

Renewable Auction Mechanism (RAM) Request for Offers

Bidders' Forum

January 28, 2014

Agenda

- Introduction
- Program Overview
- Solicitation Results
- Independent Evaluator Report
- Proposed Changes to the RAM PPA
- Break
- Survey Results
- Next Steps and Closing Remarks

Comments

- **Comments will be addressed at the end of the Webinar**
- **Participants should e-mail their comments to the RAMRFO mailbox at RAMRFO@pge.com**
- **PG&E may defer answering any of the comments during the feedback section of the Forum.**

RAM Program Overview

Program Volume	
PG&E Program Allocation	= 420.9 MW
Contracts Executed	= 371.1MW
Terminated Contracts	= 40.0 MW
Remaining Procurement	= 89.8 MW

Other Program Attributes	
Program Requirements	5 solicitations over 3 years
Program Flexibility	+/- 20 MW in product categories and overall solicitation
Subscription	Rollover of unsubscribed capacity to following program
Product Type	Baseload, As-available (non-peak and peak)
Project Size	> 3 – 20 MW
Interconnection	Transmission /Distribution system of PG&E, SCE, or SDG&E
PPA Delivery Term	10, 15, or 20 years
Timeframe to achieve COD	24 months + one 6 month extension

Eligibility Requirements

- Project viability criteria
 - Must have a completed Phase I study
 - Site Control
 - Developer Experience
 - Commercialized Technology
 - Ability to achieve COD 24 months following CPUC approval

- PPA terms
 - Energy only and fully deliverable TODs
 - Guaranteed Energy Production
 - Collateral Requirement
 - PDS: \$60/kW and \$90/kW
 - DTS: 5% of expected total project revenues
 - Periodic reporting on diverse spend

- Outstanding Issues
 - Disposition of 252 MW of remaining PV Program procurement

