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# A DUAL STATE BIDDING PROGRAM: EFFECTS OF DIFFERENT GUIDELINES

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## Introduction

Historically, utilities have met customer demand for electricity through supply-side strategies such as building new power plants and purchasing surplus power from other utilities. In the last decade, however, supply-side options have expanded to include non-utility independent power producers. At the same time, utilities began to investigate demand-side management (DSM) measures such as improved lighting efficiency, shifting peak load and other energy conserving activities. More recently, there has been an effort to coordinate resource assessment and selection through "least cost integrated resource planning," a comprehensive process to develop a preferred mix of both supply- and demand-side resources to meet future load requirements. (Ref. 1) Guided by their least cost plans, utilities can develop resources internally or acquire them through bidding programs.

DSM bidding is a utility resource acquisition process in which vendors and utility customers are invited to propose energy efficiency projects and be paid by the utility for the energy savings achieved. The current generation of DSM bidding efforts combines two parallel trends from the 1980s, when supply-side bidding auctions for independent power and financial incentives for DSM were initiated on a wide scale. Some utilities and regulators, recognizing that reducing electric demand through energy conservation may be more cost-effective than power supply acquisition, have already integrated the use of DSM bidding into their long-term resource plans.

The underpinning of DSM bidding is the principle that, before a utility considers building new power plants, it should first seek lower-cost sources of power, whether from independent power suppliers or DSM. Energy ser-

vice firms and industrial customers are invited to bid a price that the utility will pay to acquire cost-effective resources. Some refer to such payments as a financial incentive or subsidy, but it is more appropriately viewed as the utility's cost of acquiring a resource for less than the incremental cost of providing that resource itself.

DSM bidding is conducted through auctions in which a utility solicits proposals from entities offering to achieve specified amounts of DSM savings in the service territory. The proposals are assessed and program participants are selected competitively. The utility then pays the bid price for DSM savings estimated or achieved within a specified period of time (typically, two to three years). If the bidder fails to deliver the promised amount of DSM savings on time, the posted security deposit is forfeited.

Bids can be structured as the price to supply a block of kW demand reductions, kWh energy savings, or both. DSM bidding can be incorporated into a fully integrated program along with supply-side bidding that acquires independent power resources, or as a standalone program. The utility can target specific end use sectors or allow an all-inclusive program. Payments to bidders can be made once or over time in installments. These variations frame the strategic program design and evaluation issues discussed in this paper.

The concept of integrated all-source bidding received full-scale adoption by the New York Public Service Commission (PSC) in June 1988 and the New Jersey Board of Public Utilities (BPU) in August 1988. Later that year, Orange and Rockland Utilities (O&R) volunteered to be the first New York utility to develop an integrated bidding program. The purpose was to acquire demand and supply

side resources in a single integrated process, thus placing bids on a "level playing field."

A distinguishing factor in O&R's bidding program is that its customers are located in both New York and New Jersey, and the program had to be approved in both states. Hearings before the New York and New Jersey commissions led O&R to specify different program designs for each service area. In July 1989, O&R offered two sets of solicitations—one in New Jersey and one in New York—to purchase demand- and supply-side resources through a competitive bidding process. Because of the different requirements for ceiling prices, self-scoring, and franchising in each state, the program provides a unique opportunity to explore the effect of different criteria on DSM bidding and contractor selection.

## Evaluation Methodology

As the lead energy research agency in the state, the New York State Energy Research and Development Authority (NYSERDA) commissioned an evaluation plan for the O&R bidding program (Ref. 2). The plan detailed a two-phase process and outcome evaluation to document the history and progress of the program from the design phase through the first year of implementation.

Key areas being addressed in the evaluation are:

- Identifying the goals and objectives of the program.
- Identifying start-up problems and impediments to implementation.
- Monitoring program progress.
- Providing an alternative line of communication for NYSERDA staff, the O&R program manager, program contractors, and participating and non-participating customers.
- Assuring the completeness and reliability of outcome data.
- Assessing the performance of the program design and incentive design relative to other O&R commercial programs.
- Providing insight for future program modification.

Qualitative data for the evaluation were gathered from document review and from in-person and telephone interviews with key contacts. Quantitative data were available only for the analysis of survey responses, the

bid selection process, and the cost-effectiveness outcome analysis.

