

QF/CHP Program Implementation Workshop for Sellers

November 8, 2011

NOTICE

This presentation is provided as a convenience to the public and does not constitute legal or business advice. An appropriate expert should be consulted before making any decision related to the QF/CHP Settlement. The publication of this overview does not constitute a solicitation for offers or an offer to buy or sell electricity. The terms of CPUC-approved pro-forma agreements are not amended by the descriptions of the agreements herein. Every power purchase agreement between PG&E and any party is subject to PG&E senior management approval and the prior execution of definitive documents.

Agenda

Purpose of this Workshop: *To provide you information about the QF/CHP Settlement so you may be aware of your options and obligations.*

- Opening comments
- QF/CHP Settlement Overview
- Short-Run Avoided Cost (SRAC) Pricing
- Legacy Amendments – Pricing Options and Major Non-Pricing Terms
- New PPAs
 - Availability, Pricing Options and Major Non-Pricing Terms
 - Additional California Independent System Operator (CAISO) Requirements
- Contract Execution Process
- Interconnection Agreements
- Scheduling Requirements
- Settlements
- Additional Reporting Requirements

- *Address Issues of General Interest*
- *Seperate CHP Competitive Request for Offer (RFO) Bidder's Conference*

QF/CHP Settlement Overview

Purpose of QF/CHP Summit: Resolve “global” issues associated with Qualifying Facilities (QFs), primarily Combined Heat and Power (CHP) QFs

- Initiated by CPUC in May 2009
- Parties
 - QF/CHP trade groups: Cogeneration Association of California /Energy Producers and Users Coalition, California Cogeneration Council, Independent Energy Producers
 - Consumer advocates: Department of Ratepayer Advocates, The Utility Reform Network
 - Investor-owned utilities (IOUs): PG&E, SCE, SDG&E
- Status: Supported by California Air Resources Board (ARB), Approved by Federal Energy Regulatory Commission (FERC), Approved by California Public Utilities Commission (CPUC) - appeal period pending
- Expected Settlement Effective Date (SED): As early as Nov 23, 2011
- Settlement Agreement includes:
 - 1 Term Sheet, 4 Power Purchase Agreement (PPA) forms, 1 Amendment form

QF/CHP Settlement Overview

Key Settlement Agreement Terms and Provisions

- New procurement regime for CHP
 - MW targets
 - Greenhouse Gas (GHG) reduction targets
 - Termination of “must offer” obligation for QFs above 20 MW
- New energy prices for QFs (SRAC)
- New PPAs and Amendments
 - Transition PPA
 - CHP RFO Pro-forma PPA
 - PURPA PPA for 20 MW or smaller
 - As-available PPA
 - Legacy amendments
- Agreement to Withdraw All Claims and Disputes

QF/CHP Settlement Overview

Key Dates: *Assuming November 23, 2011 Settlement Effective Date*

- **Jan 1, 2012:** SRAC Commencement Date
 - First day of the second calendar month beginning after Settlement Effective Date
- **Feb 21, 2012:** Deadline for initiating first CHP RFO
 - 90 days after Settlement Effective Date
- **March 22, 2012:** Deadline for majority of QF PPA Extensions to sign new PPA
 - 120 days after Settlement Effective Date
- **May 21, 2012:** Deadline for QFs to execute Legacy PPA Amendment
 - 180 days after Settlement Effective Date

QF/CHP Settlement Overview – Short-Run Avoided Cost

- Short Run Avoided Cost – *Energy prices paid for deliveries under Transition, PURPA, As-Available PPAs, and the default energy price for Legacy Contracts*
- Prior to start of GHG cap and trade market, starting January 1, 2012:
- Fixed heat rates transition to market-based heat rates

<u>YEAR</u>	<u>Heat Rate (Btu/kWh)</u>
2012	8,225
2013 and 2014*	8,125
2015 and beyond*	Market Heat Rate

- SRAC Energy Price formula:

$$\text{Energy Price \$/kWh} = ((\text{Applicable HR} * \text{BTGP}/1,000,000) + \text{VOM}) * \text{TOU} + \text{LA} + \text{GHG Charges}$$

Where:

- Applicable HR = The Heat Rate for the specified period in the table above.
- BTGP = Calendar Month Burner Tip Gas Price (\$/MMBtu) – Per D.07-09-040
- VOM = Calendar Month Avoided O&M (\$/kWh) – Per D.07-09-040
- TOU = Time Of Use Factors as defined in Term Sheet 10.2.1.1
- Market Heat Rate = Determined under the current MIF methodology using 12 month forward prices.
- Locational Adjustment (LA): Payments will be subject to the hourly difference between the CAISO price at the facility's p-node and the facility's EZ gen hub (NP-15, SP-15, or ZP-26).
- GHG Charges = Taxes, Charges, and Fees assessed with the implementation and regulation of GHG emissions per governmental authority.

* Assuming cap and trade does not commence. See next page for additional formulae.

