	1.495	0.866	0.746
System	1.927	0.958	0.869	1.464	0.948	0.827

# Pricing Options – FCDS or Energy Only

## Energy-Only Status:

1. All renewable resources are valued based upon their ability to displace other forms of generation. Projects which cannot provide resource adequacy are unable to displace a capacity-related attribute provided by other forms of generation, and may require SDG&E to procure additional resource adequacy to make up for the shortfall.
2. Energy-only projects outside of SDG&E's local area are valued higher than energy-only projects inside of SDG&E's local area.
3. The submitted price will be multiplied by the energy-only TOD factors as shown below for deliveries in each TOD period:

ENERGY ONLY TIME OF DAY PRICE MULTIPLIERS					
Summer On-Peak	Summer-Semi-Peak	Summer Off-Peak	Winter On-Peak	Winter Semi-Peak	Winter Off-Peak
1.581	0.957	0.896	1.509	0.977	0.853

# LCBF Overview

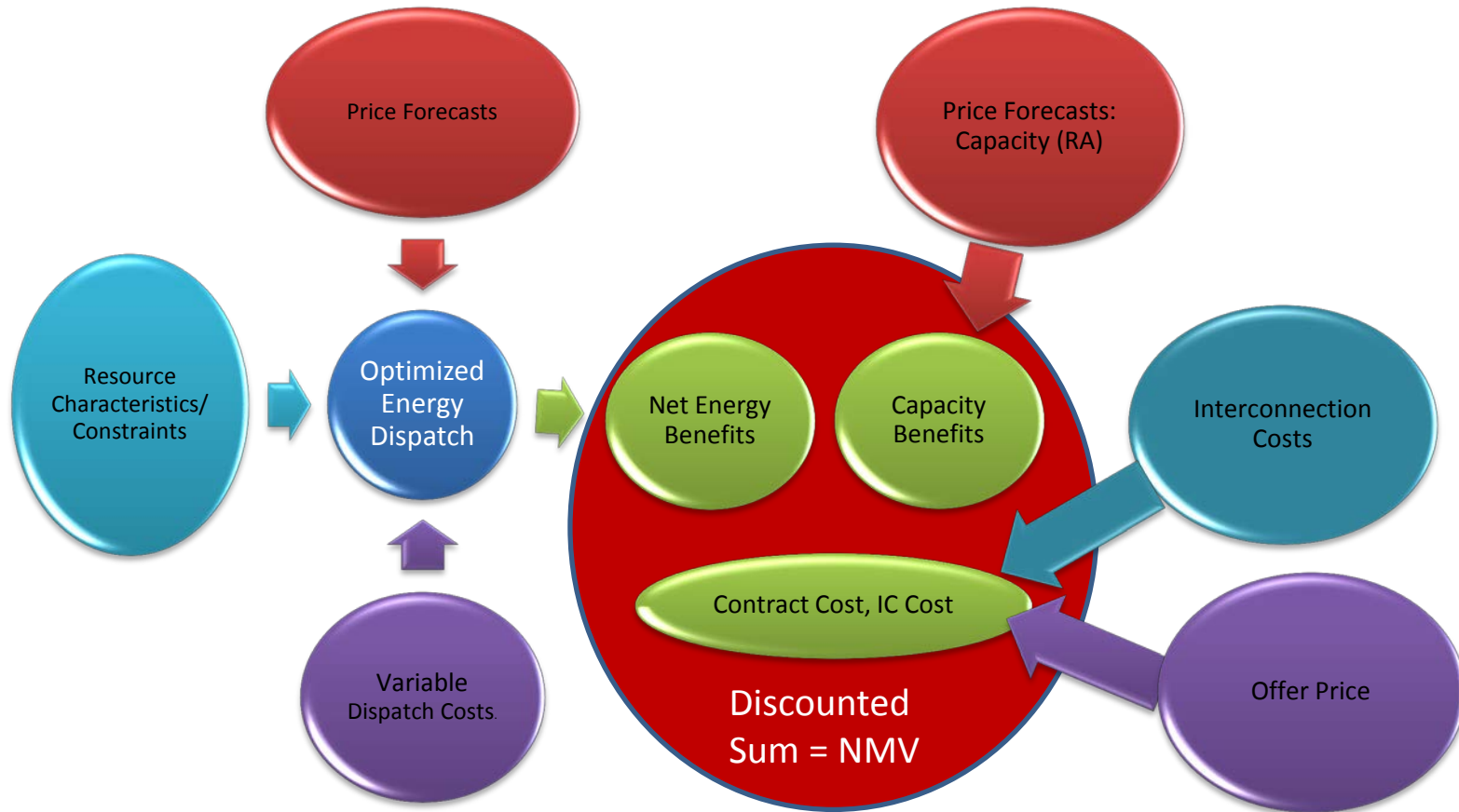
- Valuation and Selection Process
  - Least-Cost/Best-Fit (LCBF)
- Quantitative Evaluation
  - Net Market Value (NMV)
  - Each conforming offer is valued using this discounted cash flow analysis
- Qualitative Evaluation
  - Used to differentiate similarly valued offers
- Shortlisted Offers



# NMV - Typical Benefits and Costs

Typical Benefits	Typical Costs
Energy	Contract Payments
Ancillary Services (A/S) - Spin, Non-Spin, Reg Up, Reg Down	Variable Energy Costs (Fuel, VOM, GHG Compliance)
Capacity (RA)	Transmission Interconnection
Renewable Energy Credits (REC's)	Renewable Integration Adder

# NMV - Quantitative Valuation Process



# NMV – Energy Dispatch

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- Must-Take Resources (Non-Dispatchable)
  - Expected generation profile valued against energy forward price curves
- Dispatchable Resources
  - Storage and DR Resources modeled with dispatch optimization models accounting for resource-specific operating characteristics to determine an optimal generation profile to value against energy forward price curves

# Transmission Adder Calculation

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## Transmission Adder

1. Transmission costs from a project's latest transmission study will be used to calculate a transmission adder that will be applied to the project's Bid Ranking Price.
2. Only transmission costs that are reimbursable to the bidder will be used to compute the transmission adder. Amounts paid by the bidder for distribution interconnections and transmission-level upgrades that are not reimbursed will not be used in calculating the transmission adder.
3. In all cases, the reimbursable costs shown in the transmission studies submitted by the bidder will be used for adder computation.

