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Interconnection Re-MAT

September 11, 2013

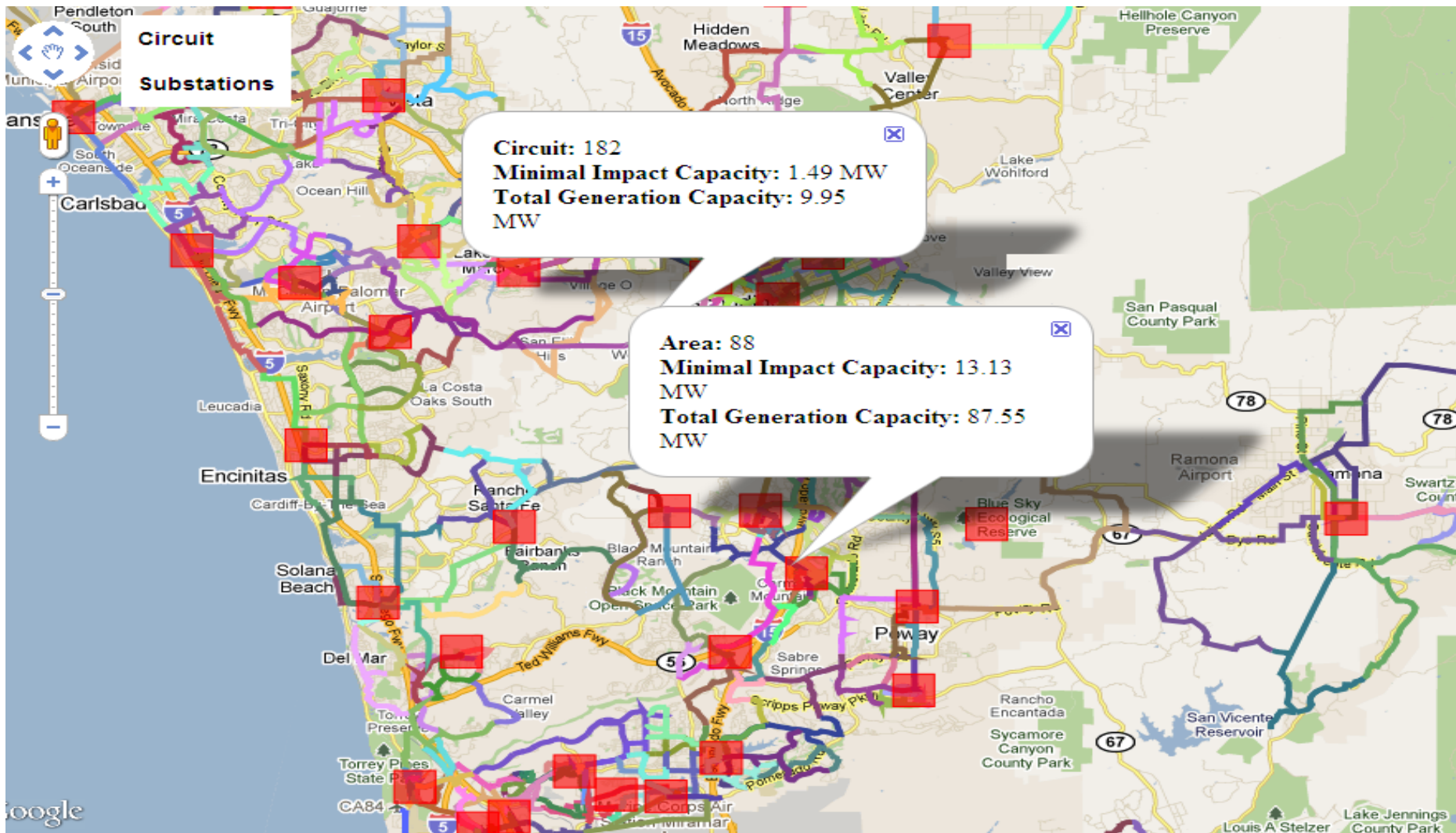


Distribution System Interconnection Processes



- **Rule 21**
 - **Governed by CPUC**
- **Wholesale Distribution Open Access Tariff (WDAT)**
 - **Governed by FERC**