QF/CHP Settlement Overview – Short-Run Avoided Cost

- When the cap-and-trade program for the regulation of GHG starts, then, during the Floor Test Term (3 years), the SRAC energy price will be the greater of these two formulae:

1. **Energy Price \$/kWh = ((Market Heat Rate * BTGP/1,000,000) + VOM) * TOU + LA**

Market Heat Rate = Determined under the current MIF methodology using 12 month forward prices.

2. **Energy Price \$/kWh = ((Applicable Heat Rate * (BTGP + GHG Allowance Price)/1,000,000) + VOM) * TOU + LA + GHG Charges**

Where:

- Applicable Heat Rate = (A) 8,225 Btu/kWh through December 31, 2012, (B) 8,125 Btu/kWh from January 1, 2013 through December 31, 2014; and (C) Actual HR from January 1, 2015 until the end of the Floor Test Term.
 - Actual Heat Rate = The average daily heat rate of the two year period immediately preceding the commencement of the First Compliance Period.
 - GHG Allowance Price = Auction Allowance Cost (\$/MT) * 117 lbs of GHG per MMBtu / 2,204.6 lbs per MT
 - GHG Charges = 0 at the start of cap and trade
- After 3 years defaults to SRAC Energy Price:
Energy Price \$/kWh = ((Applicable HR * BTGP/1,000,000) + VOM) * TOU + LA
 - If cap and trade starts 1/1/2013, the floor test term will be 1/1/2013- 12/31/2015.

QF/CHP Settlement Overview – Short-Run Avoided Cost

- Pricing Sheet: Uploaded monthly:

<http://www.pge.com/b2b/energysupply/qualifyingfacilities/prices/>

- Only the “generic” portion posted, see appendix for an example
- Sellers’ statements will show energy delivered and result of SRAC calculation by hour for each hour of the month

- Sellers should validate SRAC calculations using the pricing sheet and Locational Marginal Prices (LMP) on the CAISO OASIS website for the Locational Adjustment (LA) factors:

Levels: 0 To 30,000			Levels: 0 To 30,000		
Rate Name: SRAC			Rate Name: SRAC		
Rate Percent: 100			Rate Percent: 100		
Date: 08/25/11			Date: 08/27/11		
Hour	(kWh)	Rate	Hour	(kWh)	Rate
01:00	24,534.0	0.044119	01:00	24,579.0	0.044376
02:00	24,516.0	0.042154	02:00	24,660.0	0.042551
03:00	24,597.0	0.041972	03:00	24,624.0	0.042408
04:00	24,624.0	0.042032	04:00	24,660.0	0.042348
05:00	24,588.0	0.042131	05:00	24,723.0	0.042378
06:00	24,552.0	0.043989	06:00	24,714.0	0.043962
07:00	24,516.0	0.044401	07:00	24,750.0	0.043961
08:00	24,588.0	0.044659	08:00	24,705.0	0.043998

<http://oasis.caiso.com/mrtu-oasis/home.jsp?doframe=true&serverurl=http%3a%2f%2farptp10%2eoa%2ecaiso%2ecom%3a8000&volume=OASIS>

Legacy Amendments - Pricing Options

Definition: *Energy price options for existing QFs currently selling power to PG&E under all existing PPAs for remainder of existing PPA term.*

Background:

- 4 Energy Price Options (“A” (=SRAC), “B”, “C2”, “C3”)
 - Options differ by the Applicable Heat Rate for 2012-2014
 - Trade-off between GHG Allowance reimbursement and heat rate in energy price
 - Option “C1” initiates limited-time negotiation of Seller’s conversion to utility-dispatchable generation under a Tolling Agreement; Seller must choose back-up option
- Does not apply to PPAs on D.07-09-040 extensions.
- Sellers who have signed the Fixed Price Amendment may choose a Legacy Amendment Option if the Fixed Price Amendment is not approved by 12/31/2011

Seller Option:

- Choose desired Legacy Amendment option, available for 180 days starting on Settlement Effective Date (until May 21, 2012)
- If choice not exercised, energy prices will be SRAC.
- IEP SRAC VAR continues for those who elected this option and take no additional action.