# Qualitative Evaluation

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Criteria may be considered in the Qualitative Evaluation:

- Project development status:
  - Electrical interconnection status
  - Permitting status
  - Fuel and water interconnections
  - Site control
- Developer attributes
  - Project financing
  - Development experience
  - Project viability
- Diverse Business Enterprise (“DBE”) status
- Other attributes
  - Contribution to other procurement targets (CHP, RPS, Energy Storage)
  - Portfolio fit
  - Technology risk
  - Proximity to High Hazard Fuel Zone and ability to exceed the minimum fuel requirements from these zones
  - **Start Date and Term [NOTE: SDG&E has a preference for shorter-term contracts]**



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# Overview of Bidding Protocols

Scot Rolfe | Principal Business Analyst

# Required Bid Forms

- **Project Description Form** – *Submit one per project.*
- **Pricing Form** – *Respondents may submit one Energy-Only option and one FCDS option per project.*
- **Site Control Documentation**
- **Copy of completed interconnection agreement or Phase II interconnection study** - *For projects dynamically transferred via pseudo-tie into the CAISO, Respondent must provide a completed System Impact Study, Facility Study, or equivalent and provide documentation certifying the existence of the dynamic transfer arrangements*
- **PPA** - *Bidders should submit an unexecuted BioRAM PPA and Rider with their Bid (available on the RFO website), populated with required data – including Seller's Annual Fuel Supply Plan*

*\*The Project Description Form must be in Word or Word-compatible format (not in PDF). The Pricing Forms must be in Excel or Excel-compatible format (not in PDF). Copies of the completed interconnection agreement, interconnection study and site control documentation must be in PDF format.*

# The Bid Form

Bid Form Input Areas shown in light green.

Please do not input text in areas where numbers are expected to be used.

COD, contract term, and pricing type (FCDS or Energy Only)

In or Out of SDG&E's area

**2016 BioRAM Solicitation** **SDGE**  
A Sempra Energy Company **Pricing Form**

Instructions: Fill-in only highlighted cells.

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**Company Information**

Company Name Submitting Offer: \_\_\_\_\_

Company Name on Potential Contract: \_\_\_\_\_

Company Address: \_\_\_\_\_

Company is Women/Minority/Disabled Veteran owned Business Enterprise as per Procurement Order 156?

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**Other Characteristics**

Project Name: \_\_\_\_\_

Commercial Operation Date: \_\_\_\_\_

Interconnection Type: \_\_\_\_\_

Contract Term (years): \_\_\_\_\_

Phase II or Deliverability Study Completed?

Expected Completion Date of Reliability Upgrades: \_\_\_\_\_

Year FCDS Achieved (default of 2026 if no study):

**Company Representative**

Primary Contact: \_\_\_\_\_

Secondary Contact: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Title: \_\_\_\_\_

Office Number: \_\_\_\_\_

Cell Number: \_\_\_\_\_

Email: \_\_\_\_\_

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**System Characteristics**

Installed Nameplate MW: \_\_\_\_\_

Net Contract Capacity, MW: \_\_\_\_\_

Technology: \_\_\_\_\_

Turbine Manufacturer: \_\_\_\_\_

Operation Type: \_\_\_\_\_

IOU Service Area at project's location: \_\_\_\_\_

*Please select technology in cell P20 above.*

Deliverability Type: Energy Only

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Contract Year	Year Begins	Year Ends	Contract Capacity (MW AC)	Expected Energy Deliveries (MWh)	Bid Price (\$/MWh)	Estimated TOD Adjusted Price	ESTIMATED ENERGY DELIVERIES (MWH)						TOD PRICES (\$/MWH)					ESTIMATED TOTAL CONTRACT COST					
							Winter Off-Peak	Winter Semi-Peak	Winter On-Peak	Summer Off-Peak	Summer Semi-Peak	Summer On-Peak	Winter Off-Peak	Winter Semi-Peak	Winter On-Peak	Summer Off-Peak	Summer Semi-Peak		Summer On-Peak				
1																	0.853	0.977	1.509	0.896	0.957	1.581	\$0
2																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
3																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
4																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
6																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
7																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
9																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
10																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
11																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
12																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
13																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
14																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
15																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
16																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
17																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
18																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
19																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
20																	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0

Your Levelized TOD adjusted price \$ - /MWH

**FOR FCDS BIDS:** The Levelized TOD adjusted price shown here assumes that FCDS is achieved as of COD. Bids that cannot provide FCDS at COD will have their PPA TOD prices reduced by the Deliverability Value until FCDS is achieved, which will produce a lower TOD Adjusted price in the PPA than what is shown here.

Per Article 8 of the PPA (Section 8.3 Performance Assurance)  
Per Article 8 of the PPA (Section 8.3 Performance Assurance)

AC  
Contract Capacity, MWh expected deliveries, and bid price in \$/MWh


## Don't Forget About the Connection! (below the pricing table)

- If in SDG&E's territory, use descriptions from the interactive interconnection map at <http://sdge.com/builderservices/dgmap/>
- In Queue Position Number, specify which queue you are in (CAISO or the host utility's WDAT)
- For the question regarding interconnection cost, please specify *only the non-reimbursable costs that are already accounted for in your bid price*

Electrical Interconnection	
Interconnection Point	
Interconnection Voltage Level	
Interconnection Status	
Queue Position Number (if assigned)	
How much in non-reimbursable interconnection cost is assumed in your bid price?	

# Delivery Profile

These cells should contain expected hourly generation (in MWh) for each individual hour.

2016 BioRAM Solicitation		 <small>A Sempra Energy utility</small>												Request for Offers
<b>Instructions:</b>														
Populate the table with expected average hourly generation of your project during the indicated time periods. - Assume project is at 100% completion of all phases. - Disregard any degradation over time.														
		Expected average hourly generation (MW)												
		WINTER				SUMMER				WINTER				
Hour Beginning	Hour of Day	January	February	March	April	May	June	July	August	September	October	November	December	
12:00 AM	1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
1:00 AM	2	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
2:00 AM	3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
3:00 AM	4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
4:00 AM	5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
5:00 AM	6	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
6:00 AM	7	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
7:00 AM	8	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
8:00 AM	9	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
9:00 AM	10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
10:00 AM	11	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
11:00 AM	12	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
12:00 PM	13	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
1:00 PM	14	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
2:00 PM	15	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
3:00 PM	16	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
4:00 PM	17	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
5:00 PM	18	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
6:00 PM	19	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
7:00 PM	20	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
8:00 PM	21	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
9:00 PM	22	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
10:00 PM	23	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
11:00 PM	24	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	

## Delivery Profile (Continued)

These numbers below the Delivery Profile compute the distribution of the project's energy deliveries in each TOD period over a typical year.