Distribution Generation Interactive Map



Registration form: <http://sdge.com/builderservices/dgmap/>



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SDG&E's WDAT/Rule 21 QUEUE



WDAT /Rule 21QUEUE – Updated bi-Weekly Updated 9/4/2013 - 23 Active Projects, Total of 90.9 MW

Queue Position	Interconnection Request Receive Date	Queue Date	Application Status	Generating Facility		Maximum MWs	Deliverability Status	Full Capacity or Energy Only (FC/EO)	Location		Point of Interconnection				Study Availability				
				Type	Fuel				Summer	Winter	County	State	Utility	Substation Area No. or Circuit	Proposed On-line Date (as filed with original IR)	Current On-line Date	Feasibility Study (FS)	System Impact Study (SIS)	Facility Study (FAS)
1	8/8/2009	8/8/2009	Withdrawn 12/10/09	GT	NGL	49.0	49.0	N/A	San Diego	CA	SDGE	Area 48 - El Cajon	8/15/2010	8/15/2010	N/A	Complete	-	-	-
2	8/14/2006	8/14/2006	Withdrawn 10/25/12	PV	S	6	6	SD	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 470 POI - Borrego Substation	4/24/2010	4/24/2010	Complete	Complete	Skipped	N/A	Drafted
3	8/14/2006	8/14/2006	Withdrawn 3/7/2011	PV	S	10	10	N/A	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 470 POI - P230077	4/24/2010	4/24/2010	Complete	-	-	-	-
4	8/14/2006	8/14/2006	Withdrawn 01/08/11	PE	D	1.3	1.3	N/A	San Diego	CA	SDGE	Area 58 - Carlsbad - Distribution Circuit 764	4/24/2010	4/24/2010	-	-	-	-	-
5	8/23/2010	8/23/2010	Active - SDIP	PV	S	2.4	2.4	ED	San Diego	CA	SDGE	Area 44 - Potrero - Distribution Circuit 468 POI - 246500	8/15/2012	3/5/2014	Complete	Complete	Skipped	N/A	-
6	8/30/2010	8/30/2010	Active - SDIP	PV	S	6.5	6.5	FC	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit C171 POI - South Pecos	10/1/2012	11/1/2013	Complete	Complete	Skipped	N/A	Drafted
7	8/30/2010	8/30/2010	Active - SDIP	PV	S	5	5	FC	San Diego	CA	SDGE	Area 42 - Boulevard POI - SCADA South Pecos	10/1/2012	8/1/2014	Complete	Complete	In Progress	N/A	-
8	4/14/2011	4/14/2011	Withdrawn 08/25/11	PV	S	3.6	3.6	N/A	San Diego	CA	SDGE	Area 01 - Santa Ysabel - Distribution Circuit 200 POI - 244285	4/9/2011	4/9/2011	-	-	-	-	-
9	4/27/2011	4/27/2011	Withdrawn 08/15/11	PV	S	3.6	3.6	N/A	San Diego	CA	SDGE	Area 01 - Western Springs - Distribution Circuit 211 POI - 202845	4/14/2011	4/14/2011	Complete	-	-	-	-
10	3/4/2011	3/4/2011	Withdrawn 03/24/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 471 POI - 242684	8/15/2011	8/15/2011	-	-	-	-	-
11	3/4/2011	3/4/2011	Withdrawn 03/16/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 470 POI - 242685	8/15/2011	8/15/2011	Complete	-	-	-	-
12	3/7/2011	3/7/2011	Withdrawn 12/13/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 48 - Boulevard - Distribution Circuit 1216 POI - 239169	8/15/2011	8/15/2011	Complete	-	-	-	-
13	3/7/2011	3/7/2011	Withdrawn 3/21/12	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 44 - Potrero - Distribution Circuit 471 POI - 241130	8/15/2011	8/15/2011	Complete	-	-	-	-