Legacy Amendments – Pricing Options

Pricing Option Terms	A (SRAC) [Assumes Cap and Trade starts 1/1/13]	B	C2	C3
	Default SRAC energy price for existing QFs and would be based on market price indices beginning 2015, depending on the start of Cap and Trade	Fixed heat rate transitioning to market-based heat rate; Seller assumes all GHG risk	Discount to Option B Heat Rate; GHG costs based on a fixed emissions rate for energy delivered and an allowance price capped at \$20 per tonne	Discount to Option B Heat Rate, GHG costs based on facility specific emissions, capped at Base Year emissions, and an allowance price capped at \$12.50 per tonne.
2012 Heat Rate	8,225	8,600	~8,335	~8,335
2013 Heat Rate	8,125 [Floor test]	8,500	~8,135	~8,135
2014 Heat Rate	8,125 [Floor test]	8,500	~8,135	~8,135
2015 Heat Rate	MHR [Actual HR/ Floor Test]	MHR	MHR	MHR
2016 - Term	MHR	MHR	MHR	MHR
GHG	GHG Charges: Through 1/1/2015 or start of First Compliance Period Allowances: In Energy Price; Monthly Floor Test during the Floor Test Term.	N/A	Allowances: Through 2014: Quarterly, Based on energy purchases, at 8000 Btu/ KWh heat rate	Allowances: Through 2014: Quarterly, Facility Specific emissions, up to the Facility specific cap (100% of baseline year for gas-fired CHP; 85% for other)
Allowance Valuation	Most recent Allowance Auction Price	N/A	Lower of (i) \$20 per tonne GHG, and (ii) Estimated Allowance Cost.	Lower of (i) \$12.5 per tonne GHG, and (ii) Estimated Allowance Cost.

C1
Negotiated conversion to Utility Prescheduled Facility

Legacy Amendment - Major Non-Price Terms

Definition: *Changes to terms and conditions of existing PPAs which affect Seller obligations*

Seller Obligations (Covered in more detail later):

- Scheduling Requirements
- Notifying PG&E of Forced Outages
- Reporting Requirements

New PPA Options – Availability, Pricing Options and Major Non-Price Terms

- *New PURPA, As-Available, Transition, and CHP RFO PPAs available to qualified Sellers.*
- *New AB1613 PPAs available to qualified Sellers*

Seller Options:

CHP -

- Seller may elect QF PURPA PPA, Transition PPA, or As Available PPA at existing contract expiration/termination, if eligible.
- Seller may participate in PG&E's CHP RFO, if eligible.
- Seller may elect AB 1613 PPA, if eligible.

Renewables

- Seller may elect a QF PURPA PPA at contract expiration/termination, if eligible.
- Seller may participate in RPS RFO or Renewable Auction Mechanism (RAM), if eligible.
- Seller may elect Renewable Feed-in-Tariff, if eligible.

New PPA – Availability, Pricing Options and Major Non-Pricing Terms

Background:

- RFO PPA requires bidding into the RFO
- Bilateral PPAs

New PPAs * (available after an existing QF contract expires or terminates, or for a new/repowered facility)	Renewable	1.5 MW or less	QF PURPA PPA, Renewable Feed In Tariff**
		1.5 - 20 MW	QF PURPA PPA, RPS RFO, RAM
		Greater than 20 MW	RPS RFO
	CHP	Less than 5 MW	QF PURPA PPA, Transition PPA, AB 1613
		5 - 20 MW	QF PURPA PPA, CHP RFO, Transition PPA, AB 1613
		Greater than 20 MW	CHP RFO, Transition PPA, As Available

* All PPAs subject to availability and eligibility

** May expand to 3 MW

http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/Sellers_Options.pdf

New PPA – Availability, Pricing Options and Major Non-Pricing Terms

Contract Type	Eligibility	Availability	Term	Energy Pricing	Capacity Pricing
Transition PPA	Existing CHP QF PPA, or an extension thereof, that expires during the period from SED through July 1, 2015.	From SED until July 1, 2015	Max: From expiration of existing or extended CHP QF PPA to July 1, 2015	SRAC	Firm at \$91.97/kW-yr; As-Available at \$43.09/kW-yr. escalating annually
PURPA PPA	QFs \leq 20 MW Must meet PURPA QF Requirements	From SED on	Existing Capacity: up to 7 Years; New/Repowered Capacity: up to 12 Years	SRAC	Firm at \$91.97/kW-yr; As-Available at \$43.09/kW-yr. escalating annually
As-Available PPA	Gas-Fired CHP larger than 20 MW delivering < 131,400 MWh annually; must meet efficiency requirement of 60% based on higher heating value; and must use 75% of generation on-site; in PG&E's Service Territory.	From SED until the subscription requirement in Settlement Agreement is filled	Up to 7 years	Scheduled day-ahead and up to 20 MW, SRAC. Scheduled day-ahead and above 20 MW: Day-Ahead Price. Unscheduled: Real Time Price. (See Term Sheet, Section 4.6)	As-Available Capacity at \$43.09/kW-yr, escalating annually, up to 20 MW
AB 1613 PPA	CHP QFs \leq 20 MW ; Operational after 1/1/2008; Meets CEC Eligibility Criteria (62%); in PG&E's Service Territory.	TBD	Up to 10 years	All-in Pricing, capacity based on MPR and energy based on heat rate of 6,924 Btu/kWh	

http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/key_provisions.pdf

New PPA – Availability, Pricing Options and Major Non-Price Terms

Seller Obligations :

Based on facility size, type of PPA, and type of interconnection (i.e., transmission vs. distribution) Seller will need to execute the following:

- A Participating Generator Agreement (PGA)
- A Meter Service Agreement (MSA)
- A Small or Large Generator Interconnection Agreement

For all new PPAs, provide the following to PG&E:

- Annual, monthly, and daily forecast generation schedules
- Deviation charges/ payment if forecasted generation schedules vary from deliveries by a specified amount
- Firm capacity payment also penalized for deviations from schedule
- Performance requirements (60-95% Availability Credit Factor) for Firm Capacity Payment

New PPA – Availability, Pricing Options and Major Non-Price Terms

Seller Obligations (continued):

Depending on PPA & resource type, meet certain condition precedent:

- For AB1613 PPAs, obtain California Energy Commission (CEC) certification
- For CHPs, obtain Emissions Performance Standard compliance letter from CPUC
- For renewables, register with CEC and participate in Western Renewable Energy Generation Information System process

For certain PPAs: CHPs to meet new efficiency standards

Seller Option:

Choose Scheduling Coordinator (SC) options (fee if PG&E is SC)

Pro-Forma Contract and Amendment Execution

- **Definition:** Contract execution process for pro-forma Legacy Amendments, PURPA PPAs, As-available PPAs, Transition PPAs – i.e., contracts with no proposed changes to CPUC-approved contracts

Seller Obligation:

- Provide complete and accurate QF/CHP project information to PG&E

Seller Options:

- Execute Legacy Amendment, available for 180 days, starting on Settlement Effective Date (until May 21, 2012)
- Execute PURPA PPA, available starting on Settlement Effective Date
- Execute As-available PPA (subject to AMW cap) available starting on Settlement Effective Date
- Execute Transition PPA, available starting on Settlement Effective date and ending July 1, 2015

Pro-Forma Contract & Amendment Execution

1. PG&E will assist you in preparing execution documents. Send email to QFSettlementInquiries@pge.com with your specific contract request and full contact information. We will respond with instructions for the contract execution process.
2. The instructions will include an Excel spreadsheet that requests specific information needed to prepare contract documents. **This spreadsheet must be returned with complete and accurate data to facilitate timely preparation of documents.**
3. PURPA and As-Available PPAs (with a term of 5 years or longer) require provision of Generating Facility operations estimates and a CPUC-issued Emissions Performance Standard Compliance Letter before PG&E can execute these PPAs.
4. PG&E will verify Seller's information, prepare executable documents, and send them (electronically) to Seller for execution.
5. Seller will execute two hard copies of the signature page and return both to PG&E for execution.

Interconnection Agreements (IA)- New PPAs

Definition: *An IA sets forth the terms and conditions of an agreement under which a generating facility interconnects with the PG&E system to ensure safe and reliable interconnection.*

Background:

Currently, PPAs and IAs are two separate agreements to be agreed upon and executed.

In the past, Legacy QF PPAs included the IA as an appendix to the PPA. The IA that was incorporated was the Rule 2 Special Facilities Agreement (SFA) covered under Rule 21.

- If you execute a Legacy Amendment prior to termination of your Legacy QF PPA, a new IA is not required.

Obligation: If your Legacy QF PPA expires, a separate, new IA must be executed prior to PPA expiration to avoid a disruption of service.

Interconnection Agreement: Current Proceedings

Background:

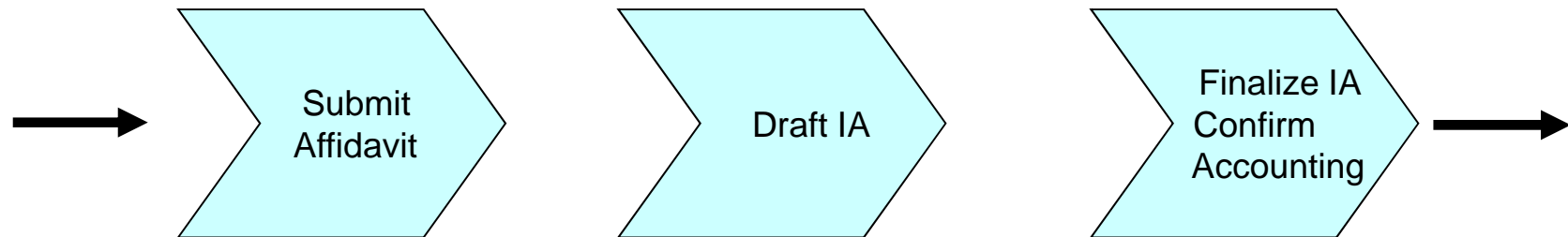
- **Interconnections for facilities (20MW or less) delivering all output to their serving utility pursuant to PURPA PPAs are subject to the CPUC's jurisdiction.**
 - This includes new PURPA and AB1613 contracts.
- **All other contracts require FERC-jurisdictional interconnections.**
 - CAISO Tariff for FERC-jurisdictional transmission interconnections.
 - PG&E's WDT Tariff for FERC-jurisdictional distribution interconnections.
- **PG&E does not currently have available a CPUC-approved IA for exporting facilities under CPUC jurisdiction.**
 - PG&E requested (AL 3864-E) CPUC authorization to temporarily use the FERC-approved interconnection processes for exporting facilities. This request has been suspended; instead, a distribution-level interconnection process is being developed through CPUC sponsored settlement negotiations.
 - **PG&E is a stakeholder to CPUC's OIR (R.11-09-11)**
 - PG&E anticipates that the results of the settlement process will be reviewed in this rulemaking proceeding.

