Should Utility Shareholders Earn Incentives from DSM Bidding Programs?

David W. Lui, Synergic Resources Corporation

All four major California investor-owned utilities are ordered by the California Public Utilities Commission to implement DSM bidding pilots. In applying for approval for its bidding pilot, PG&E requests and is granted shareholder incentives for the pilot. Other utilities have similar request in their respective DSM bidding pilot proposals which are currently under the CPUC consideration. The primary argument presented for shareholder incentives on DSM bidding thus far hinged on the notion of "symmetry" in earnings. It has been argued that "symmetry" should be considered in terms of earnings from third-party delivered projects being equal to earnings that the utility may earn from its own DSM programs.

Opponents of the "symmetry" notion offer several counterarguments. First, utilities should not receive incentives from third-party delivered projects since utility earnings are not increased from QF-supplied power. A strong regulatory oversight approach is proposed because "incentive symmetry" is believed to be detrimental to ratepayer benefits from competition. Second, authorization for earnings from third-party delivered projects is troublesome in terms of the implications for the verification of load impacts and costs. Third, utilities should not earn any incentives since third-parties bear virtually all the risk for the success or failure of their projects.

This paper examines the timely issue of "symmetry" in utility earnings in the context of DSM bidding because of its significant implications for the future of DSM bidding in California and other states that provide shareholder incentives for utility DSM programs.

Introduction

In August of 1991, the California Public Utilities Commission (CPUC) initiated an Order Instituting Investigation (OII) to establish procedures governing demand-side management and competitive procurement for California utilities (CPUC, 1991a). Citing the new mandate of the recently enacted California Public Utilities Code Section 747 to implement pilot projects to test competitive bidding for DSM services, the CPUC directs California utilities to develop and implement DSM bidding pilots in the OII.

Among the four major investor-owned utilities in California, Pacific Gas and Electric (PG&E) is the first to have its DSM bidding pilot examined for CPUC approval shortly after the issuance of the OII. Three other utilities, including Southern California Edison (SCE), also have their DSM bidding proposals filed with the CPUC.[1] Hearings for the three utility filings have been concluded, and CPUC decisions are pending.

For the CPUC hearings on PG&E's petition, the CPUC's Division of Ratepayer Advocates (DRA), the California Energy Commission (CEC), the Natural Resources Defense Council (NRDC) and other interested intervenors all offer testimony in assessing the various attributes of the proposed bidding pilot. One of the most contentious issues focuses on PG&E's request for utility shareholder incentives for the bidding pilot. The authorized use of shareholder incentives to encourage positive utility involvement in DSM has gained wide acceptance in a great number of states and is well documented in energy management literature (Chamberlin and Hanser, 1991). The current debate in California is whether to extend this concept of shareholder rewards for running utility-sponsored DSM programs to DSM bidding programs whereby projects are delivered by third-parties.[2]

PG&E's request for shareholder incentives (i.e., incentive symmetry) is supported by most parties including representatives from the energy services company (ESCO) industry. However, the DRA voices strong opposition on this issue. This paper first presents views from both sides of the issue. Then the CPUC decision on PG&E's petition and other pending decisions are discussed, and lastly some concluding remarks and observations are offered.

Arguments for Shareholder Incentives

In presenting its case for shareholder incentives, PG&E stresses the partnership attribute of its bidding pilot and its "value-added services" necessary for ensuring program success and reducing portfolio risk (PG&E, 1991a). SCE offers similar reasoning regarding its value-added services in a different approach: SCE's proposed bidding pilots are presented as "replacement bids" with the objective of testing the appropriate "roles" for the utility and non-utility energy services providers in the DSM bidding framework (SCE, 1992a).

The Partnership Attribute

PG&E describes its bidding pilot proposal as a form of cooperation or partnership between the winning bidders and PG&E. PG&E's Request for Proposal (RFP) is designed to solicit energy management efforts that complement, rather than compete with, PG&E's current and planned energy management program portfolio. In order for this cooperation effort to be successful, PG&E argues that it is necessary for utility management and field representatives to perceive no difference between third-party-delivered programs and utility-run programs, and that this indifference can be attained only if there is "symmetry" in utility shareholder rewards (or penalties) for the outcome of both types of programs.

