

San Diego Gas & Electric Company

Report of the Independent Evaluator on the
All Source 2007-2009 Request for Offers (All
Source RFO)

September 26, 2007

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FOREWORD

This is the Public version of PA Consulting Group's Report. It addresses the conduct and evaluation of San Diego Gas & Electric Company's All Source 2007-2009 Renewables RFO, as well as one contract to be submitted for CPUC approval. Confidential text is blacked out.

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1. INTRODUCTION AND SUMMARY

PA Consulting Group, Inc. (PA) has served as the Independent Evaluator (IE) of San Diego Gas & Electric Co.'s (SDG&E's) All Source 2007-2009 Request for Offers (All Source RFO). This Report provides PA's evaluation of the fairness of the solicitation, up to and including the identification of a "short list" of bidders with whom SDG&E pursued contract negotiations; addresses the conformance of one specific contract with the original bid; and includes PA's opinion of that contract. The basic structure of the Report follows that of the Preliminary Report on the 2006 Renewables RFO, dated January 16, 2007.

This chapter provides an overview of the role of the IE. As background it references the relevant parts of two key regulatory decisions that establish the need for an IE. It then describes the way that PA and SDG&E have defined that role in the context of SDG&E's All Source RFO. The following section describes the activities that PA has undertaken as IE. The chapter concludes with PA's opinion on the fairness of SDG&E's Renewable RFO.

1.1 ROLE OF THE INDEPENDENT EVALUATOR: REGULATORY BACKGROUND

Regulatory requirements for an IE of resource procurement can be traced to the Federal Energy Regulatory Commission's (FERC's) "Opinion and Order ... Announcing New Guidelines for Evaluating Section 203 Affiliate Transactions" (108 FERC ¶ 61,081 (2004)). That decision addressed ways to demonstrate that a utility's procurement of power from an affiliate was not abusive or unfair, based on the standards of the *Edgar* decision (55 FERC ¶ 61,382 (1991)). FERC provided a set of guidelines, which presumably would be sufficient to demonstrate that the utility had not unfairly favored its affiliate. One of those guidelines was that "an independent third party should design the solicitation, administer bidding, and evaluate bids prior to the company's selection." FERC proposed not just independent evaluation but independent conduct of all aspects of the solicitation (except, presumably, the need determination).

The California Public Utilities Commission (CPUC) referenced those guidelines in its December 2004 decision on long-term resource procurement (D. 04-12-048). The CPUC stated that although it had not previously required the use of an Independent Evaluator for resource procurement, from that point on it would "require the use of an IE in resource solicitations where there are affiliates, IOU-built, or IOU-turnkey bidders." (pp. 135f.) The CPUC's intention was clearly that the IE should provide a shield against any tendency for the utility – conscious or not – to favor itself, its affiliates or its shareholders (shareholders would earn a return on "ownership projects" – IOU-built or turnkey – but not on independent PPAs). The CPUC stated explicitly that it would not require the IE to conduct or administer the solicitation, nor would it "allow the IEs to make binding decisions on behalf of the utilities." Under this decision the role of the IE is to assist the utility in RFO design and to observe the utility's procurement and evaluation process in order to provide a fairness opinion.

1.2 PA'S ROLE AS INDEPENDENT EVALUATOR

In April 2006, SDG&E retained PA to be the Independent Evaluator for the All Source RFO. SDG&E anticipated that there might be affiliate bids in that RFO, as in fact there were. The CPUC Energy Division, as well as the rest of SDG&E's Procurement Review Group (PRG), participated in the decision to select PA.

PA and SDG&E agreed on an interpretation of the IE role that does not include a full replication of the utility's computations, although PA did spot-check them. PA's role is as an observer and an adviser as needed. This is consistent with the statement in D. 04-012-048 that "[t]he IOU shall consult with its IE and PRG on the design, administration, and evaluation aspects of the RFO to ensure that the overall scope is not unnecessarily broad or otherwise too narrow," which in context appears as the Commission's definition of the fundamental role of the IE.

PA's emphasis has been on issues of fairness and equity rather than the absolute correctness of the evaluation method and its implementation. In particular, while PA may have an opinion about the "best" way to value certain attributes or even to conduct a multi-attribute evaluation, its role as IE has not been to judge SDG&E's evaluation against such a standard. Rather, PA has sought to determine that SDG&E's evaluation has not unfairly favored affiliates or ownership bids, or favored SDG&E and its shareholders in any other way¹. As part of this effort, PA reviewed SDG&E's computations and spot-checked individual evaluations but did not do a complete evaluation of all bids.