Interconnection Agreement Arena

Obligation: To remain interconnected or to interconnect new generators, an applicable IA must be executed:

Generator by Category of Interconnection & Type of PPA	Existing Facility with no material modification to facility	New Generator or Existing Facility with material modification to facility
Distribution Generators: PURPA PPA	PG&E is preparing an Advice Letter for an interim Rule 21 QF Agreement – <i>to be filed shortly</i>	WDT currently available; <i>subject to CPUC OIR/ Settlement</i>
Distribution Generators: Non PURPA PPA	WDT	WDT
Transmission Generators: PURPA PPA	Currently CAISO; <i>may be subject to CPUC OIR/ Settlement</i>	Currently CAISO; <i>may be subject to CPUC OIR/ Settlement</i>
Transmission Generators: Non-PURPA PPA	CAISO Tariff	CAISO Tariff

Interconnection Agreement: Process for QF Conversions with no Material Modification



Affidavit-like Process

- Confirm no material modification
- Research As-Is
 - SFAs
 - Job Estimates
 - Accounting
- Submit to CAISO for transmission and PG&E for distribution

Draft IA

- Ensure new IA includes all existing facilities required to facilitate interconnection
- Ensure new IA accurately reflects accounting

Finalize IA

- Ensure all parties agree (PG&E, Customer, and CAISO if transmission)
- Make adjustments to accounting

This process may be lengthy. Please plan for ~6 months and begin process soon

Interconnection Agreement: Material needed for QF Conversions with no Material Modification

- **Provide information to help expedite the IA process for PG&E and ensure accuracy.**
 - Affidavit/ Agreement
 - Original and any subsequent Special Facilities Agreements (SFAs), entitled “Agreement for Installation or Allocation of Special Facilities for Parallel Operation of Non-utility-owned Generation and/or Electric Standby Service (Electric Rules No. 2 and 21)
 - Job Estimate for the existing interconnection provided by PG&E
 - The latest bill for the Cost of Ownership Charge (the monthly Operation & Maintenance costs)
 - Any project name or ownership changes after execution of Original SFA

Interconnection Agreement: QF Conversions with Material Modification

For facilities that have made or make material modifications, please follow & complete the Generator Interconnection Procedure.

For assistance in determining what is considered a material modification, please consult PG&E for distribution interconnections and the CAISO for transmission interconnections.

For new generators or generators determined to be material modification, please refer to the Generator Interconnection Procedures overview:

http://www.pge.com/includes/docs/pdfs/b2b/newgenerator/wholesalegeneratorinterconnection/Generator_Interconnection_Procedures_Overview.pdf

Interconnection Agreement: Contact information

Use the following contacts to get information and begin the QF conversion process:

CAISO-controlled grid interconnections:

–Mike Boas, CAISO

- (916) 608-5963
- MBoas@caiso.com

–Brij Basho, CAISO

- (916) 608-7136
- bbasho@caiso.com

CAISO's Wholesale Interconnection Website

– <http://www1.caiso.com/docs/2002/06/11/2002061110300427214.html>

Non-CAISO controlled grid (distribution) interconnections:

–gen@pge.com

PG&E's Wholesale Interconnection Website

– <http://www.pge.com/b2b/newgenerator/wholesalegeneratorinterconnection/index.shtml>

CAISO Requirements- New PPAs

Definition: Seller actions needed to comply with CAISO Tariff requirements with new PPAs.*

Seller Obligations:

Prior to the commencement of energy deliveries, Sellers must provide PG&E with copies of the following:

- New Interconnection Agreement between PG&E, Seller, and potentially the CAISO
- Participating Generator Agreement (PGA) between Seller & the CAISO
- Meter Service Agreement (MSA) between Seller & the CAISO

*C1 pricing amendments may also be subject to the CAISO tariff.

CAISO Requirements- New PPAs

Background:

- The PGA is Seller's agreement to comply with the CAISO Tariff at all times
 - Governs Seller's obligation to follow the CAISO Market rules
 - Additional information about the PGA is available in Section 4.6 of the CAISO Tariff *
- The MSA describes the rights and obligations of CAISO Metered Entities
 - Governs the installation of CAISO-Approved Meters and Telemetry
 - Additional information about the MSA is available in Section 10 of the CAISO Tariff *
- The current CAISO Tariff can be found at:
<http://www.caiso.com/rules/Pages/Regulatory/Default.aspx>

*The CAISO Tariff is subject to change.