Overall Solicitation Results

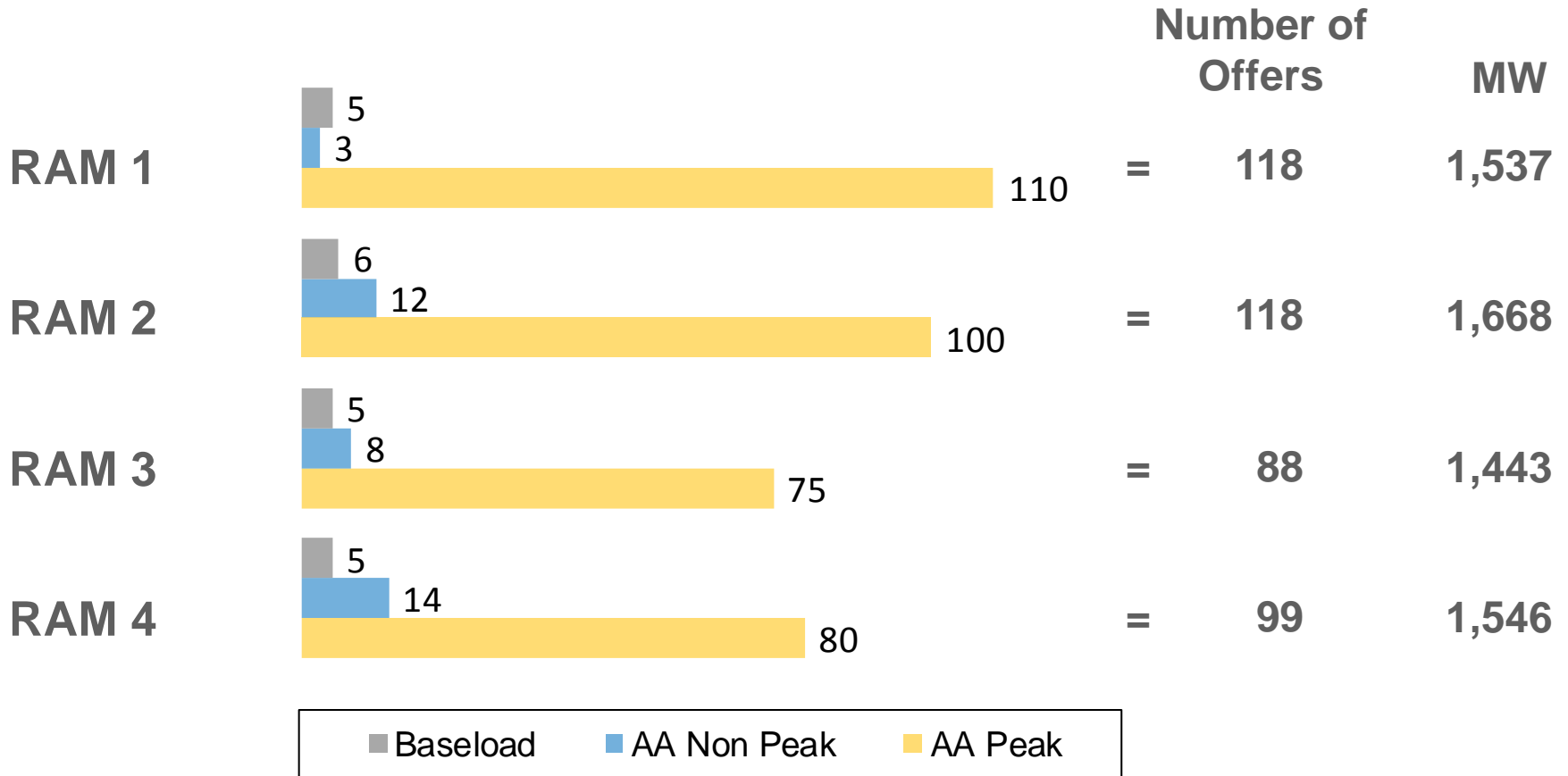
Target = 105 MW + Unsubscribed amount

		Baseload	Non-Peak	Peak	Overall
RAM 1 Results	Target	35	35	35	105
	Procured	14	8.7	40	62.7
	Unsubscribed amount				42.3
RAM 2 Results	Target	14	14	119	147.3
	Procured	7.5	20	72.8	120.1
	Unsubscribed amount				27.2
RAM 3 Results	Target	13.5	13.5	105.0	132.2
	Procured	0.0	20.0	95.0	115.0
	Unsubscribed amount				17.2
RAM 4 Results	Target *	10	10	62.0	82.0
	Procured	0.0	25.3	48.0	73.3
	Unsubscribed amount				8.7

* R. E-4582 deferred 40 MW of the RAM 4 target to RAM 5

Projects Submitted

Total number of Projects by Product Type Submitted per RFO



Contracts Executed by Product Type

This resulted in signing of:

	Baseload		As Available Non Peak		As Available Peak	
	No. of Contracts	Capacity	No. of Contracts	Capacity	No. of Contracts	Capacity
RAM 1	1	14.0	1	8.7	2	40.0
RAM 2	1	7.5	1	20.0	5	92.6
RAM 3	0	0	1	20.0	5	95.0
RAM 4	0	0	2	25.3	3	48.0

- What steps can we take to increase the participation and competitiveness of baseload offers?

Solicitation Results from RAM 4

Solicitation Results – Fourth RAM

Bucket	Number of Offers	Capacity (MW)	Annual GWh
Baseload	5	85	669
As-Available non-peaking	14	108	508
As-Available peaking	80	1,282	3,273
Total	99	1,546	4,450

Solicitation Results

Date 2013 Time	Event
June 12	Bidders' Webinar
June 28 by 12:00 P.M. PPT	Deadline for Participants to submit Offers
September 6	PG&E notified Selected Participants and Waitlisted Participants
September 11	Primary and Waitlisted Participants had to return signed acceptance letters
September 12	Waitlisted Participants updated regarding their status
September 17 by 1:00 P.M. PPT	Primary Participants had to return signed PPA and the required documents as shown in Appendix IX of the PPA
September 24 by 1:00 P.M. PPT	Waitlisted Participants had to signed PPA and required documents as shown in Appendix IX of the PPA
October 14	PG&E executed four PPAs
November 15	PG&E filed Advice Letter for CPUC approval
November 18	PG&E executed final RAM 4 PPA
December 13	PG&E filed for CPUC approval of final PPA

RAM 4 Challenges

- **Other investor-owned utilities and municipal utilities had concurrent renewable solicitations underway**
- **Many of PG&E's top-ranked offers chose selection in those solicitations**
- **PG&E had to expand its selection list twice to fulfill its RAM 4 target.**

Resulting PPAs from RAM 4

- PG&E's overall procurement target for RAM currently is 420.9 MW, to be procured in 5 RFOs.
- The target for this RFO was 82 MW.

Bucket	Example	RFO Target
Baseload	Biomass, Geothermal	10
As-Available non-peaking	Wind	10
As-Available peaking	Solar	62
Total		82

- PG&E executed PPAs for 73.3 MW
 - As-Available Off-Peak:
 - EDP Renewables (19.8 MW); Northbrook Energy (5.5 MW)
 - As-Available On-Peak:
 - 8minutenergy Saferay Holding Inc (15.0 MW); Hanwha Q Cells USA Corp. (13.0 MW); Frontier Renewables (20.0 MW)

Independent Evaluator Report

Charles Adkins
Ventyx

Role of the Independent Evaluator (IE)

- **Primary role of the IE is to:**
 - **Monitor RFO processes to ensure fair and equal treatment of all potential counterparties**
 - **Monitor evaluation processes to ensure PG&E has implemented methodology as described and that Offers are treated consistently**
 - **Report on RFO process and proposed transactions to CPUC when filed for CPUC approval**
- **The IE may review all proposal data and communications with Participants**
- **RAM RFO IE is Charles Adkins of Ventyx**

Independent Evaluators Comments

- The key criteria of a successful solicitation are:
 - Clear Objectives: the RAM RFO process achieves this by precisely defining the products being sought
 - Fair Evaluation: the RAM RFO process achieves this by a clearly defined evaluation process that is clearly spelled out in the protocols and the webinar
 - Transparency: the RAM RFO process achieves this through an evaluation process that relies on data provided by the bidder rather than relying on utility interpretation of bidder intent
 - Oversight: the RAM RFO process achieves this through the IE program

Independent Evaluators Comments (continued)

- The RAM RFO process does not allow for negotiations, which ensures that value identified in the RAM RFO evaluation process is preserved through the contract process.
- The PG&E RAM RFO process achieves that stated objective, “to lower transaction costs and promote the development of supply-side renewable distributed generation.”
- PG&E’s solicitations have identified and executed the best overall offers received.