The implication of this argument is that, in the absence of incentive symmetry, the utility would remain partial to its own programs and leave the relatively disadvantaged third-parties to deliver the promised energy savings on their own.[3] Since non-utility providers of energy services is still a young and developing industry and the proposed bidding program is only a pilot, the risk of failure for this pilot would be too high without utility assistance and cooperation.

All parties except the DRA agree that incentive symmetry would moderate this perceived risk of failure. In particular, the CEC and the NRDC filed testimony to express their support for incentive symmetry to encourage utility cooperation with third parties and thus ensure a fair chance for the proposed pilot to succeed (CEC, 1991; NRDC, 1991). A number of ESCO representatives also testify that their experience from participating in DSM bidding programs in other states convinces them that utility cooperation is essential for program success (CPUC, 1991b). The DRA offers an alternative remedy in the form of a strong regulatory oversight approach which is addressed in a following section.

Utility Value-Added Services and Portfolio Risk

Another related and supportive persuasion for CPUC approval of shareholder incentive is PG&E's claim of need to provide value-added marketing, customer services and technical input to the bidding program in order to achieve target performance standards. By including the bidding program in its programs portfolio, PG&E claims that it would be at risk for the energy savings associated with the bidding program. And since the program is experimental, it requires the utility to design the RFP, evaluate bids, negotiate contracts, and closely oversee program implementation.

A Utility's "Roles" in DSM Bidding and the Different Natures of Demand and Supply Programs

SCE uses similar reasoning to justify its claim for shareholder incentives for its proposed DSM bidding pilots. In its filed testimony, SCE stresses its role in managing the marketing, implementation, and evaluation of the pilots in proposal as utility value-added services. SCE points out that utility value-added services are needed in a demand-side program which is inherently different from a supply-side project where the utility can be bypassed as in the case of QF purchases (SCE, 1992a).

Moreover, SCE adopts a different approach in presenting its case and emphasizes the purpose of the bidding experiment as one of testing the appropriate "roles" for utilities and non-utility entities in the delivery of energy services. SCE maintains that there is a role for the utility because of the statutory obligation to serve its customers and inherent differences between demand-side programs and supply-side project. Unlike supply-side bidding whereby QFs provide power on the behalf of the utility, there cannot be a complete detachment between the utility and its customers in a demand-side program. Since energy demand management has become very much a part of a modern utility's service obligation, a utility needs to be involved to some extent in the delivery of energy services despite third-party participation in the relatively new framework of DSM bidding. Therefore, it follows that utility should be rewarded for achieving energy savings from successful programs, regardless how they are delivered.

The Replacement Attribute

PG&E's bidding pilot is designed to solicit new energy resources to add to its programs portfolio. Unlike that of PG&E, SCE's proposed DSM bidding pilots are designed

to be "replacement bids" in that the bidding programs would replace a certain SCE program in part of its service territory.[4] The funding of the program to be replaced has been authorized by the CPUC, and the program is eligible for shareholder incentives (CPUC, 1991c). SCE asks that existing program funding be reallocated to the bidding pilots and that its shareholders not be deprived of the opportunity to earn on the same funds. In other words, in the absence of a bidding program, SCE would be able to earn incentives anyway. It is argued that shareholders should be granted incentives for the success of the bidding programs to offset potential earning losses from replacing its own program.

Arguments Against Shareholder Incentives

The DRA strongly opposes the notion of incentive symmetry in the context of DSM bidding (DRA, 1991; DRA, 1992). In comparing the third-party-delivered energy savings to QF-supplied power, the DRA believes that since utility earnings are not increased from QF purchases, utilities should neither receive incentives from DSM bidding programs. It advocates strong regulatory oversight in place of incentives to ensure program success, as a rejoinder to the claim of need for utility assistance for third-parties.

The DRA sees shareholder incentives as a detriment to the benefits of competition, and would prefer to pay utilities a management fee instead of incentives for providing utility valued-added services. Moreover, the DRA raises a doubt that earnings from third-party-delivered projects would compromise the verification of load impacts and costs. The issue of risk bearing is also raised; the DRA believes that third-parties, not utilities, bear virtually all the risk of the success or failure of bidding projects.

QF Purchase Equivalence

There is an apparent assumption on the functional equivalence between QF-supplied power and third-party-delivered "negawatts". California utilities are required to purchase QF power through competitive bidding. The costs of QF-power purchases are passed directly onto ratepayers as current expenses; and therefore, utility shareholders do not earn a return on QF purchase-related costs. The DRA believes that third-parties that participate in DSM bidding are equivalent in function to QFs in that they deliver power or negawatts to utility customers; and therefore, utilities should not be allowed to earn incentives in either form of bidding (i.e., QF bidding or DSM bidding).