CAISO Requirements- New PPAs

Metering & Telemetry

- The CAISO may provide a 6-month waiver of the metering and telemetry requirements if the generator complies with other applicable provisions of the CAISO Tariff prior to the commencement of deliveries
 - Sellers are encouraged to start the CAISO Metering and Telemetry process early, as this can take several months
 - Roni Reese, CAISO
 - rreese@caiso.com
 - Generation Interconnection Services
 - gen@pge.com

Scheduling Requirements- Legacy and New PPAs

Definition: *Seller submission of generation schedules and outage reports*

Seller Obligations:

- For new PPAs, choose a Scheduling Coordinator (SC)
 - Submit to SC monthly, daily, or hourly forecasts in compliance with the CAISO Tariff, following stated procedures and deadlines as prescribed by the contracts.
 - Submit to SC outages in accordance with the deadlines and procedures in compliance with the CAISO Tariff as prescribed by the contracts.
-
- PG&E will schedule a session to cover scheduling and outage requirements in detail with each Seller.
 - Impacts from deviating from the schedule differ for New PPAs and Legacy PPAs. New PPAs may have financial penalties for schedule deviations.

Scheduling Requirements: Scheduling and Outage Reporting- Scheduling Requirements- Legacy and New PPAs

- When PG&E is the Scheduling Coordinator, Sellers will use PG&E's web-based Power Procurement Information Center (PPIC) to:
 - Submit Annual, Monthly, and Daily forecasts
 - Submit Planned Outages
- Seller shall call the Scheduling Coordinator to report an outage
- PPIC: <https://www.pge.com/qic>

Settlements- New PPAs

Definition: *Seller will be provided a detailed invoice with scheduling and metering information that Seller will need to validate to ensure accuracy of deliveries and payments.*

Background:

- PG&E will provide a summary of invoice payments and charges.
- The invoice will cover:
 - A summary of scheduled and delivered energy by TOD period.
 - Capacity payments, including the Firm Capacity Factor (firm capacity performance requirement) and capacity payment penalties for scheduling deviations
 - Additional Charges or Payments based on PPA Exhibits (e.g. Scheduling and Delivery Deviation Adjustments)
 - Scheduling Coordinator Fee if PG&E is the SC
 - A detailed table (per Section 4.03 (a) (i) i.) showing in MWh per hour the hourly electric energy quantities forecast, scheduled, and delivered.

Settlements- New PPAs

- For new PPAs, when PG&E is the SC, the following will apply:
- SC Set-Up Fee
- Monthly Scheduling Fee as forth in the following table:

Net Contract Capacity (kW)	Monthly Scheduling Fee
Less than 10,000	\$2,500
10,000 – 100,000	\$5,000
Greater than 100,000	\$7,500

- CAISO Charges per Exhibit J, to the extent triggered

New Reporting Requirements- Legacy and New PPAs

Definition: *Sellers have new reporting requirements in addition to QF Compliance Reporting, which will continue. The new reporting requirements apply to new PPAs and Legacy PPAs, including those that do not sign a Legacy Amendment but are paid SRAC.*

- All Sellers are to submit Annual GHG Reports to PG&E during the PPA Term.
- All Sellers are to submit additional information while PG&E pays for GHG Allowances
- PURPA and As Available PPAs: Sellers submit information to PG&E to support the Emissions Performance Standard:
- For Legacy Amendment C3, Sellers submit baseline and quarterly emissions and operating data to PG&E.
- Under an AB 1613 PPA, Sellers have additional reporting obligations.

Background:

All Sellers are to submit Annual GHG Reports to PG&E during the PPA Term:

- Copy of Seller's Annual Mandatory GHG Report submitted to CARB
- GHG emissions, Electricity generation (total & sold to PG&E), Useful Thermal Energy Output, and total fuel usage

New Reporting Requirements- Legacy and New PPAs

All Sellers are to submit additional information to PG&E while PG&E pays for GHG Allowances

- For Sellers paid SRAC and the Legacy Amendment Option A: during the Floor Test Term
- For Sellers paid via Legacy Amendment Options C2 and C3: Through 2014
- Free Allowance Notices & Additional GHG Documentation supporting treatment of Free Allowances
- Reporting on Allowances surrendered

Prior to Executing (PURPA and As Available PPAs):

- Emissions Performance Standard Letter (term above 5 years)
- Estimated yearly GHG emissions, electricity generation, and useful thermal output generation for the life of the PPA.

For Legacy Amendment C3 only:

- In Option C3, PG&E makes GHG Allowance payments based on actual emissions and up to a cap based on the Annual Facility Emissions Cap.
- For the Annual Facility Emissions Cap, Sellers must provide the Base Year Emissions Notice: 2008 & 2009 data on GHG emissions, electricity generation, and useful thermal output
- Through 2014, Sellers must submit the Quarterly Emissions Notice with data on GHG emissions, electricity generation, and useful thermal output to get paid for Allowances.
- Additional reporting obligations for Sellers under an AB 1613 PPA

For Additional Information

- Optional As available and Transition PPAs: see Section S. Legacy Amendments: See Legacy Amendment. PURPA PPA, see Section 10 of the Termsheet. AB 1613: See CEC Forms, AB 1613 PPAs