Qualitative data require care to assure that findings are valid and reliable. The primary technique used is "triangulation" (Ref. 3) in which multiple sources are used to assess each issue. A comprehensive evaluation involves carefully comparing and contrasting data obtained from a variety of key contacts and survey respondents and a review of program documentation.

The first phase of the evaluation was completed in 1990 and addressed program design, bid solicitation, contractor selection and contract negotiations. The second phase, to be completed in 1992, will address program implementation, administration and cost effectiveness.

## Program Status

O&R serves over 245,000 electric customers in a 1,350 square-mile area of southeastern New York and northern New Jersey. The majority of O&R's customers are located in New York. The New Jersey territory is primarily residential with some commercial and industrial customers.

In designing the program, O&R created three customer areas—one in New Jersey and two franchise areas in New York. Bidders were invited to submit bids for each area. However, while there were no limits on the number of signed contracts for the New Jersey territory, O&R specified that each New York franchise would have a maximum of three vendor contracts (but no limit on direct contracts with customers).

In July 1989, O&R sent a Request for Proposals (RFP) to a list of 227 energy firms specializing in demand side or supply side services. In response, 22 vendors submitted bids. Of these, 15 proposals for DSM services (10 in New York and 5 in New Jersey) were submitted by nine vendors. Two bids for supply and 11 DSM bids (5 in New Jersey and 6 in New York) were selected. The selection process proceeded on the schedule outlined in the RFP—a factor that received favorable comment from the contractors.

However, the contract negotiation process was not as rapid as outlined in the RFP, and contractors indicated that the negotiations were more difficult than expected, especially concerning measurement and verification of savings. These issues were resolved in most cases; however, one vendor and the single customer bidder withdrew

from the negotiations process prior to executing a contract.

As of April 1991, there were four contractors in the New Jersey area and two in each of the New York franchise areas. Implementation is proceeding slowly, as contractors are finding the market more difficult to penetrate than expected.

## Program Design Issues

Competitive bidding programs involve a number of critical issues which must be addressed in program design. In our view, the six most significant are: ceiling and bid price, scoring systems, customer access and franchising, the use of joint criteria for supply and demand bids, measure limitations, and minimum bid amounts.

For the O&R bidding program, each issue was addressed in the design phase, but there were important differences in the versions offered in the two states. The New Jersey BPU wished to establish a fully integrated process using avoided cost as the ceiling price for both supply and demand bids. On the other hand, because the New York PSC wanted utilities to have the flexibility to develop the program most suited to their requirements for acquiring cost effective resources, a fully integrated process was not required for the O&R program. Table 1 displays the program configuration for the two states.

## Findings

The first phase of the process evaluation examined the effect of each of these criteria on the response and selection process. The evaluation found five effects that can be attributed to the different approaches in each state:

- The New York program emphasized summer peak reducing measures while the New Jersey program focused on energy efficiency measures.
- While bid pricing had little impact on project scope, the New York ceiling price appears to bias proposed measure packages toward low-cost measures such as lighting.
- The New York pricing option was considered inequitable by bidders and did not represent a true integration of supply and DSM resource acquisition.
- While proposed projects included a variety of measure options in New York, no residential sector or commercial customer bids were received, and the projects accepted have less diversity than those proposed as a whole. On the other hand, projects bid in New Jersey included more diverse measure options and addressed more sectors. The process was also more satisfying to bidders.

Four of the six major criteria contributed to these effects: ceiling and bid price, the scoring system, customer access (specifically franchising), and the presence of joint criteria for demand and supply.

## Ceiling and Bid Price

The most controversial issues generated by the program were the ceiling and bid prices. This is not surprising. In fact, some bidders may not have fully understood the differences in O&R's bidding requirements for the two states. O&R's bid price scoring system assigned points to project bids based on the difference between the bid prices and the maximum O&R was willing to pay for DSM savings. This maximum is referred to as the ceiling

**Table 1. O&R Bidding Program Design**

Issue	New York	New Jersey
Ceiling Price	Discounted avoided cost minus lost revenue ceiling \$550/kW	Discounted avoided cost
Bid Price	Discounted total price% of 550/kW	Discounted total price % of avoided cost in kWh
Scoring System	Self-scoring with secondary review	Self-scoring
Customer Access	Franchising	No franchising
Measure Limitation	Demand reducing	No restrictions
Minimum Bid	100 kW	100 kW
Criteria for Supply and Demand Bids	Mixed criteria	Joint criteria

price. Table 2 presents an example of these procedures for each state.