Strong Regulatory Oversight

The DRA argues that it is not necessary to use shareholder incentives to get utilities' support and cooperation that third- parties require in a bidding program. The DRA believes that protocols for transactions between the utility and third-parties in a bidding program can be established such that regulatory oversight can be applied in every steps of the bidding process (DRA, 1992).

In particular, the DRA recommends that arrangements be explicitly established, whereby the utility provide remunerated assistance to third-parties, such that there would be clear understanding of expectations from each party. To foster fair competition, there should be measurement protocol parity such that third-party bids would be subject to a similar set of measurement protocols that are expected from the utility. To resolve disputes between third-parties and the utility, a set of grievance procedures is suggested (CPUC, 1992b).

The objective of DRA's proposal appears to create clear guidelines and directives for the utility and third-parties to contribute to the bidding process such that the CPUC could exercise regulatory oversight. The utility would in fact be required to provide certain services to, rather than voluntarily cooperate with and support, the third-parties. The lack of voluntary utility support does not seem to be much a concern to the DRA due to the detrimental effect of shareholder incentives on costs perceived by the DRA.

Detriment to Competition

From the DRA's perspective, shareholder incentive treatment is detrimental to ratepayer benefits from competition, particularly in the context of "replacement bidding".[5] The DRA sees the ability of a utility to increase its earnings from third-party-supplied services as a "significant diminution of a key element of a truly competitive process". If a utility is indifferent to whether the resource additions come from its own efforts or third-parties, then the ability to rely on market forces to identify lowest cost options is effectively removed.

This would happen, according to the argument, because the utility would not have any incentives to create a competitive arena for itself and third-party bidders by putting forth a truly competitive program package as its own bid. The DRA reasons, in effect, that lowest cost options are best identified as a result of competition among the utility and third-party bidders, not just competition among third-party bidders.

Management Fees for Utility Value-Added Services

The DRA does recognize the value of the utility in providing customer service support and measurement and evaluation because the utility enjoys unique access to customer information such as energy usage data. However, the DRA sees this utility role as a minimal one, and that it would be more appropriate to pay the utility a management fee instead of shareholder incentives for providing the required support to third-parties. The effect of this DRA suggestion is to keep the utility and third-parties from being business partners with a common interest, thus ensuring competition among all parties.

Program Impact and Costs Verification

There is a concern that if utility earnings are tied to the performance of third-party projects, then the utility is less likely to be careful and critical of savings claims, thus compromising the verification of program load impacts and costs. The rationale of such argument has yet to be fully presented. It is not clear how this concern is any different for non-DSM bidding programs since most, if not all, program benefit-cost calculations filed for incentive treatment for utility and non-utility delivered programs are subject to CPUC and intervenor scrutiny.

Risk Bearing

The issue of risk bearing is raised as an argument against shareholder earnings in DSM bidding programs. The DRA postulates that project performance risk is virtually shifted to third-parties in a bidding program, and it sees no reason to reward the utility for functioning in a role of mainly administrative in nature. The term "risk" used in this argument has yet to be clearly defined. In replying to this argument, PG&E submits that even though it is true that the risk of paying for undelivered energy savings is somewhat mitigated if third-parties guarantee project results, the utility still bears the risk associated with resource planning if the utility includes the bidding program in its resource portfolio (PG&E, 1991b).

CPUC Adjudication on the Issue

The CPUC has decided in favor of PG&E's request for shareholder incentives for a partnership bid (CPUC, 1992a). In reaching that decision, the CPUC clearly is persuaded by the argument that shareholder incentives are necessary for a partnership bid, in order to ensure the full cooperation and enthusiasm of utility personnel. The CPUC is also concerned that a failure to grant incentives could reduce a utility's sustained commitment to the success of DSM bidding and could discourage third-parties from competing in the bidding process. Apparently, the CPUC favors incentives, rather than regulatory oversight, as the preferred instrument to ensure utility cooperation and thus enhance program success in a partnership bid. However, the merit of strong regulatory oversight is yet to be determined in the context of a replacement bid, since the emphasis in replacement bidding is advocated to be competition rather than cooperation.