1.3 PA'S OVERSIGHT ACTIVITIES

The decision to retain an IE for the All Source RFO came about midway through the development of the RFO document itself. PA reviewed the RFO for clarity and fairness with the objective of ensuring a competitive, open and transparent process, and to ensure that the overall scope of the RFO was neither unnecessarily broad nor otherwise too narrow. PA was able to have significant input into the development of the RFO although not all of PA's suggestions were taken. Some of the areas in which PA offered suggestions included:

- PA suggested that it was important, in a procurement that could include affiliate bids, to mask bidders' identities (anonymize bids), at least through the initial evaluation stage (short-list development). SDG&E agreed although they did not take PA's offer to perform the anonymization; instead, SDG&E designed a two-team evaluation process.
- PA emphasized the importance of having defined evaluation criteria, determined prior to the receipt of any bids. Setting the criteria before looking at any bids helps ensure that the design of the evaluation does not favor the structure of an affiliate's bid. On the other hand, the evaluation criteria do not have to be described in detail in the RFO, since that invites bidder gaming.
- PA suggested that SDG&E note in the RFO that bidder Q&A would be posted on the website.
- PA pointed out that RFOs do sometimes inspire frivolous or poorly thought-out offers, and suggested that SDG&E require a deposit with all bids to weed those out. SDG&E did not take this suggestion.
- PA reviewed the contract documents for clarity and unearthed a problem with the use of one clause for this procurement; SDG&E deleted the clause.

¹ E.g., it would have been unfair for SDG&E to design an evaluation method that favored bidders in a location that would require to SDG&E to make extensive rate-based transmission or distribution investments.

1. Introduction and Summary

- PA reviewed the bidder response form spreadsheets and suggested a way to make the response form for demand response offers (an Excel file) significantly more compact.

PA participated fully in meetings and conference calls devoted to the development of the evaluation criteria. PA was provided access to all the SDG&E staff involved in the evaluation of the All Source RFO. PA was provided all questions submitted by bidders. PA's representative was present in San Diego on the day bids were due. PA was provided a copy of all bids.

PA staff participated in scheduled meetings and conference calls with the SDG&E Processing and Evaluation teams. PA reviewed the redaction process, that is, the process by which the Processing Team created anonymized bids, and verified the redaction of several selected bids. PA also reviewed the spreadsheet models that SDG&E used in the first stage of the evaluation (identification of short list candidates) and independently verified SDG&E's computations for a sample of bids.

Prior to the actual development of the shortlist SDG&E determined that a key consideration would be the availability of energy and RA credits from RMR contracts, and constructed several scenarios under which it evaluated representative (not necessarily optimal) resource portfolios. PA reviewed these evaluations, which were also presented to the PRG. A fairness concern would be that the selection of representative portfolios not be used to influence or avoid the portfolio selection process defined in the evaluation criteria, and in PA's opinion it was not.

The actual shortlisting was conducted using a commercial model, the Global Energy Decisions Capacity Expansion Module, which was run by the vendor not SDG&E. SDG&E supplied input data to Global Energy Decisions describing the bids. PA met with SDG&E to review the process by which the inputs were developed and verified the data for several bids against the actual redacted bids. In short, PA was offered all the data in the evaluation process, in some cases as it arrived or was created and in other cases on request.

Most important, SDG&E in no way prevented PA from observing its process and analyzing its methods.

1.4 OPINION ON SDG&E'S SHORT LIST

SDG&E's short list was constructed fairly and reasonably.

2. SDG&E'S EVALUATION METHODOLOGY

2.1 PRINCIPLES USED TO EVALUATE METHODOLOGY

In reviewing SDG&E's evaluation method, PA applied the following principles:

- The evaluation should only be based on those criteria requested in the response form. There should be no consideration of any information that might indicate whether the bidder is an affiliate.
- The methodology should identify how quantitative measures will be considered and be consistent with an overall metric.
- The approach should not be biased for or against specific technologies, solely based on the choice of technology (as opposed to, e.g., quantifiable differences among the values of needle-peaking demand response, dispatchable options or tolls and as-available renewable technologies).
- The methodology does not have to be the one that the IE would independently have selected but it needs to be "reasonable".

2.2 DESCRIPTION OF SDG&E'S EVALUATION METHODOLOGY

SDG&E developed a document entitled "SDG&E'S ALL-SOURCE 2007-2009 RFO — DEMAND RESPONSE, RENEWABLES AND PEAK CAPACITY — OFFER PROCESSING AND EVALUATION" which describes its evaluation methodology. PA provided advice on the development of the methodology. The objective was to have the document completed prior to the bids came in (bids were due by 5:00 PM on July 7), so that the content or identity of bids could not affect the evaluation process design. The document was completed and cleared for release to the PRG at 2:30 PM on July 7, although it had been substantially complete earlier, and it was distributed to the PRG on July 10, 2006.