Total MWhs in Typical Day:	240	240	240	240	240	240	240	240	240	240	240	240	240
Total MWhs in Month:	7,440	6,780	7,440	7,200	7,440	7,200	7,440	7,440	7,200	7,440	7,200	7,440	7,440
% of annual delivery in month:	8.49%	7.73%	8.49%	8.21%	8.49%	8.21%	8.49%	8.49%	8.21%	8.49%	8.21%	8.49%	8.49%
Winter Off-Peak	4.45%	4.05%	4.45%	4.30%	4.45%	4.30%						4.30%	4.45%
Winter Semi-Peak	3.03%	2.76%	3.03%	2.93%	3.03%	2.93%						2.93%	3.03%
Winter On-Peak	1.01%	0.92%	1.01%	0.98%	1.01%	0.98%						0.98%	1.01%
Summer Off-Peak							4.45%	4.45%	4.30%	4.45%			
Summer Semi-Peak							2.27%	2.27%	2.20%	2.27%			
Summer On-Peak							1.77%	1.77%	1.71%	1.77%			
	Winter Off-Peak	Winter Semi-Peak	Winter On-Peak	Summer Off-Peak	Summer Semi-Peak	Summer On-Peak							
Annual Offer TOD Breakdown:	34.74%	23.69%	7.90%	17.64%	9.02%	7.02%							

# Mistakes on forms that can cause rejection of a bid

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- **Entering prices in cents/kWh and deliveries in kWh instead of \$/MWh and MWh**
- **Critical information missing (such as project location)**
- **Bidding DC capacity and energy instead of AC capacity and energy**
- **Adding or renaming worksheets**
- **Making the utility fill out your bid form**

# BioRAM PPA

Mike Ruzzo | Senior Energy Administrator



# PPA Terms

Term	Description
Documents in General	Bidders are to submit an unexecuted BioRAM PPA and Rider, populated with all required information, including such information as Seller's Annual Fuel Supply Plan for the first contract year
Contract Duration	<ul style="list-style-type: none"> <li>• For existing and new facilities: 10, 15, or 20 contract years</li> <li>• Additionally for existing facilities, Seller may choose a term of 5 contract years, with Buyer option to extend for consecutive 1-year periods, up to 5 additional years</li> </ul>
Deadline for Commercial Operation	<ul style="list-style-type: none"> <li>• Must achieve Commercial Operation within 36 months of CPUC approval.</li> <li>• One 6 month extension permitted for certain permitting or interconnection delays, or force majeure</li> </ul>
Minimum HHZ Fuel Requirement	<p>Seller to use commercially reasonable efforts to meet the Minimum High Hazard Zone (HHZ) Fuel Requirement, measured in a bone dry tons:</p> <ul style="list-style-type: none"> <li>• 40% in 2016</li> <li>• 50% in 2017</li> <li>• 60% in 2018</li> <li>• 80% 2019 and beyond</li> </ul>
Energy Price / Fuel Switch / Termination Right	<ul style="list-style-type: none"> <li>• Energy Price for delivered energy that meets the Minimum HHZ Requirement shall be the Seller's winning bid price</li> <li>• The price for delivered energy when Seller fails to meet the minimum annual requirement, if applicable, will be the lesser of the bid price and \$89.23/MWh               <ul style="list-style-type: none"> <li>○ Applicable to the shortfall quantity in the contract year in which the deficiency occurred and each contract year thereafter</li> <li>○ Seller may terminate the PPA</li> </ul> </li> </ul>

# PPA Terms

Term	Description
Energy Price Adjustments	<ul style="list-style-type: none"> <li>• Adjusted by TOD Factors, discussed above, based on when energy is delivered</li> <li>• Energy deliveries exceeding 110% of contract capacity in each hour are paid \$0/MWh</li> <li>• Energy deliveries exceeding 115% of annual Contract Quantity or 115% of the TOD Delivery Cap in any period are paid 75% of the Energy Price</li> </ul>
Minimum HHZ Fuel Requirement	<p>Seller to use commercially reasonable efforts to meet the Minimum High Hazard Zone Fuel Requirement, measured in a bone dry tons, equal to: 40% in 2016, 50% in 2017, 60% in 2018, and 80% in 2019 and beyond</p>
Annual Fuel Plan	<p>Prior to each contract year, Seller is to provide a plan for the next year showing:</p> <ul style="list-style-type: none"> <li>• proximity to the High Hazard Zones</li> <li>• non-binding good faith estimate of anticipated fuel consumption</li> <li>• sources and volumes of HHZ Fuel reasonably expected to be procured, including delivery schedule</li> <li>• expected conversion of fuel to electricity (MMBtu to MWh)</li> </ul>
Quarterly Fuel Attestation	<ul style="list-style-type: none"> <li>• No more than 30 days after each quarter, Seller is to provide an attestation for the previous quarter specifying the amount of HHZ Fuel and other biofuel feedstock used to generate all Energy during the previous quarter, an attestation from Responsible Agency(ies) of the HHZ location where fuel was sourced, documentation from Seller's contractors regarding location and transportation of HHZ fuel, etc.</li> <li>• If Seller fails to provide a Quarterly Fuel Attestation, Buyer will pay the lesser of the winning bid price and \$89.23/MWh until such attestation is received</li> </ul>

# PPA Terms

Term	Description
Delivery Term Security	Security shall be in the amount which is the higher of 5% of expected total project revenues over the Delivery Term or Default Energy Price times the expected Contract Quantity, in the form of cash or a Letter of Credit
Economic Curtailment	<ul style="list-style-type: none"> <li>• SDG&amp;E shall curtail energy deliveries from the project for the economic purposes</li> <li>• Seller is to be paid for an amount the project is deemed to have been able to deliver</li> </ul>
Guaranteed Energy Delivery	Minimum annual deliveries of 90% of expected annual net energy production based on one year of rolling production.
Resource Adequacy/Full Capacity Deliverability Status	<p>Seller must apply for deliverability as soon as possible (but not required as part of bid) if bidder is selecting FCDS pricing. Seller must receive FINAL deliverability studies (e.g. Final Phase II deliverability studies)</p> <ul style="list-style-type: none"> <li>• FCDS is not a condition precedent to commercial operation</li> <li>• For FCDS projects, the PPA TOD factors include the value of FCDS. The TOD adjusted price will be reduced by a Deliverability Value until the project achieves FCDS. Once the project achieves FCDS, the Deliverability Value will be added back to the TOD-adjusted price. FCDS projects must achieve FCDS by no later than <b>Jan. 1, 2026</b></li> <li>• For Energy Only projects, the PPA TOD factors do not include the value of FCDS</li> </ul>
Audit Rights	<ul style="list-style-type: none"> <li>• Buyer has the right to audit any documentation kept by Seller or its agents or third-party contractors regarding information contained in Seller's Quarterly Fuel Attestations or related to meeting the Minimum High Hazard Zone Fuel Requirement</li> </ul>

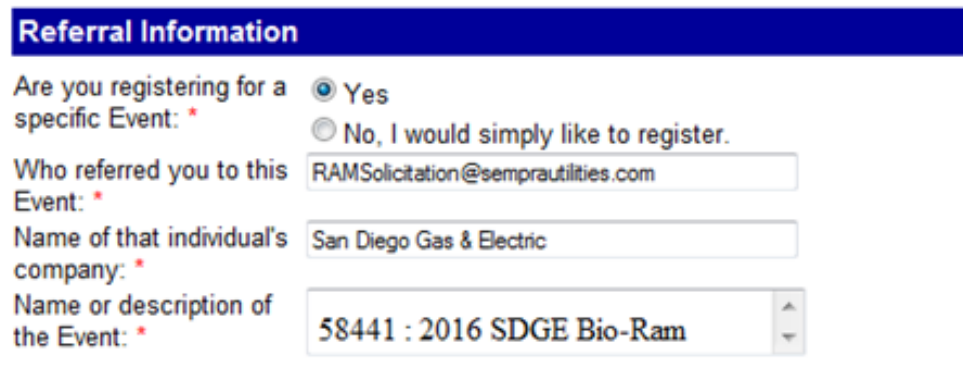
# Bid Submission Process

Mike Ruzzo | Senior Energy Administrator

# Registration and Logging On

## Ways to Register:

1. Receive an invitational email from SDG&E followed by a link to access PowerAdvocate®
2. Register as a first-time user on [www.PowerAdvocate.com](http://www.PowerAdvocate.com):
  - Request for access using the Referral Information



The screenshot shows a form titled "Referral Information" with a blue header. It contains the following fields and options:

- Are you registering for a specific Event: \*** with radio buttons for  Yes and  No, I would simply like to register.
- Who referred you to this Event: \*** with a text input field containing "RAMSolicitation@semprautilities.com".
- Name of that individual's company: \*** with a text input field containing "San Diego Gas & Electric".
- Name or description of the Event: \*** with a dropdown menu showing "58441 : 2016 SDGE Bio-Ram".