With regards to the QF equivalence argument, the CPUC believes that the partnership form of bid is not designed to be a supply-side equivalent bidding process. The purpose of the current bidding experiment is to test the ability of third-parties to deliver DSM services on a reliable basis. The CPUC also sees the merit of utility value-added services such as program marketing and other support functions that are necessary for program success in the partnership form of bidding. Even though the question of QF equivalence seems to be resolved for partnership bids, its validity in the context of replacement bidding, which is also regarded by the DRA to be the functional equivalence of supply-side bidding, is still an open issue with the policymakers.

Incentive symmetry allows the utility to remain relatively indifferent to subcontracting with third-parties or performing the expanded DSM services itself. The CPUC regards this as a clear benefit to third-parties who, without the proposed bidding pilot, could only bid for subcontracting services based on time and materials for installed measures.[6] However, the DRA observes this aspect of incentive symmetry from a different perspective; it is more concerned that incentive symmetry would reduce downward pressure on costs as discussed in a previous section. The CPUC has decided in favor of this attribute of incentive symmetry in a partnership bid, however, it is not certain at all that the CPUC would extend its view on this to replacement bidding.

Apparently, the CPUC places great importance on the perceived ratepayer benefits from information about the potential for third-parties to effectively provide DSM services. The CPUC is more concerned about utility commitment to, and sufficient third-party participation in, the bidding experiment than the possible effect of incentive symmetry on verification of program impacts and costs. The issue of risk bearing receives almost no consideration in the CPUC decision.

Observations and Concluding Remarks

The following table summarizes positions from both sides of the issue of incentive symmetry.

The centerpiece in the debate on the issue of incentive symmetry appears to be the question of QF-power purchase equivalence. Are there inherent and fundamental differences between QF-supplied power and third-party-delivered "negawatts" and "negawatthours"? An examination of the arguments in the PG&E case seems to point to an affirmative answer to this question, at least in the context of partnership bidding.

Leaving aside attributes such as dispatchability and load impact, there are inherent differences between QF-supplied power and third-party-delivered DSM resources even though the products (i.e., megawatts or negawatts) delivered to the utility are indistinguishable in their end-usage. In the case of QF-supplied power, there is no need to consider program design or customer relationship. In other words, there is no need for interaction between the utility and its customers with respect to QF-supplied power. However, third-party-delivered energy management projects need utility involvement to ensure customer acceptance and satisfaction. PG&E has been able to convince the CPUC in this aspect by showing its utility value-added services to the bidding process. SCE goes one step further in using this utility value-added services argument; it tries to define the purpose of DSM bidding as a test of the appropriate roles for utilities and other parties, thus ensuring an important role for utility participation in any DSM bidding programs.

On the other hand, DRA's concern on incentive symmetry being detrimental to ratepayer benefits from competition in the replacement bid form presents a significant dilemma to policymakers. Whether the CPUC could achieve the delicate balance between the desire to obtain least cost options from competition and the need for utility cooperation and support in replacement bids is definitely of great interest. The CPUC will have to decide whether it's best to use strong regulatory oversight, as suggested by DRA, to achieve that balance.

The issue of incentive symmetry has yet to be resolved completely, as the CPUC in deciding the PG&E case grants shareholder incentives only conditionally on two

Table 1. Opposing Positions and CPUC Adjudication on Incentive Symmetry

Arguments for Incentive Symmetry	Arguments Against Incentive Symmetry	CPUC Adjudication
The Partnership Attribute Argument claims necessity of incentive-induced utility support for program success.	Incentives symmetry is detrimental to benefits of competition; strong regulatory oversight is advocated.	Decides in favor of incentive symmetry in partnership bids; decision pending for regulatory oversight in replacement bids.
Incentive symmetry is needed because the utility Provides Value-Added Services.	Management Fee for utility services is more appropriate; role for utility is minimal.	Value of utility support in partnership bids is recognized; utility role in replacement bids to be determined.
There is always a utility role in DSM due to difference between demand and supply resources.	DSM bidding is functionally equivalent to QF purchase.	Partnership bids found not equivalent to QF bids; equivalence of replacement bids to be determined.
The Replacement Attribute Argument	No explicit position	Decision pending.
No explicit position	Incentive symmetry compromises program Impact and Costs Verification.	Not explicitly resolved.
Utility maintains portfolio risk.	Program performance risk shifted from utility to third-parties.	Not explicitly resolved.

important factors: the pilot nature and the partnership form of PG&E's proposed bid. It is uncertain whether full-scale DSM bidding programs would receive shareholder incentive treatment. Other forms of DSM bidding design would have to present sufficient justification for incentive symmetry. The DRA has presented formidable arguments against, and alternatives for, shareholder incentives, especially in the replacement bid form. Whatever the size or form of bids, the debate on this issue has brought up several important arguments from both sides of the issue. The current OII in California has highlighted those arguments in sharp focus such that future applicants for incentive symmetry must consider in presenting their cases.