In New Jersey, where the designated purpose of the program was to conserve energy (kWh), each bidder was provided with a set of spreadsheets to calculate O&R's avoided cost for conserving energy. The bidder began with the annual kWh amount proposed to be delivered to the utility. Using O&R's estimate of the nominal avoided cost for each year (differentiated by peak, off-peak, and shoulder period) the bidder was able to calculate O&R's total avoided cost in each year. The total avoided cost was multiplied by a present value factor of 11% per year. The result was the ceiling price (the present value of avoided costs).

To fashion a bid, competing firms used their own required price per kWh instead of O&R's avoided cost. The bid price was calculated as the present value of the proposed payments for energy savings. In New Jersey, scores were assigned to bids relative to the ceiling price. Those less than 25% of the ceiling price received the maximum score of 50 points. Using the example in Table 2, the New Jersey bid would be 43% of avoided cost (\$320.24/\$730.25).

O&R considers its primary requirement to be for demand resources, and the New York PSC supported this emphasis. The ceiling price in New York was also structured to subtract the discounted value of the lost revenues from the discounted avoided cost calculation, producing a revised discounted avoided cost. Using the figures in Table 2 for New York, the bid price as a percentage of the revised discounted avoided cost would be 83% (\$320.24/\$384.28). In practice, however, the New York ceiling price was calculated as a percentage of a standard \$550/kW cap rather than requiring each contractor to calculate a discounted avoided cost separately.

In order to prepare a successful bid or, rather, to obtain the maximum number of points for the bid price, one would expect proposed measure packages to differ between the two states. There were only two notable differences in the bids. First, there were no residential or customer bids in New York. Second, the losing commercial/industrial projects bid in New York differed substantially from those in New Jersey. While the winning commercial/industrial projects for both states include comprehensive retrofit measure packages (lighting, controls, etc.), the two losing firms in New York proposed to install more expensive measures focused directly on peak reduction (thermal storage and HVAC retrofits). As discussed below, the range and the average bid price also varied between New York and New Jersey bids, as well as between winning and losing proposals in New York.

There are several possible explanations for the similarity of the winning commercial/industrial bids in the two states. For example, vendors may have bid high in New Jersey because the ceiling was higher, or they may have bid low in New York to assure that they would be selected. When asked, bidders indicated that they are likely to install different packages in the two states because their bids are so low in New York. New Jersey projects are expected to be more comprehensive or to require less additional investment by the building owner in order to achieve the same level of savings. This suggests a need for close examination of the measures that are actually installed. This will be an important focus of the Phase II evaluation.

A major concern of bidders was the difference in pricing methods between the states. These concerns arose because of uncertainty as to how the bids would be evaluated and the lack of direct comparison of supply and DSM bids within the New York program. As a result of these concerns, some potential bidders did not submit bids.

**Table 2. Ceiling Price Calculations**

Year	Savings (kWh)	Utility Avoided Cost	Bidder Price	PV Discount Factor	Bidder Discounted Price Savings	NJ		NY Revised Discounted Avoided Cost
						Discounted Avoided Cost	Lost Revenue	
1990	1,000	\$0.10	\$0.05	0.9009	\$45.05	\$90.09	\$0.04	\$54.05
1991	2,500	0.11	\$0.05	0.8116	101.45	223.19	0.05	121.74
1993	2,500	0.12	\$0.05	0.7312	91.40	219.36	0.06	109.68
1994	2,500	0.12	\$0.05	0.6587	82.34	197.61	0.06	98.81
Total				\$320.24	\$730.25			\$384.28

## Scoring System

A self-scoring system was required by the New Jersey BPU and agreed to by the New York PSC. Self-scoring systems are considered objective because the bid points are explicitly described in the RFP and each bidder ranks his own bid based on the stated criteria. In New York, O&R was also permitted to use a secondary "subjective" screening process.