3. Request for access using the PowerAdvocate® link located at:  
<https://www.poweradvocate.com/pR.do?okey=58441&pubEvent=true>

## How to Log On:

1. Launch a web browser and go to: [www.poweradvocate.com](http://www.poweradvocate.com), and then click on the orange **Login** button.
2. Enter your account **User Name** and **Password** (both are case-sensitive)
3. Click **Login**.

# The Supplier Dashboard

## What information is displayed on my Dashboard?

Your Dashboard displays all bid events to which you have been invited.

**Dashboard** Company Filter: All Companies Fill-In Data Sheets

Event / Buyer	Msg	Open	Close	Download Documents	Upload Documents	Commercial	Technical	Pricing
190 -cbl-1: 190 First St. Cable/Wiring Electric Power Utility		05/16/10 8:00 AM EDT	06/08/10 4:00 PM EDT	1	2	3	4	5
T42g: Colorado River Sluice Gates Great Western Utilities	1/1	04/04/10 10:00 AM EDT	06/30/10 4:00 PM EDT	1	2	3	4	5
1998-01: Grid Expansion Electric Power Utility		09/01/10 8:00 AM EDT	12/29/10 4:00 PM EST	1	2	3	4	5

Open and Pending Pre-Bid events

Pending (not Pre-Bid) and Closed events

Buying entity

Event name/number

Number of unread/total messages; click to access the Messaging tab.

The numbers on the Dashboard represent a general workflow, though you can work in any order:

- 1 Download the bid package.
- 2 Upload bid documents, proposals, etc.
- 3 4 5 Fill in online datasheets if present.

# Accessing the RFP Event and Submitting Documents

## How to Access the RFP Event from Dashboard:

1. To download the RFP package, click  or the **1. Download Documents** tab.

- RFO Document
- Project Description
- Pricing Form
- BioRAM PPA and BioRAM PPA Rider

2. To upload documents, click  or the **2. Upload Documents** tab.

Select the “Commercial and Administration” Document Type, then click

**Browse** to navigate to your document  and click **Open**. Finally, click **Submit Document**.

- Project Description Form (.doc or .docx)
- The Pricing Form (.xls or .xlsx)
- Interconnection Documents (.pdf)
- Site Control Documentation (.pdf)

# More Information & Additional Help

## PowerAdvocate Support

- [Support@poweradvocate.com](mailto:Support@poweradvocate.com)
- (857) 453-5800

## Online Help

- Access the Help System at any time by clicking on the **Help** button



Dashboard Profile Company **Help** Logout

## Event Dashboard

Fill-In Data Sheets

Event	Msg	Open	Close	Download Documents	Upload Documents	Commercial	Technical	Pricing
35697 : 2013 SDGE Energy RFP Sempra Energy		05/02/13 5:00 PM EDT	05/14/13 4:00 PM EDT	1	2	3	4	5

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*Please submit your questions by*

*July 15, 2016*

*to*

*RAMSolicitation@semprautilities.com*

# **2016 CAISO Generator Interconnection & Deliverability Allocation Procedures**

Ramsey Ayass | Transmission Planning Team Lead

## *Interconnection to SDG&E's Transmission System*

- In 2012, the CAISO merged:
  - The Transmission Planning Process (TPP)
  - The Generator Interconnection Procedures (GIP) Integration
- This resulted in the new Generation Interconnection & Deliverability Allocation Procedures (GIDAP)

# CAISO Generator Interconnection and Deliverability Allocation Procedures

Interconnection to SDG&E transmission system is governed by the CAISO's FERC approved Tariff:

- **Cluster Windows:** April 1 – April 30 of each year (If any date is not a Business Day, then the applicable date shall be the next Business Day.)

## GIDAP PROCESS

- 
- **Interconnection Request (IR)**

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  - **Scoping Meeting**

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  - **Project Grouping**

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  - **Phase I Interconnection Study**

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  - **Phase II Interconnection Study**

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  - **Posting of Financial Security**

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  - **Large/Small Generator Interconnection Agreements (LGIA/SGIA)**

# Cluster Study Windows and IR

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During the Cluster Study Windows, Interconnection Customers (ICs) must submit:

- A completed **Interconnection Request (IR)**
- Provide evidence to demonstrate **Site Exclusivity**
  - Or an additional deposit in lieu of Site Exclusivity is required: \$250K for a Large Generating Facility and \$100K for a Small Generating Facility

***NOTE:** For Cluster 5 under the CAISO Tariff Appendix DD, will address high cost & large scope DNUs through the TPP.*

# Cluster Study Windows and IR

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*A completed IR includes:*

- IR form
- Point of Interconnection (POI)
- Technical Data (Attachment A, Appendix 1)
- Voltage Level
- Study Deposit - \$50,000 plus \$1,000 per MW (\$250K max.)
- IC elects deliverability:
  - Full Capacity (FC) - Delivery Network Upgrades for deliverability built, if needed, required to qualify for Resource Adequacy (RA) in PPA
  - Partial Deliverability for \_\_\_% of electrical output
  - Energy Only (EO) - No Delivery Network Upgrades for deliverability built, not qualified for RA

# Scoping Meeting and Project Grouping

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- CAISO to schedule Scoping Meeting within 5 Business Days of the IR being deemed complete
- Scoping Meetings must be completed within 60 days of the close of the Cluster Study Window
- Face to Face project review with SDG&E and CAISO
- Sets the stage for development of the Phase I Study Agreement
- IC must designate Phase I Point of Interconnection (POI) within 3 Business Days of the Scoping Meeting
- CAISO tenders Phase I Study Agreement including study plan to IC within 10 Business Days of POI designation.
- IC to execute the Phase I Study Agreement within 30 days

*After the Scoping Meetings, at the CAISO's option and in coordination with SDG&E, an IR may be studied individually or in a group study based on their interconnection points and shared transmission needs.*