14	3/7/2011	3/7/2011	Withdrawn 11/2/12	PV	S	0	0	EO	San Diego	CA	SDGE	Area 01 - Imperial - Distribution Circuit 441 POI - 244286	8/15/2011	8/15/2011	Complete	Complete	Skipped	N/A	In Progress
15	3/7/2011	3/7/2011	Withdrawn 1/7/13	PV	S	0	0	SD	San Diego	CA	SDGE	Area 01 - Santa Ysabel - Distribution Circuit 200 POI - 241201	8/15/2011	8/15/2011	Complete	Complete	Skipped	N/A	In Progress
16	3/7/2011	3/7/2011	Withdrawn 3/21/12	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 01 - Santa Ysabel - Distribution Circuit 200 POI - 241200	8/15/2011	8/15/2011	Complete	-	-	-	-
17	2/8/2011	2/8/2011	Active - SDIP	PV	S	5	5	FC	San Diego	CA	SDGE	Area 42 - Boulevard - Distribution Circuit 444 POI - 210228	7/15/2012	12/1/2014	Complete	Drafted	Skipped	-	-
18	3/8/2011	3/8/2011	Withdrawn 04/25/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 42 - Boulevard - Distribution Circuit 444 POI - 210201	8/15/2011	8/15/2011	-	-	-	-	-
19	3/14/2011	3/14/2011	Withdrawn 03/16/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 471 POI - 242686	8/15/2011	8/15/2011	-	-	-	-	-
20	3/14/2011	3/14/2011	Withdrawn 03/16/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 470 POI - 242680	8/15/2011	8/15/2011	-	-	-	-	-
21	3/14/2011	3/14/2011	Withdrawn 1/18/13	PV	S	3	3	FC	San Diego	CA	SDGE	Area 52 - Poway - Distribution Circuit 448 POI - 244288	3/15/2012	8/15/2013	Complete	Drafted	-	-	-
22	3/14/2011	3/14/2011	Withdrawn 04/25/11	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 42 - Boulevard - Distribution Circuit 444 POI - 244287	8/15/2011	8/15/2011	-	-	-	-	-
23	3/14/2011	3/14/2011	Withdrawn 3/21/12	PV	S	0	0	FC	San Diego	CA	SDGE	Area 54 - Potrero - Distribution Circuit 448 POI - 244289	8/15/2011	8/15/2011	Complete	-	-	-	-
24	3/14/2011	3/14/2011	Withdrawn 3/21/12	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 52 - Poway - Distribution Circuit 448 POI - 2021480	8/15/2011	8/15/2011	Complete	-	-	-	-
25	3/14/2011	3/14/2011	Withdrawn 3/21/12	PV	S	0	0	N/A	San Diego	CA	SDGE	Area 54 - Potrero - Distribution Circuit 448 POI - 244290	8/15/2011	8/15/2011	Complete	-	-	-	-
26	3/14/2011	3/14/2011	Withdrawn 1/7/13	PV	S	0	0	EO	San Diego	CA	SDGE	Area 01 - Valley Center - Distribution Circuit 212 POI - 244291	8/15/2011	8/15/2011	Complete	Complete	Skipped	N/A	In Progress
27	3/21/2011	3/21/2011	Active - SDIP	PV	S	7.5	7.5	FC	San Diego	CA	SDGE	Area 78 - Borrego - Distribution Circuit 071	8/15/2012	11/1/2013	Complete	Complete	Skipped	N/A	Completed
28	3/21/2011	3/21/2011	Active - SDIP	PV	S	7.5	7.5	FC	San Diego	CA	SDGE	Area 02 - Valley Center - Distribution Circuit 1050 POI - 212837	8/15/2012	11/1/2013	Complete	Complete	Skipped	N/A	In Progress
29	4/4/2011	4/4/2011	Withdrawn 1/18/13	PV	S	11	11	EO	San Diego	CA	SDGE	Area 02 - Boulevard POI - 10-47-81-bus	4/9/2011	4/9/2011	Complete	Complete	-	-	-

<http://www.sdge.com/generation-interconnections/overview-generation-interconnections>



Why Reform Rule 21?