Independent Evaluators Comments (continued)

- **PG&E's outreach to bidders has been robust. Mr. Adkins reviewed the list of over 2,700 potential bidders and found it to be representative of the market. Furthermore, the fact that all three California IOUs are conducting simultaneous RAM solicitations, ensures that market participants are aware PGE's solicitation.**
- **PG&E has worked diligently to respond to bidder questions and clarifications, often responding within one business day.**
- **PG&E has rejected very few bidders for eligibility requirements. Those that are eliminated based on eligibility are clearly documented.**
- **PG&E has used the seller concentration limit: fairly, consistently, and within the spirit of its intention to reduce counterparty risk.**
- **PG&E has offered post-solicitation de-briefs that many bidders requested.**

Independent Evaluators Observations

- Competition is strong in the Wind and Solar Categories, both in terms of number of participants and downward trend in pricing
- Competition is limited in the Baseload Category. Baseload Category pricing has remained flat
- PG&E's decision to not pursue Baseload proposals in the last two RAM RFOs were based on economics only. There is no inherent bias in PG&E's evaluation models for or against Baseload proposals, or for any other category proposal.

Key PPA Changes proposed for Fifth RAM RFO

Proposed Changes for RAM 5

- **Must have a Phase II Study**
- **Unlimited Buyer Curtailment Hours**
- **Up to 48 months for Guaranteed Commercial Operations Date, with possible 12 month extension for Regulatory Delays**
- **Other updates conforming to the 2013 RPS PPA**
- **If bidding in a fully deliverable resource, must obtain Full Capacity Deliverability Status by 12/31/2024**

Break

Survey Results

Survey Results

- Survey was sent to all PG&E's RFO distribution list
- Survey asked for feedback on:
 - RAM instructions and administration
 - The bidders' conferences
 - Timeliness of questions answered into the RFO mailbox
 - RAM participation
 - The offer submission process
 - The evaluation process
 - Overall Evaluation of the RAM RFO
 - Suggestions for future RFOs

RFO Instructions and Administration

Numbers are shown as a %

2. Did you participate in any of the RAM webinars?



3. Were the RFO instructions clear and straightforward?



4. If you submitted questions to the RAM mailbox, were they resolved in a timely manner?



RFO Participation

Numbers are shown as a %

5. Did you submit an offer into any of PG&E's RAM solicitation?



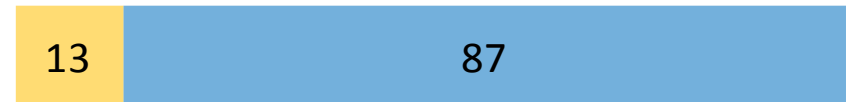
6. Did you have any problems completing and submitting the offer form?



7. Did PG&E clearly identify the criteria it would use to evaluate the offers?

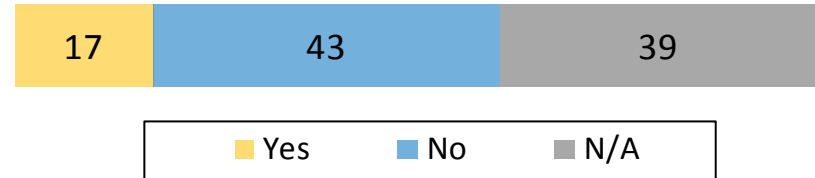


8. Were you offered a contract in one of the RAM programs?



Overall Evaluation

9. Did you request a feedback call?



Summary of Survey Comments

- **RFO Instruction and Administration**
 - The evaluation explanation during the webinar was helpful and resolved most questions
 - The solicitation materials were easy to follow
 - The questions submitted into the mailbox have been very responsive and timely.
- **Suggestions**
 - Increase capacity
 - RAM program is geared to exclude small developers. Influential large developers exerted influence initially during the development of the program to structure the requirements which would exclude many small developers from the bidding process.
 - We competed in one RAM process a while back, but we have rightly or wrongly thought that the pricing is unrealistic without continued precipitous module pricing decline (which isn't likely in the near future).
 - Lengthen the time period for development/construction from 18 mos. to 36 mos. ideally.

Participant Feedback

Next Steps

- Incorporate bidder feedback where possible; PG&E envisions filing in February an Advice Letter to update the PPA and Protocol for RAM 5
- Technical improvements
 - migrating to “Power Advocate”, an on-line platform
- Fifth RAM RFO expected issuance in May with offers due by June 27, 2014
- Thanks for your participation and feedback