# Phase I Interconnection Study

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- Typically commences July 1st each year – Completed and Final Phase I Study report issued by year-end (may be extended)
- SDG&E - Reliability Network Upgrade (RNU) studies (a short circuit, stability, and power flow analysis, including off-peak analysis)
- CAISO - Delivery Network Upgrade (DNU) studies (an On-Peak and Off-Peak (for information only) Deliverability Assessment for FC projects, required to receive Resource Adequacy (RA) qualification for PPA)
- Preliminary identification of the Interconnection Facilities and Network Upgrades required for each IR - Assess the POI and potential alternatives
- Establish max. cost responsibility for RNU, Local Delivery Network Upgrades (LDNU), and Interconnection Facilities



# Phase I Interconnection Study

- Phase I Study Results Meeting - within 30 Days of study completion
- Within 10 Business Days of Results Meeting, IC may submit to CAISO desired modifications to the IR, including: decrease in the electrical output of proposed project, modify technical parameters of facility, and/or modify the interconnection configuration.
- GIDAP Phase I results provide each project with cost cap for its RNU and LDNU
  - *Retains GIP provisions on security postings*
  - *LDNU cash reimbursement to align with TP deliverability allocation*
- **Phase I does not cap project exposure to ADNU costs**

# Between Phase I and Phase II Interconnection Studies

- To continue to Phase II, IC must elect either Option (A) or Option (B)
- **Option (A)**
  - *Project requires TP deliverability to continue to commercial operation*
  - *Project posts security for RNU and LDNU (not for ADNU)*
  - *Phase II study will not identify any ADNU costs*
  - *Option to park for a year if not allocated TPD*
- **Option (B)**
  - *Project is willing & able to pay for ADNUs without cash reimbursement by ratepayers*
  - *Project posts security for RNU, LDNU, and ADNU*
  - *ADNU security posting equals \$/MW cost rate determined in Phase I Study, times project MW deliverability*
  - *ADNU no cash reimbursement, treated as merchant transmission, eligible for Congestion Revenue Rights (CRRs)*

## Phase II Interconnection Study

- Typically commences May 1st each year – Completed and Final Phase II Study report issued by year-end (may be extended)
- Updates analyses performed in the Phase I studies to account for changes, i.e. changes to IRs, withdrawal of IRs, as applicable
- Identifies final Network Upgrades (RNU, LDNU, ADNU) needed to physically interconnect the Generating Facilities and assigns responsibility for financing the identified final Network Upgrades
- Identifies ADNU cost estimates, but not cost caps for Option (B) projects
- Identifies final POI and SDG&E's Interconnection Facilities and provides cost estimate of the final SDG&E's Interconnection Facilities
- Phase II Study Results Meeting within 30 Days following Study completion. CAISO, SDG&E, and the IC discuss the Phase II Interconnection Study report, including selection of the final COD.

*Note: CAISO shall coordinate the Phase I and Phase II Interconnection Studies with SDG&E and any Affected System Operators*

# Application of Posting Requirements for NUs to (A)& (B) Projects

<p style="text-align: center;"><i>Network Upgrades</i></p> <ul style="list-style-type: none"> <li>•ADNU, LDNU, RNU for B projects</li> <li>•LDNU and RNU for A projects</li> </ul>			
Project Size	First Posting (Due 90 days after phase I study complete)	Second Posting (Due 180 days after phase II study complete)	Third Posting (Due at start of construction)
20 MW or less	<p>Lesser of</p> <ul style="list-style-type: none"> <li>• 15% of phase I study estimated network upgrade costs</li> <li>• \$20,000 per MW</li> </ul> <p>(but not less than the lesser of \$50,000, or the estimated cost of network upgrades)</p>	<p>Lesser of</p> <ul style="list-style-type: none"> <li>• \$1 million</li> <li>• 30% of lower of phase I or phase II study estimated network upgrade costs</li> </ul> <p>(but not less than the lesser of \$100,000, or the estimated cost of the network upgrades)</p>	100% of lower of phase I or phase II study estimated network upgrade costs
Greater than 20MW	<p>Lesser of</p> <ul style="list-style-type: none"> <li>• \$7.5 million</li> <li>• 15% of Phase I estimated network upgrade costs</li> <li>• \$20,000 per MW</li> </ul> <p>(but not less than the lesser of \$500,000, or the estimated cost of network upgrades)</p>	<p>Lesser of</p> <ul style="list-style-type: none"> <li>• \$15 million</li> <li>• 30% of lower of phase I or phase II study estimated network upgrade costs</li> </ul> <p>(but not less than the lesser of \$500,000, or the estimated cost of the network upgrades)</p>	100% of lower of phase I or phase II study estimated network upgrade costs

# Generator Interconnection Agreements (LGIA & SGIA)

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- Three-party agreement between the CAISO, SDG&E, and IC
- SDG&E to provide Draft GIA to IC no later than the sum of (i) 180 Calendar Days plus estimated time to construct facilities prior to the In-Service Date of the project.
- Negotiations to be completed within 120 Calendar Days of GIA tendering.
- Final GIA to IC within 10 Business Days after completion of GIA negotiation process.

## Reimbursement of LDNU postings

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- *All projects are reimbursed for RNU costs up to \$60,000 per MW of installed capacity after commercial operation.*
- *Option (A) and (B) projects allocated TP deliverability receive full reimbursement of LDNU postings after commercial operation.*
- *Option (A) projects not allocated TP deliverability that remain in queue as energy only are reimbursed for first LDNU posting.*
- *Option (B) projects not allocated TP deliverability are not eligible for reimbursement of LDNU or ADNU costs*

## Option (A) projects

- *An Option (A) project that does not obtain TP deliverability in the current cluster allocation may either:*
  - *Execute an Energy Only (EO) GIA, or*
  - *Defer execution of EO GIA and “park” for one cycle, or*
  - *Withdraw from the queue*
- *If it parks and does not obtain TP deliverability in the next cluster’s allocation, it must either*
  - *Withdraw from the queue, or*
  - *Go forward as an EO project and meet all requirements associated with an EO GIA.*
- *If it withdraws, it is eligible for partial refund of first posting, based on failure to be allocated deliverability*
  - *Refund eligibility will extend to 18 months after phase II*

## Option (B) projects

- *IF an Option (B) project is not allocated TP deliverability in the current cluster allocation period, it must either*
  - *Execute a GIA agreeing to pay for needed ADNU and LDNU without cash reimbursement, or*
  - *Withdraw from the queue*
- *IF the Option (B) project withdraws, it will be eligible for partial refund of first security posting if its Phase II ADNU cost estimate exceeds Phase I by lesser of 20% or \$20 million*
  - *Must withdraw no later than 180 days after phase II results to be eligible for partial refund*
- *An Option (A) or (B) project allocated TP deliverability must meet annual retention criteria or lose the allocation*
  - *Loss of allocation does not terminate GIA: project may amend GIA to continue as Energy Only*



# Generation Interconnection Information

**SDG&E Interconnection Website:** <http://www.sdge.com/generation-interconnections/overview-generation-interconnections>

- Download and review SDG&E Interconnection Handbook
- Links to CAISO interconnection queue, tariffs and websites
- Links to SDG&E interconnection queue, tariffs and websites
- Link to NERC/WECC Reliability Standards
- Links to Process Summaries
- Link to SDG&E Self Generation Technologies site