California's Renewable Energy Mandate

- CPUC's vision to create one interconnection tariff for both Federal & State interconnections

- CPUC, IOUs and Developers recognized the need to reform Rule 21
 - Phase I – Rule 21 Tariff Effective 9/20/12
 - Phase II – Expect to begin early 2013
 - Cost Allocation, Cost Certainty, Group Study, Deliverability

Reformed Rule 21 Phase I – Effective Sept. 20, 2012



- Single Rule 21/WDAT interconnection queue
- Pre-Application Report
- Fast Track process for projects ≤ 1.5 MW
(\$800 non-refundable IR fee; \$2500 Supp. Rvw. Fee)
- System Impact/Facility Studies
- Clearly defined Study Timelines
- Applicant must post adequate Financial Security
- Proof of Site Control/Site Exclusivity required
- Formal Dispute Resolution Process
 - SDG&E Ombudsman: initial point of contact for disputes

Rule 21 Application Process



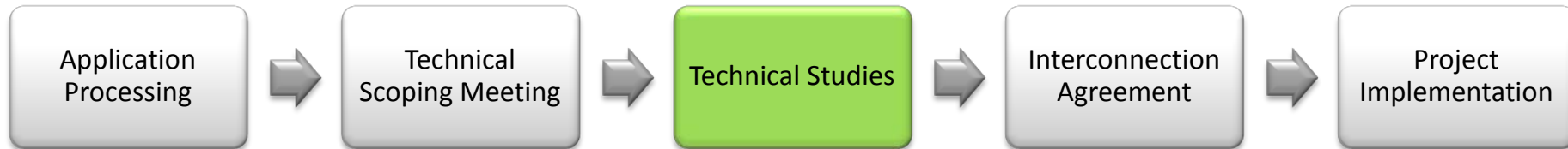
- Complete Interconnection Requests include:
 - A completed interconnection request form, with all requested technical data
 - A site plan diagram
 - A single line electrical diagram
 - Site exclusivity documentation
 - An Interconnection Request Fee and, if detailed studies are required, a study deposit
 - The Interconnection Request Fee is \$800
 - For Fast Track: there is no fee for the Initial Review, if a project requires Supplemental Review, the fee is \$2,500
 - For Independent Study process: the deposit for projects 5 MWs and less is \$10,000 for a System Impact Study and \$15,000 for a Facilities Study, for projects greater than 5 MW is \$50,000 plus \$1,000/MW up to \$250,000 maximum.
 - Rule 21 Interconnection Requests are for energy only and full capacity deliverability is not available
- Lack of site exclusivity documentation and lack of technical data are typical reasons for triggering a deficiency notice.

Technical Scoping Meeting



- The purpose of the scoping meeting is to:
 - Ensure a common understanding of interconnection customer’s project.
 - Ensure understanding of generator interconnection procedures.
 - Come to an agreement on point of Interconnection (POI) and generator size.
 - SDG&E will provide technical system details, limitations, and information regarding earlier queued projects.
 - Outline general study process steps.
 - Outline next steps.
 - On the basis of the meeting, Applicant shall confirm POI.