Summary of Options and Obligations

- **Legacy PPAs:**
 - New Reporting & Scheduling terms
 - Choose Legacy Amendment pricing option, as desired
 - Contact QFSettlementInquiries@pge.com to start execution process
 - Execute by 5/21/2012
- **Expiring PPAs, including those on D.07-09-040 extensions:**
 - To continue to operate the generating facility on the PG&E grid, contact PG&E Generation Interconnection Services or the CAISO for the Interconnection Agreement
 - Contact the CAISO for the MSA & PGA
 - Choose new PPA option, as desired
 - Contact QFSettlementInquiries@pge.com to start execution process
 - Designate Scheduling Coordinator
 - New Reporting & Scheduling terms

Appendix

For Additional Information


General Information & Settlement Documents	http://www.pge.com/b2b/energysupply/qualifyingfacilities/ http://www.pge.com/b2b/energysupply/qualifyingfacilities/welcome/ http://www.pge.com/b2b/energysupply/qualifyingfacilities/welcome/settlement/ The “joint motion” provides a good overview of the Settlement.
SRAC	Termsheet, Section 10: http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/final_term_sheet.pdf http://www.pge.com/b2b/energysupply/qualifyingfacilities/prices/ http://oasis.caiso.com/mrtu-oasis/home.jsp?doframe=true&serverurl=http%3a%2f%2farptp10.oa.caiso.com%3a8000&volume=OASIS
Contract Execution	QFSettlementInquiries@pge.com
Legacy Amendment	http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/exhibit_1.pdf
Transition PPA	http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/exhibit_4.pdf
PURPA PPA	http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/exhibit_6.pdf
As Available PPA	http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/exhibit_7.pdf
RFO Pro Forma	http://www.pge.com/includes/docs/pdfs/b2b/energysupply/qualifyingfacilities/settlement/exhibit_5.pdf
Additional CHP RFO Information	http://www.pge.com/b2b/energysupply/wholesaleelectricssolicitation/ RFO Solicitations email list: http://www.pge.com/includes/docs/word_xls/b2b/wholesaleelectricssolicitation/RFO%20Registration/RFO%20Registration.xls

For Additional Information

AB 1613	http://www.pge.com/b2b/energysupply/qualifyingfacilities/ Sections 2840-2845 of the Public Utilities Code http://www.energy.ca.gov/wasteheat/index.html
Renewable PPAs	http://www.pge.com/b2b/energysupply/wholesaleelectricssuppliersolicitation/ http://www.pge.com/b2b/energysupply/wholesaleelectricssuppliersolicitation/standardcontractsforpurchase/
CAISO controlled interconnections:	Mike Boas, CAISO; (916) 608-5963; MBoas@caiso.com Brij Basho, CAISO; (916) 608-7136; bbasho@caiso.com http://www1.caiso.com/docs/2002/06/11/2002061110300427214.html
Non-CAISO interconnections	gen@pge.com http://www.pge.com/b2b/newgenerator/wholesalegeneratorinterconnection/index.shtml
CAISO Requirements	http://www.caiso.com/rules/Pages/Regulatory/Default.aspx
Metering	Roni Reese, CAISO: rreese@caiso.com Generation Interconnection Services; gen@pge.com
Scheduling	PPIC: https://www.pge.com/qic PPIC User Guide QFWeb@pge.com
Reporting	Optional As available and Transition PPAs: see Section S. Legacy Amendments: See Legacy Amendment. PURPA PPA, see Section 10 of the Termsheet. 1613: See CEC Forms, 1613 PPAs

Accessing LMP Prices

- Prices on the OASIS website allow general validation: <http://oasis.caiso.com/mrtu-oasis/home.jsp?doframe=true&serverurl=http%3a%2f%2farptp10%2eoa%2ecaiso%2ecom%3a8000&volume=OASIS>
- Existing Zone Generation Trading Hubs: NP15: TH_NP15_GEN-APND, SP15: TH_SP15_GEN-APND, ZP26: TH_ZP26_GEN-APND



California ISO

Shaping a Renewed Future

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Atlas

Prices

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Report:

Locational Marginal Prices (LMP)

Market:

DAM

Date From:

11/03/2011

To:

11/03/2011

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3EMIDIO_6_N002

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Locational Marginal Prices (LMP)

DAM	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08
11/03/2011								
GATEWAY2_7_N001								
LMP	34.89775	30.86745	30.66244	29.98370	34.71760	45.74016	51.32869	56.00204
Congestion	4.66367	4.14745	5.13605	4.87088	4.93085	8.56441	8.39989	8.26277
Energy	29.39914	25.89398	24.76367	24.38375	28.89673	35.94986	41.86542	46.62037
Loss	0.83494	0.82602	0.76272	0.72907	0.89002	1.22589	1.06338	1.11889
TH_NP15_GEN-APND								
LMP	34.48812	30.51348	30.35915	29.67741	34.29230	45.11015	50.65695	55.17782
Congestion	4.61390	4.10362	5.08329	4.81853	4.87805	8.47872	8.34702	8.20702
Energy	29.39914	25.89398	24.76367	24.38375	28.89673	35.94986	41.86542	46.62037
Loss	0.47508	0.51588	0.51219	0.47513	0.51751	0.68156	0.44452	0.35042