**CAISO Generation Interconnection Process Contact:**

- Lead Interconnection Specialist : Leslie Feusi (916) 351-2330  
[Lfeusi@caiso.com](mailto:Lfeusi@caiso.com)

**SDG&E Contacts:**

- Generation Interconnection Team Lead: Bruno Velosa (858) 654-8293  
[BVelosa@semprautilities.com](mailto:BVelosa@semprautilities.com)
- Generation Interconnection Project Manager: Marlene Mishler (858) 654-8640  
[MMishler@semprautilities.com](mailto:MMishler@semprautilities.com)
- Energy Administrator: Dan McCarron (858) 637-7905 [DMcCarron@semprautilities.com](mailto:DMcCarron@semprautilities.com)

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# **SDG&E Interconnection Procedures to Connect to the Electric Distribution System**

Mike Turner | Customer Generation

- **Safety is a core value at SDG&E.**
- **The generator interconnection studies are intended to ensure no adverse impacts to the safety and reliability of the electric grid.**
- **Generator interconnection customers are expected to comply with all applicable federal, state, and local laws, ordinances and regulations, and to ensure the safety of their employees, SDG&E employees, and the public.**

# Interconnection Process - Distribution



## Distribution Interconnections

- The process to interconnect to SDG&E's distribution system is managed by the Customer Generation group in the Transmission & Distribution Engineering Department
- SDG&E's nominal distribution voltage is 12kV with limited 12.47 kV and 4 kV
- All Applications must be submitted to SDG&E's Customer Generation group
- Two application processes:
  - WDAT - Wholesale Distribution Open Access Tariff (FERC)
  - Rule 21 - SDG&E Electric Rule 21 (CPUC)

## Application Package (WDAT and Rule 21)

### *Distribution Interconnection Application Package (for WDAT and Rule 21) Includes:*

- Complete Interconnection Request
- Site Control Evidence
- Site Plan Diagram
- Single Line Diagram

An Invoice will be sent to Interconnection Customer (IC) and payment must be made before the application is considered complete:

- WDAT Application Fee: \$1,500
- Rule 21 Application Fee: \$800

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**WDAT**  
**Wholesale Distribution Open**  
**Access Tariff**  
**(FERC)**

# WDAT Application Form and Location

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WDAT Application Location - <http://sdge.com/wdat>

WDAT Interconnection Package submitted to:  
***WDATSGIPAPPLICATIONS@semprautilities.com***

*Or mail hardcopy application package to:*

***Customer Generation - CP52F***

***San Diego Gas & Electric***

***8316 Century Park Court***

***San Diego, CA 92123-1582***

**Application fee to be submitted to:**

***Customer Payment Services - CP61C***

***San Diego Gas & Electric***

***PO Box 129831***

***San Diego, CA 92112-9831***

# WDAT Application Process Timeline: (Fast Track & Study Process)

<b>Process Milestone</b>	<b>Duration</b>	<b>Responsible Party</b>
<b>Submit Application</b>	<b>Clock Starts</b>	<b>Interconnection Customer (IC)</b>
<b>Application Deemed Complete or Provide Notice of Additional Items</b>	<b>10 BD</b>	<b>SDG&amp;E</b>
<b>Provide Additional Items or Requests Extension</b>	<b>Additional 10 BD</b>	<b>Interconnection Customer (IC)</b>
<b>Deem Application Complete or Withdraw Application</b>	<b>Upon submittal of additional items</b>	<b>SDG&amp;E</b>

## Sec 6.1

### Reasonable Efforts

The Distribution Provider shall make reasonable efforts to meet all time frames provided in these procedures, including the payment of refunds, unless the Distribution Provider and the Interconnection Customer agree to a different schedule. If the Distribution Provider cannot meet a deadline provided herein, it shall notify the Interconnection Customer, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.



# WDAT Fast Track Study Process

## *Fast Track*

- **Eligibility:**
  - i)  $\leq 2$  MW regardless of location on the circuit
  - ii)  $\leq 3$  MW if located on mainline (3 $\phi$  and  $>4/0$  or 336) and 2.5 circuit miles from substation
- **\$1500 non-refundable fee (\$500 processing + \$1,000 study deposit)**
- **Must Pass Fast Track Screens in Section 2**
  - Initial Review
  - Supplemental Review (if needed) Cost: typically \$2500
- **Small Generator Interconnection Agreement (SGIA)**

# WDAT Independent Study Process

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## *Independent Study Process:*

- **\$800 non-refundable interconnection fee + study deposits:**
- **Eligibility: Pass Electrical Independence Test**
- **System Impact Study:**
  - **≤5 MW: \$10,000**
  - **>5MW: \$50,000 and \$1000/MW**
- **Facilities Study: \$15,000**
- **Follow Study Process in WDAT Section 3**
- **Small Generator Interconnection Agreement (SGIA)**

# WDAT Cluster Study Process

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## *Cluster Study Process – approximately 18 months*

- **Generator Project ( $\leq 20$ MW) grouped in a cluster with other projects**
- **2 Application Windows:**
  - **April 1-30**
  - **October 15 – November 15**
- **Follow Study Process in Section 4**
- **Study deposit: \$50,000 + \$1,000/MW**
- **Small Generator Interconnection Agreement (SGIA)**

# WDAT Study Process

Study	Timing	Study Procedures	Study Deposit
System Impact Study	60 BD	<ul style="list-style-type: none"> <li>• <b>Dynamic Analyses</b></li> <li>• <b>Updated Interconnection Cost estimates</b></li> </ul>	$\leq 5 \text{ MW: } \$10,000$ <hr/> $> 5 \text{ MW: } \$50,000 + \$1000/\text{MW}$
Facilities Study	45/60 BD	<ul style="list-style-type: none"> <li>• <b>Electrical switching configuration</b></li> <li>• <b>Cost of equipment, engineering, procurement and construction work</b></li> <li>• <b>Time required to complete construction and interconnect</b></li> <li>• <b>Final Interconnection Cost estimates</b></li> </ul>	$\leq 5 \text{ MW: } \$15,000$ <hr/> $> 5 \text{ MW: } \$50,000 + \$1000/\text{MW}$