The Offer Processing and Evaluation document describes a three-level evaluation method, plus a preliminary step which is the anonymization or bid redaction by the Processing Team. The three levels described in the document are Check for Conformance, Assess Viability and Modeling Short List Candidates. The evaluation and selection of bids was to be followed by negotiations with short-listed projects.

2.2.1 Processing Team Review

SDG&E defined separate Processing and Evaluation Teams, so that the individuals responsible for evaluating the bids would not necessarily know the bidders' identities. This step would ensure that an affiliate bid would not receive preference.

The Processing Team was responsible for redacting bids to remove identifying information. This turned out to be quite an onerous and time-consuming process, and several redacted bids had to be "recalled" to remove additional identifying information that had not been caught at first – for example, in page footers. Despite the redaction, members of the Evaluation Team were able to figure out which power plants – and hence which plant owners – corresponded to the tolling contract bids (Alternative IV) because they are familiar with the various plants in the SDG&E area, and because the bid evaluation form required enough

information to allow the plants to be uniquely identified. This does not mean the anonymization was a failure; on the contrary, the members of the Evaluation Team were not able to identify the Demand Response (Alternative I) and Call Option (Alternative III) bidders from the redacted bids. [REDACTED] bidders offered Renewable Capacity and Energy (Alternative II) although the anonymization was undermined when one of them announced its bid publicly.

Overall, PA judges the anonymization to have accomplished its aim. SDG&E's affiliate bid under Alternative III, and the Alternative III bidders' identities were successfully masked from the Evaluation Team. Still, in PA's judgment the bid redaction was unduly time-consuming. PA recommends that in the future bidders should be instructed to avoid putting any identifying information on the standard Bid Response Forms (except for information requested by the form, in specific fields) and that bids with other identifying information on those forms should be considered non-conforming.

2.2.2 Conformance check

The Evaluation Team verified that each offer received conformed with the requirements of the RFO. This check was straightforward. One of the demand response bids was rejected as nonconforming. There was some discussion, in which PA participated, as to whether out-of-state renewable bids conformed with the RFP requirements; eventually it was decided that they did, and that all the renewable offers conformed to the RFP. Finally, all of the Alternative III and Alternative IV bids were determined to conform with the RFO requirements.

2.2.3 Assess viability

SDG&E assessed bid viability differently for the different alternatives. For demand response bids (Alternative I), all conforming bids were placed into the shortlist candidate pool. For renewable bids (Alternative II), all conforming bids that did not exceed SDG&E's pricing benchmark were placed into the shortlist candidate pool. [REDACTED]

Bids for Alternatives III and IV were evaluated individually using two spreadsheet models. The most economic bids were placed into the shortlist candidate pool, up to a capacity limit representing twice the "need". "Need" was determined as the residual RA requirement. PA also reviewed the spreadsheet models that SDG&E used in the first stage of the evaluation (identification of short list candidates) and independently verified SDG&E's computations for a sample of bids.

2.2.4 Determination of optimal portfolio

SDG&E constructed an optimal resource portfolio using the Global Energy Decisions Capacity Expansion Module. SDG&E constructed a model of its current system as well as input data to represent the shortlist candidates. The input to the Capacity Expansion Module is in the same format as the input to the Prosym model. PA regularly uses Prosym for price forecasting and is very familiar with its input formatting. PA price forecasting analysts reviewed the process by which the inputs were developed and verified the data for several bids against the actual redacted bids.

An important determinant of the value of resource options, and of the total MW to procure, was SDG&E's need for RA capacity (credits). This in turn depended on the amount of RMR

contracts signed in the SDG&E service territory, since SDG&E is assigned a load ratio share of the RA credits for RMR capacity. The fundamental uncertainty was whether the ISO will consider the local RA requirement as a reason to stop signing RMR contracts. SDG&E defined three scenarios:

1. [REDACTED]
2. [REDACTED]
3. [REDACTED]

SDG&E based its “optimal portfolio” (final shortlist) on the results of all three scenarios, in general taking those offers that were in the optimal portfolio from every run². Some of the Alternative III offers were selected by the Capacity Expansion Module not to meet SDG&E load but to resell the energy when their prices were below market. SDG&E determined this not to be a reasonable basis for contracting and did not shortlist the bids.