DRAFT PRICING SHEET



ENERGY PRICES FOR QUALIFYING FACILITIES AND COMBINED HEAT & POWER FACILITIES

AS IF EFFECTIVE January 1 - 31, 2012
ILLUSTRATIVE ONLY - Nov 2011 Tariffs; Jan 2011 hours

Prepared pursuant to Decision D.10-12-035 and Resolution E-4246

January-12	Energy Prices (\$/kWh)	Winter	Summer
Energy price (EP) in \$/kWh is calculated based on substituting the variables below into the formula adopted in D.10-12-035: EP = [(Applicable HR * BTGP / 10⁶) + VOM] * TOU <i>These energy prices do not include applicable Locational Adjustments (LA) and Greenhouse Gas Charges (GHG) under D.10-12-035.</i>	Peak Partial-Peak Off-Peak Super Off-Peak Monthly Weighted Average	- 0.043261 0.036109 0.031192 0.037965	- - - - -

Applicable HR = The Heat Rate for the specified time-period, per the following table:						
	<u>Calendar Year(s)</u>		<u>Heat Rate</u>			
	2012		8,225	Btu/kWh		
	2013 - 2014		8,125	Btu/kWh		
	2015 and beyond (Market Heat Rate)		MHR	Btu/kWh		
				Applicable HR	8,225	Btu/kWh
BTGP = GPn + GTn (Calendar month Burner Tip Gas Price), where						
	GPn	= Simple average of natural gas bidweek price indices for Malin and Topock from Gas Daily, Natural Gas Intelligence and Natural Gas Week	Malin	3.5100	\$/MMBtu	
			Topock	3.6033	\$/MMBtu	
			Average Bidweek Gas Price			3.5567 \$/MMBtu
	GTn	= Intrastate Transportation				
	G-AAOFF - Redwood	PG&E AL 3200-G			0.3379	\$/MMBtu
	G-AAOFF - Baja	PG&E AL 3200-G			0.3679	\$/MMBtu
	Gas Rule 21 Shrinkage	PG&E AL 3236-G, Backbone	Shrinkage	1.0%	0.0359	\$/MMBtu
	Backbone Transport	Average Redwood, Baja plus shrinkage			0.3888	\$/MMBtu
	G-EG	PG&E AL 3207-G, Non-Backbone			0.2799	\$/MMBtu
	G-SUR	PG&E AL 3249-G			0.0337	\$/MMBtu
		Total Intrastate Transportation			0.7024	\$/MMBtu
		Monthly Burner Tip Gas Price			4.2591	\$/MMBtu
VOM = Calendar month avoided variable O&M					0.002934	\$/kWh
TOU = Energy-only Time-of-Use factors					Winter	Summer
				<u>Peak</u> =	-	
				<u>Partial-Peak</u> =	1.1395	
				<u>Off-Peak</u> =	0.9511	
				<u>Super Off-Peak</u> =	0.8216	

SEASON AND TIME PERIOD DEFINITIONS					
Time Period	Period A - Summer May 1 - October 31	Period B - Winter November 1 - April 30	Applicable Days	# of Hours January-12	
				Winter	Summer
Peak	Noon - 6:00 p.m.	NA	Weekdays except Holidays	0	
Partial-Peak	8:30 a.m. - Noon	8:30 a.m. - 9:30 p.m.	Weekdays except Holidays	273	
	6:00 p.m. - 9:30 p.m.		Weekdays except Holidays		
Off-Peak	9:30 p.m. - 1:00 a.m.	9:30 p.m. - 1:00 a.m.	Weekdays except Holidays	347	
	5:00 a.m. - 8:30 a.m.	5:00 a.m. - 8:30 a.m.	Weekdays except Holidays		
	5:00 a.m. - 1:00 a.m.	5:00 a.m. - 1:00 a.m.	Weekends & Holidays		
Super Off-Peak	1:00 a.m. - 5:00 a.m.	1:00 a.m. - 5:00 a.m.	All Days	124	
Total				744	0

2012 Holidays: New Year's Day (1/2), Presidents' Day (2/20), Memorial Day (5/28), Independence Day (7/4), Labor Day (9/3), Veterans Day (11/12), Thanksgiving Day (11/22) and Christmas Day (12/25). When any holiday listed above falls on Sunday, the following Monday will be recognized as a holiday. No change will be made for holidays falling on Saturday.

NOTE: PG&E reserves all its available rights and remedies to obtain a revision to this posting retroactive to January 1, 2012.
 PG&E's Energy Prices for QFs are available on PG&E's website at: www.pge.com/qf.
 Please direct your questions regarding this posting to Byron Vosburg at internet address: bxvd@pge.com; or telephone (415) 972-5331.