# WDAT Cluster Study Process

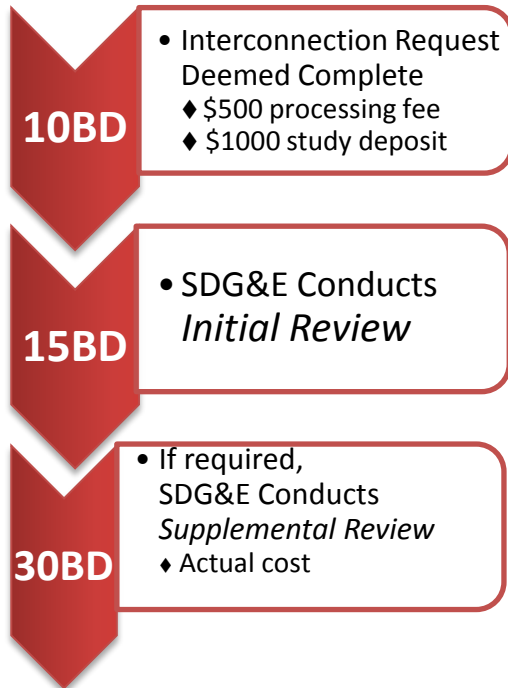
Study	Timing	Study Procedures	Study Deposit
Phase I (Start June 1)	200 CD	<ul style="list-style-type: none"><li>• <b>Dynamic Analyses</b></li><li>• <b>Updated Interconnection Cost estimates</b></li></ul>	\$50,000 + \$1,000/MW
Phase II (Start May 1)	205 CD	<ul style="list-style-type: none"><li>• <b>Electrical switching configuration</b></li><li>• <b>Cost of equipment, engineering, procurement and construction work</b></li><li>• <b>Time required to complete construction and interconnect</b></li><li>• <b>Final Interconnection Cost estimates</b></li></ul>	

# WDAT Small Generator Interconnection Agreement (SGIA) ≤20MW

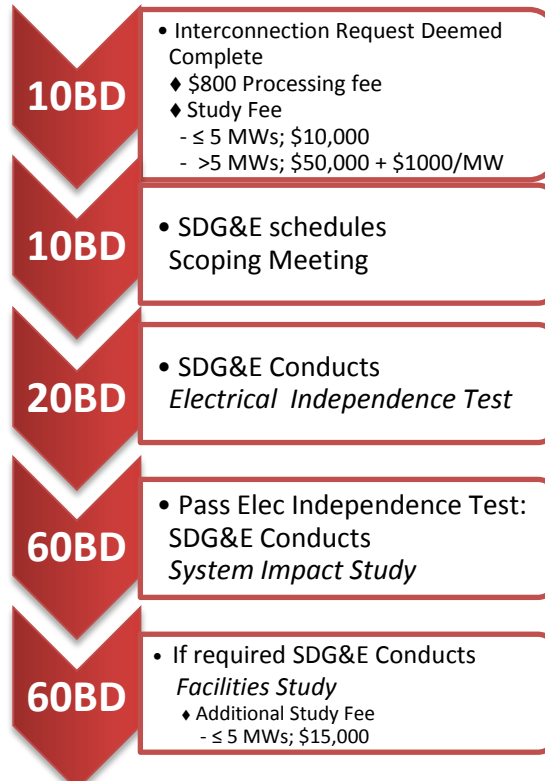
Process	Duration	Responsible Party
Following the Facilities Study/Phase II	30 CD	SDG&E
<ul style="list-style-type: none"> <li>•IC executes SGIA; or</li> <li>•IC fails to execute SGIA; or</li> <li>•IC has not requested to file unexecuted SGIA; or</li> <li>•IC has not initiated Dispute Resolution;</li> </ul> + Interconnection Request Deemed Withdrawn	120 CD	Interconnection Customer (IC)
		SDG&E
		SDG&E & IC

# WDAT Flow Charts & Timing

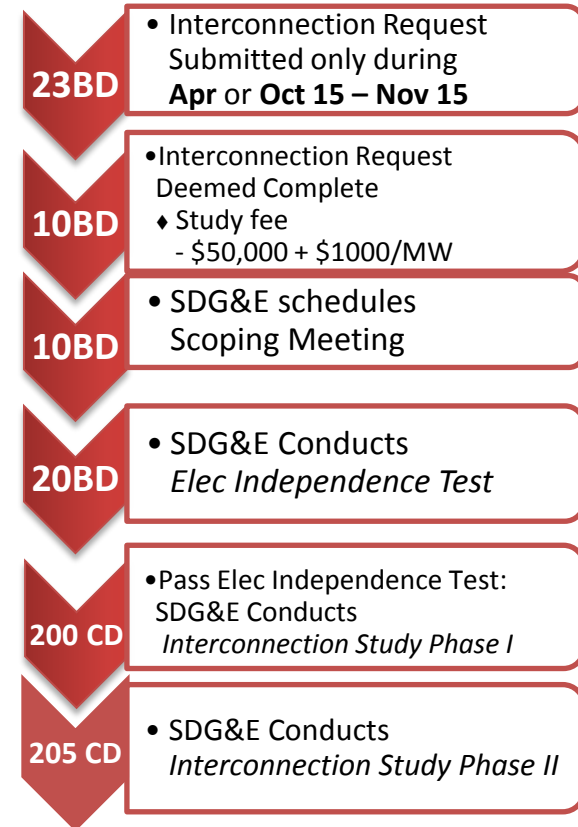
## Fast Track



## Independent Study Process (Energy only)



## Cluster Study Process (Energy only)



*Interconnection Agreement*

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**Rule 21**  
**SDG&E Electric Rule 21**  
**Generator Facility**  
**Interconnections**  
**(CPUC)**



## Rule 21 Application Form and Location

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### Rule 21 Application Location:

[http://regarchive.sdge.com/tm2/pdf/ELEC\\_ELEC-SF\\_142-05203.pdf](http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SF_142-05203.pdf)

WDAT Interconnection Package submitted to:

[DGAPPLICATIONS@semprautilities.com](mailto:DGAPPLICATIONS@semprautilities.com)

Or mail hardcopy application package to:

*Customer Generation - CP52F*

*San Diego Gas & Electric*

*8316 Century Park Court*

*San Diego, CA 92123-1582*

**Application fee to be submitted to:**

*Customer Payment Services - CP61C*

*San Diego Gas & Electric*

*PO Box 129831*

*San Diego, CA 92112-9831*

# Rule 21 Fast Track Study Process

- Size limit: ≤1.5 MW; \$800 application fee
- Initial Review (13 screens) – 15 BD from receipt of valid application package
  - Pass Initial Review:
    - Identify upgrades/interconnection facilities
    - Prepare cost estimate
    - Draft Generator Interconnection Agreement (GIA)
  - Fail Initial Review:
    - Request Supplemental Review or Detailed Study
    - Withdraw IR
- Supplemental Review (3 additional screens) - 20 BD from receipt of additional information
  - Pass Supplemental Review:
    - Upgrades Required - Cost Estimates; Draft Generator Interconnection Agreement (GIA)
    - No Upgrades Required – Draft GIA
  - Fail Supplemental Review:
    - Request Detailed Study
    - Withdraw IR

# Rule 21 Independent Study Process

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## Applicability

Size:

- $> 1.5$  MWs and  $\leq 5$  MW: \$10,000 study deposit
- $> 5$  MW: \$50,000 study deposit + \$1000/MW

## Electrical Independence Tests

### Transmission System – Screen Q

Pass – Electrical Independence Test for Distribution System

Fail – Transmission Cluster Study (WDAT)