Scope of Interconnection Technical Studies



- Technical studies are intended to provide:
 - Impact of generation on SDG&E’s electric system and/or the CAISO grid.
 - Scope of facilities required to ensure the safety, reliability, and integrity of the grid:
 - Interconnection facilities
 - Generator-specific facilities required for interconnection.
 - Distribution upgrades
 - Upgrades to the distribution system required by the generator .
 - Network upgrades
 - Upgrades to the network (CAISO controlled grid) triggered by the generator .
 - Cost estimate for required facilities and duration of expected construction.

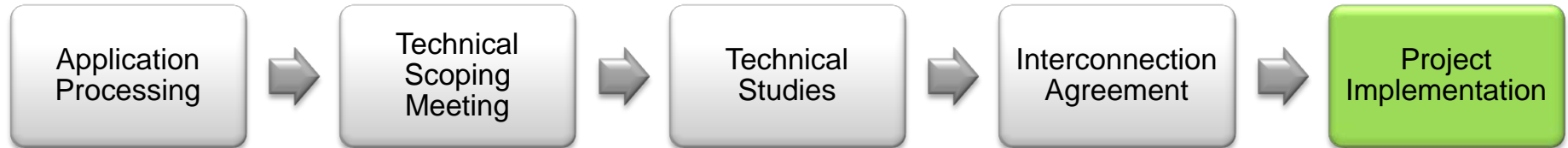
Interconnection Agreement



- Interconnection agreement negotiations commence following completion of studies or successful eligibility for Fast Track status.
- An Interconnection agreement is a contract that sets forth the requirements for interconnection, including:
 - **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 SDGE rights-of-way**
- Interconnection agreements are executed by the Applicant and SDGE.



Project Implementation



- After execution of interconnection agreement, SDGE and interconnection customer commence Engineering/design, Procurement, and Construction (EPC) of the generating and interconnection facilities.
 - **SDGE will be responsible for EPC of the agreed upon facilities listed in the interconnection agreement.**
 - **Customer will be responsible for EPC of the electrical system on the customer's side of the point of change of ownership (unless otherwise specified in the interconnection agreement).**
 - **Any facilities that will be constructed by customer and deeded to SDGE will have to be to SDGE appropriate specifications.**
- After the completion of EPC, SDGE and the customer will coordinate a pre-parallel inspection and commissioning prior to achieving synchronization.

Rule 21 Generator Interconnection Process Study Tracks



Fast Track Process

- Screening process to determine if project can be interconnected without further study
- Limited to 1.5MW or less on distribution system
- Customer options meeting and Supplemental Review Screens if fail Initial Review screens

Features

- If pass Initial Review screens, go directly to cost estimate and interconnection agreement. Otherwise, move to Supplemental Review (\$2,500 fee).
- If fail screens, options meeting to evaluate
 - Changes to generation facility
 - Changes to distribution system
 - Or move into Detailed Study

Independent Study Process (ISP)

- Detailed study of projects in serial fashion
- No size limit
- CAISO test for electrical independence
- SDG&E test for electrical independence

Features

- Apply any time of year
- System Impact Study and Facilities Study
- Study deposit: ≤ 5 MW \$10,000 for SIS, \$15,000 for FS, > 5 MW \$50,000 plus \$1,000 per MW; Max \$250,000
- 3-step security postings (see below)

Distribution Group Study Process

- Group study for interdependent projects on the distribution system

Features

- Details to be worked out in Phase 2 of R.11-09-011

Cluster Study Process

- Not conducted under Rule 21, Applicants apply under Wholesale Distribution Access Tariff
- No size limit
- Studies groups of electrically-related generation
- Cost of upgrades allocated among group based on contribution
- Deliverability options

Features

- Open window each year 3/1-3/31
- One study cycle per year – 2 Phases
- Study deposit: \$50,000 plus \$1,000 per MW; Max \$250,000
- 3-step security postings
 - Between Phase I and II
 - After Phase II
 - At Start of Construction



Distribution Interconnection Application Package

- Complete Interconnection Request
- Site Control Evidence
- Site Plan Diagram
- Single Line Diagram
- Processing/Study fee Invoice sent to Interconnection Customer (IC)*