PA urged SDG&E to validate the results from the Capacity Expansion Module with Prosym runs. Both PA and SDG&E are more familiar with Prosym than with the Capacity Expansion Module, and in fact SDG&E didn't even run the Capacity Expansion Module itself – it was run by the vendor, Global Energy Services. PA was concerned that the Capacity Expansion Module may somehow have understated the value of some of the Alternative III contracts. SDG&E ran several of the Alternative III options through Prosym, both including the optimal portfolio and limited only to SDG&E's initial portfolio. A resource option that should be in the optimal optimal would also be cost-effective in one of those runs. None of the options tested were cost-effective in any of the Prosym runs, implying that the Capacity Module Expansion processed SDG&E's resource options correctly.

The optimal portfolio (short list) contained bids from three bidders: [REDACTED], [REDACTED] and Envirapel. The first two were actually bidding to toll capacity from [REDACTED] while the third is a small renewable project that will serve as proof of concept for larger renewables to be offered to SDG&E later.

² In fact, bidder 17 [REDACTED] agreed to included its full RA credit with its bid at no extra cost. [REDACTED] [REDACTED] The optimal portfolio is actually produced by the Capacity Expansion Module under both scenarios 2 and 4. PA did not considered to be unfair or inequitable to negotiate this provision with bidder 17 and not with any other bidder, because no other bidder had obviously withheld its RA capacity from the auction (even though accepting this change to bidder 17's offer had the effect of eliminating other bids from the shortlist).

2.2.5 Negotiation

SDG&E negotiated with all three of the shortlisted bidders. PA did not sit in on any of the negotiations because they were not really competitive – SDG&E was intending to achieve contracts with all the shortlisted bidders – but relied on SDG&E's reports of the progress of negotiations. There would only have been a concern if, in the negotiation process, bidders had been able to increase their pricing, which would raise the possibility that the modified bid would become inferior to a bid that had not been shortlisted. There were no such price increases.

2.3 EVALUATION OF SDG&E'S METHODOLOGY

The viability analysis and the short list selection were objective and quantitative. This has the advantage of being less susceptible to manipulation by the utility than a method based on subjective judgments. It has the corresponding disadvantage that it lacks the ability to incorporate those subjective judgments. Those judgments can be taken into account in the contract negotiation process, e.g., by designing contracts with milestones and offramps that enable the early detection of potential implementation failures, but subjective issues such as bidder viability are less important when considering three-year contracts with existing capacity than when considering long-term PPAs to support construction. Thanks to the anonymization, affiliate bids were not afforded any preference in the evaluation.

The evaluation method did not provide any technology-specific adders or subtracters, nor did it mandate different treatment of different technologies. In fact it potentially of concern that all technologies were treated the same. Computer models for resource selection generally work best with resource options of similar size or load-carrying capability. In this case the demand response and renewable bids were significantly smaller than the option or tolling bids. SDG&E considered, and rejected, set-asides or separate consideration for those bids in favor of a more purely "all source" approach. Because the differences between these technology types are difficult to quantify and their characteristic sizes differ, PA recommends that SDG&E consider set-asides or partially separate evaluation for future all-source RFOs. Alternatively, the use of a marginal analysis based on power values, rather than a portfolio approach (which allows the value of power to change as resource options are added to the portfolio) will mitigate any size biases.

In sum, PA believes that SDG&E designed a fair evaluation method for ranking bids, and applied fairly to determine its short list. The evaluation method satisfies the principles listed in section 2.1.

3. SDG&E'S ADMINISTRATION OF THE EVALUATION PROCESS

3.1 EVALUATION PRINCIPLES

In reviewing SDG&E's administration of the RFO process and conduct of the evaluation, PA applied the following principles:

- Were affiliate bids treated the same as non-affiliate?
- Were bidder questions answered fairly and consistently and the answers made available to all?
- Did the utility ask for "clarifications" that provided the bidder an advantage over others?
- Were bids given equal credibility in the economic evaluation?
- Was there a reasonable justification for any fixed parameters that enter into the methodology (e.g., RMR values; debt equivalence parameters)?
- Were qualitative factors used only to distinguish among substantially equal bids?

3.2 PA'S ACTIVITIES TO EVALUATE SDG&E'S ADMINISTRATION OF THE EVALUATION PROCESS

PA's activities to evaluate SDG&E's administration of the evaluation process include all the oversight activities described in section 1.3. In addition PA interviewed SDG&E staff who would conduct specific parts of the evaluation. Finally, PA examined and reviewed the spreadsheets that SDG&E used for its viability analysis and the input files to SDG&E's optimal portfolio selection.