### Distribution System – Screen R

Pass – Independent Study Process

Fail – Distribution Group Study Process

# Rule 21 Independent Study Process

## Independent Study Process

### Interconnection System Impact Study

- Scoping Meeting Scheduled (5 BD after passing Screens Q & R)
- Provide Detailed Study Agreement to Applicant (15 BD)
- Commence SIS from receipt of DSA from Applicant (30 BD)
- Final SIS report (60 BD)
- Schedule Results Meeting if requested by applicant – (10 BD from SIS report)
- Tender Draft GIA (if **IFS waived**) w/in 30 CD after waiving IFS

### Interconnection Facilities Study (if required)

- $\leq 5$  MW: Requires additional \$15,000 deposit; additional information
- Commence IFS, issue final report (60 BD if upgrades/45 BD no upgrades)
- Schedule Results Meeting if requested by applicant (5 BD - from request)
- Tender Draft GIA (w/in 30 CD of issuing IFS)

# Rule 21 Group Study Process

## Distribution Group Study Process

### Phase I Interconnection Study

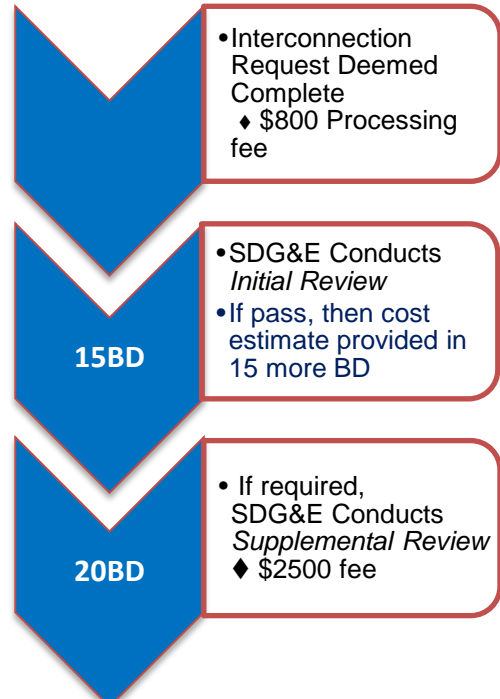
- Application must be submitted during two study windows: **March** and **September**
- Scoping Meeting Scheduled (5 BD - after Elec. Independence Test)
- Provide Detailed Study Agreement to Applicant (15 BD)
- Conduct Phase I study and issue final study results report (60 BD from start of study)
- Results meeting upon Applicant request (optional; 5 BD to schedule meeting)
- Tender Draft GIA (30 CD after results meeting if Phase II study is waived).

### Phase II Interconnection Study (if required)

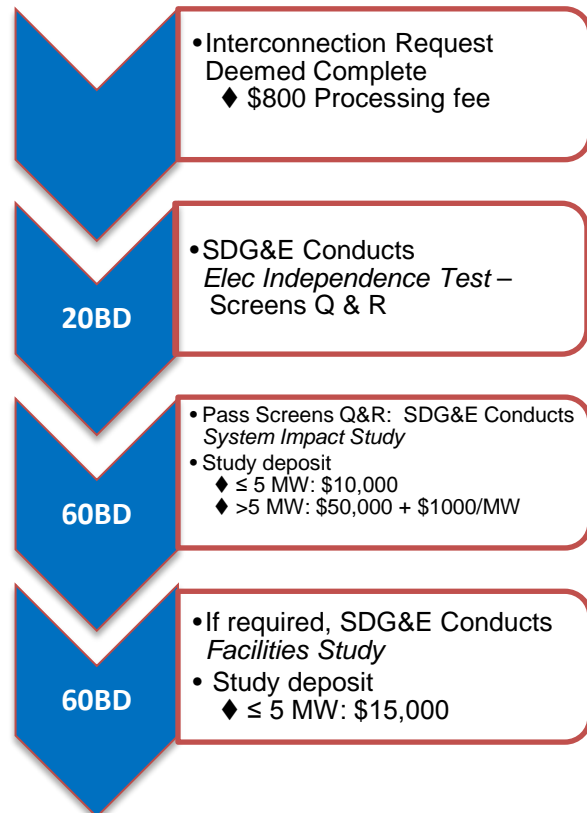
- $\leq 5$  MW: Requires additional \$15,000 deposit; additional information
- Phase II study begins (60 CD after Phase I final study results report)
- Final Phase II study results report completed (60 BD)
- Results meeting upon Applicant request (optional; 5 BD to schedule meeting)
- Tender Draft GIA (30 CD after results meeting)

# Rule 21 Study Process Timelines

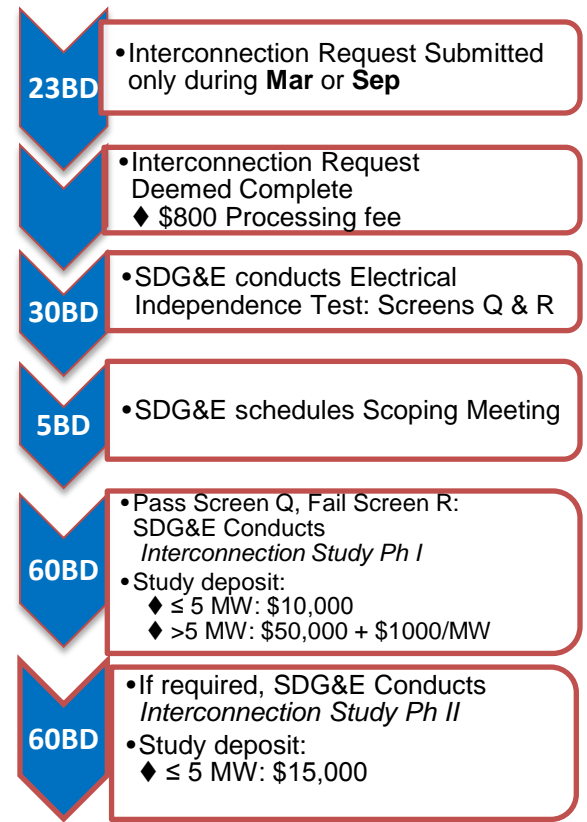
## Fast Track Process 1.5 MW or Less or Any Size Non-exporting



## Independent Study Process



## Distribution Group Study Process



*Interconnection Agreement*

# SDG&E Distribution Interconnection Process

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Additional Resources available at [www.sdge.com](http://www.sdge.com)

Go to: CUSTOMER GENERATION in lower right corner

- Pre-Application Report (\$300)
- SDG&E WDAT and Rule 21 Interconnection Queue
- WDAT tariff
- Rule 21 tariff
- Interconnection Interactive Map (shows line capacity and available capacity after existing and queued generators)
- Generator Interconnection Handbook

# SDG&E Distribution Interconnection Process

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Questions:

Ken Parks - Customer Generation Manager

[kparks@semprautilities.com](mailto:kparks@semprautilities.com)

858-636-5581

Mike Turner - Principal Engineer

[mturner@semprautilities.com](mailto:mturner@semprautilities.com)

858-654-8326



*Please submit your questions by*

*July 15, 2016*

*to*

*RAMSolicitation@semprautilities.com*