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

Interconnection Package

Email to:

WDATSGIPAPPLICATIONS@semprautilities.com

Or mail to:

Customer Generation – CP52F

San Diego Gas & Electric

8316 Century Park Court

San Diego, CA 92123-1582

Processing Fee*

Customer Payment Services – CP61C

San Diego Gas & Electric

PO Box 129831

San Diego, CA 92112-9831

Wholesale Distribution Open Access Tariff - Interconnection Process



Distribution Interconnections

- Wholesale Distribution Open Access Tariff (WDAT) is managed by SDG&E's Customer Generation group under the Transmission & Distribution Engineering Department
- SDG&E's distribution voltage is defined as facilities operating at 12.47 kV_{LL} or below
- All applications must be submitted to SDG&E's Customer Generation group
- Pursuant to SDG&E's WDAT Attachment D – Small Generator Interconnection Procedures (SGIP)

Fast Track & Study Process



Fast Track – approximately 6 months

- Generator Project does not exceed 2MW
- Must Pass Fast Track Screens under Section 2-SGIP
- \$500 non-refundable processing fee + supplemental fees
- Small Generator Interconnection Agreement (SGIA)

Study Process – approximately 18 months

- Generator Project; Failed Fast Track or less than 20MW
- Follow Section 3 Study Process-SGIP
- \$1,000 Deposit + study fees
- Small Generator Interconnection Agreement (SGIA)

Application Process Timeline (Fast Track & Study Process)



Process Milestone	Duration	Responsible Party
Submit Application	Clock Starts	Interconnection Customer (IC)
Application Deemed Complete or Provide Notice of Additional Items	10 BD	SDG&E
Provide Additional Items or Requests Extension	Additional 10 BD	Interconnection Customer (IC)
Deem Application Complete or Withdraw Application		SDG&E

Sec 4.1

Reasonable Efforts

The Distribution Provider shall make reasonable efforts to meet all time frames provided in these procedures 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.

Study Process & Scoping Meeting



Scoping Meeting

- **Allows Face to Face Interactions with IC and SDG&E**
- **Review the Project**
 - **IC provides high level project overview**
 - **SDG&E Distribution Planning provides feedback, system information, suggests any alternatives**
- **Agree on a Point of Interconnection (POI) and generator size**
- **Review Metering & Telemetry requirements (CAISO & WDAT)**
- **Determine Next Steps**
 - **Feasibility Study**
 - **System Impact Study**
 - **Facilities Study**
 - **Small Generator Interconnection Agreement**

Study Process



Study	Timing	Study Procedures	Study Deposit
Feasibility Study	50 BD	<ul style="list-style-type: none">• Steady State Analyses• Initial Interconnection Cost estimates	\$10,000
System Impact Study	90 BD	<ul style="list-style-type: none">• Dynamic Analyses• Updated Interconnection Cost estimates	\$25,000
Facilities Study	80 BD	<ul style="list-style-type: none">• Electrical switching configuration• Cost of equipment, engineering, procurement and construction work• Time required to complete construction and interconnect• Final Interconnection Cost estimates	\$25,000

Small Generator Interconnection Agreement (SGIA)



SGIA – Small Generator Interconnection Agreement, ≤20MW

Process	Duration	Responsible Party
Following the Facilities Study	5 BD	SDG&E
IC returns SGIA or Requests Extension: • SGIA not returned within 30BD, SGIA Deemed Withdrawn • SGIA Executed or Request to file unexecuted SGIA with FERC	30 BD	Interconnection Customer (IC)
		SDG&E
		SDG&E & IC

Interconnection Process Contact Information



Ken Parks,
Customer Generation Manager
8316 Century Park Court, CP52F
San Diego, CA 92123
Office: (858) 636-5581
www.sdge.com/nem

KParks@semprautilities.com