3.3 BIDDER OUTREACH

SDG&E provided PA with a list of over 800 email addresses to which it sent the RFO, representing more than 300 separate organizations. ■■■ separate organizations responded to the All Source RFO with a total of approximately ■■■ bids. The number is approximate because in some cases it is a judgement call as to how many separate offers are represented by a single bidder. In PA's opinion, the bidder outreach was adequate and it engendered a robust response.

3.4 EVALUATION OF SDG&E'S CONDUCT OF THE SOLICITATION

In PA's opinion, SDG&E conducted the RFO in fair and equitable manner.

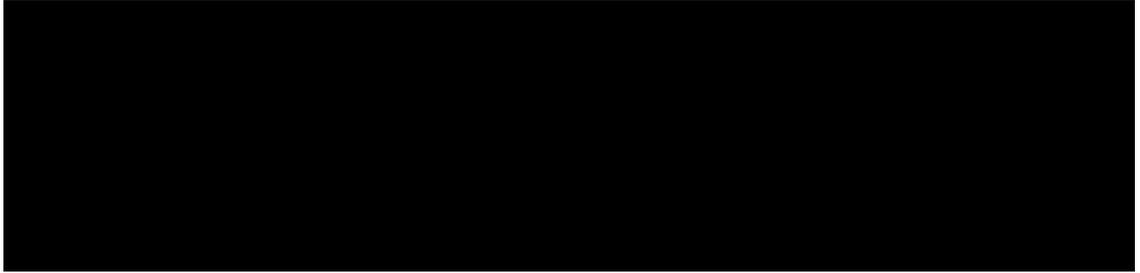
- SDG&E did not apply any special treatment to affiliate bids.
- Questions were answered fairly and questions and answers posted to the website.
- The clarifications that SDG&E requested were very specific and did not allow any bidder the opportunity to improve its bid. SDG&E avoided subjective judgment of the credibility of different bids, accepting all information provided by bidders.
- Fixed parameters were all set at reasonable values.

4. ANALYSIS OF SUBMITTED CONTRACTS

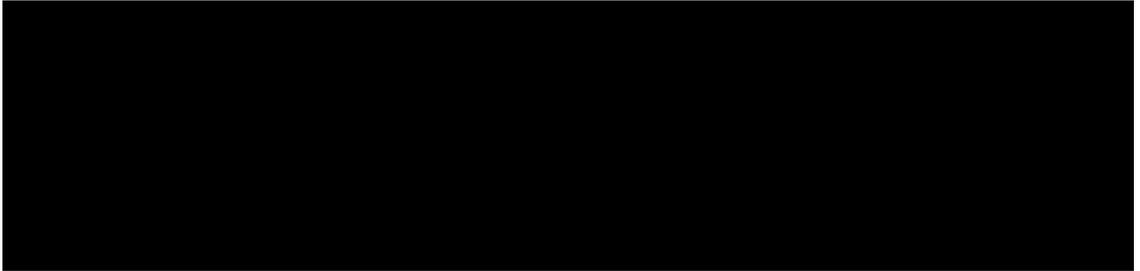
SDG&E negotiated contracts with three of the bidders. Only one of those contracts, a contract with Envirepel for Renewable Capacity and Energy, is being submitted to the CPUC.

The Envirepel contract is a straightforward EEI-format contract. The specific transaction details – price, volume, etc. – appear in a separate confirm. The significant differences between the contract and the original offer are:

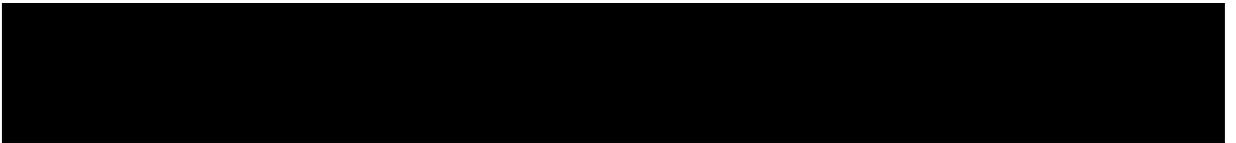
1.



2.



In addition to considerations related to the integrity of the bid selection and the energy / capacity value of the contract, this contract provides additional benefits. It is the vehicle by which Envirepel is to demonstrate the viability of its combustion technology and its ability to construct generators based on that technology. A successful demonstration is a prerequisite to Envirepel's future development of similar renewable generators [REDACTED] [REDACTED] Two PA consultants visited Envirepel and came away impressed with the potential claimed for its technology, but also concerned about Envirepel's ability actually to develop power plants.



The Envirepel contract is reasonable.

3