Endnotes

1. The other two utilities are Southern California Gas Company (SoCal Gas) and San Diego Gas and Electric Company (SDG&E).

2. The term "third-party" used throughout this paper primarily denotes ESCOs, although it may also mean energy consultants and other independent contractors.

3. A utility enjoys a comparative advantage of having a long-developed customer relationship and billing and other customer specific information that are generally recognized as essential for successful program design and customer acceptance.

4. SCE's bidding pilots target two service sectors respectively: schools (k-12) and small office buildings (under 200 Kw of demand). Bidders are solicited to propose programs/measures to replace SCE's hardware rebate program for these two sectors (SCE, 1992b; SCE, 1992c).

5. All three utilities, SCE, SoCal Gas, and SDG&E, present their respective pilot proposals as "replacement bids". However, the DRA does not recognize those proposals as "true replacement bids" because, among other reasons, they all contain the shareholder incentive treatment (DRA, 1992).

6. In a DSM bidding program, a third-party could earn more than from its labor and material inputs; it could share in energy savings with customers through project involvement such as project design and financing arrangement.

References

California Energy Commission (CEC). 1991. "Testimony of Michael Messenger on Behalf of the California Energy Commission Regarding PG&E's Proposal to Implement a Demand-Side Management Bidding Program." Exhibit 24, Hearings in Order Instituting Investigation I.91-08-002, September 30, 1991.

California Public Utilities Commission (CPUC). 1991a. Order Instituting Investigation I.91-08-002, August 7, 1991.

_____, 1991b. Hearing Transcripts, Order Instituting Investigation I.91-08-002, p. 207.

_____, 1991c. Decision 91-12-076, December 20, 1991.

_____, 1992a. Decision 92-03-038, March 15, 1992.

_____, 1992b. Hearing Transcripts, Order Instituting Investigation I.91-08-002, pp. 1453-1462.

Chamberlin, J. H., and P. E. Hanser. 1991. "Current Designs of Regulatory Techniques to Encourage DSM." *Proceedings from the NARUC Third National Conference on Integrated Resource Planning*, pp. 316-326. National Association of Regulatory Utility Commissioners, Washington, D.C.

Department of Ratepayer Advocates. 1991. "Report on the Request of the Pacific Gas and Electric Company for Authorization to Implement a Demand-Side Bidding Experiment." Exhibit 9, Hearings in Order Instituting Investigation I.91-08-002, October 2, 1991.

_____, 1992. "Report on the Demand-Side Bidding Proposals of Southern California Edison, Southern California Gas, and San Diego Gas And Electric." Exhibit 118, Hearings in Order Instituting Investigation I.91-08-002, April 6, 1992.

Natural Resources Defense Council (NRDC). 1991. "Comments of the Natural Resources Defense Council." Exhibit 13, Hearings in Order Instituting Investigation I.91-08-002, September 23, 1991.

Pacific Gas and Electric Company (PG&E). 1991a. "Pacific Gas and Electric Company DSM Pilot Bidding Project - DSM Bidding Policy, Objectives, and Incentives." Exhibit 1, Hearings in Order Instituting Investigation I.91-08-002, September, 1991.

_____, 1991b. "Rebuttal Testimony of Chris Chouteau and Kathi Berman on Behalf of Pacific Gas and Electric." Exhibit 8, Hearings in Order Instituting Investigation I.91-08-002, October, 1991.

Southern California Edison Company (SCE). 1992a. "Qualifications and Prepared Testimony of Witnesses." Exhibit 113, Hearings in Order Instituting Investigation I.91-08-002, February 1992.

_____, 1992b. "Proposed Bidding Pilot - Schools (K-12)." Exhibit 114, Hearings in Order Instituting Investigation I.91-08-002, February 1992.

_____, 1992c. "Proposed Bidding Pilot - Small Office Buildings." Exhibit 115, Hearings in Order Instituting Investigation I.91-08-002, February 1992.