There were 100 possible points in the self-scoring system. In both New York and New Jersey the bid price (summarized as "economic factors") accounted for 50 of the maximum 100 points. As a consequence, the bid price was the most important component in the scoring system. Although other factors may influence the ranking of supply bids, it is apparent from examining the bids that they do not adequately differentiate DSM proposals.

Table 3 presents a listing of bid scores for each factor. The mean scores for accepted and rejected bids in the two states can be readily compared. As the table shows, while the scores vary little for the viability and non-economic factors, the economic scores varied between states, and among winners and losers. These differences are due primarily to the different requirements for setting the bid price in each state. In addition, the different measure packages proposed by the winning and losing firms in New York led to variations in the bid prices.

New York policy makers had expected O&R to use secondary criteria to override such things as the lack of project diversity in accepted bids. It is difficult to establish an assessment procedure for such subjective criteria. As a consequence, the secondary review was mainly used to check the references and experience of the bidders.

The appeal of the objective scoring process is high. Other methods available for scoring proposals include subjective ranking processes and restricting bids to demand reduction measures. Options such as comparison to the utility's own programs (as practiced by Long Island Lighting Company and Niagara Mohawk), restricting the bids to specific sectors (Puget Power), or using measure-based ceiling prices (originally presented by O&R) have also been proposed.

## Customer Access

The contractor selection process in New York was also influenced by the use of franchising. This approach has previously been used in some programs to provide the contractor with a clearly identified market. This is attractive to contractors because it reduces their risk. It

**Table 3. Bid Ranking**

Location	Economic (55.0)	Viability (25.0)	Non- economic (20.0)	Total (100.0)
<b>Bids Accepted</b>				
New Jersey	37.0	18.0	20.0	75.0
New Jersey	31.0	23.0	20.0	74.0
New Jersey	26.7	18.0	20.0	64.7
New Jersey	23.8	16.0	20.0	59.8
New Jersey	16.6	12.0	20.0	48.6
Mean score NJ	27.0	17.4	20.0	67.0
New York	19.5	22.0	20.0	61.5
New York	18.5	20.0	20.0	58.5
New York	18.5	20.0	20.0	58.5
New York	13.5	20.0	20.0	53.5
New York	13.5	20.0	20.0	53.5
New York	11.5	20.0	20.0	51.5
Mean score NY	15.8	20.3	20.0	56.2
<b>Bids Not Accepted</b>				
New York	3.5	20.0	20.0	43.5
New York	3.5	20.0	20.0	43.5
New York	7.5	16.0	19.8	43.3
New York	7.5	16.0	19.8	43.3
Mean score NY	5.5	18.0	19.9	43.4
Mean score All	11.7	19.4	20.0	51.1

also appeals to utilities because it restricts customer contact to a limited set of contractors.

O&R established two franchise areas in its New York territory. Each franchise could have a maximum of three contractors. New Jersey would not permit franchising and no limit on the number of contractors was established.

The restrictions adopted in New York meant that only three bids would be accepted for each franchise. When the bids were opened and reviewed, two bids in each franchise area were ranked significantly lower (Table 3). Though these bidders offered to expand the types of measures available to customers, they could not be accepted based on the scoring system and franchise limitations.

Franchising effectively reduces the pool of vendor contractors marketing to utility customers. However, it is uncertain whether the utility, the customer, or the contractor is the primary beneficiary. A further concern with

franchising is the potential for a reduced number of vendors if one withdraws—indeed, one firm has already withdrawn from the New York process. This leaves two firms in each of the two franchise areas. As with the bid price, the benefits and drawbacks of this approach can only be determined during implementation. Therefore, Phase II will continue to examine this issue and assess whether participants do, in fact, benefit from limited contacts with contractors.

### Joint Criteria for Demand and Supply

An integrated bidding program has been described as one that “involves solicitation through the same RFP, use of the same ceiling price (typically avoided cost), and selection in the same evaluation process through application of identical evaluation and ranking criteria” (Ref. 1). The O&R solicitations professed to be integrated, in this sense, for both states. However, in our view, the New York program was not fully integrated. This disparity is reflected primarily in the attitude of potential bidders rather than their bids or the assessment process. All contractor firms associated with O&R’s bidding process commented on the lack of integration in the New York program. Most felt that the New Jersey program design was preferable. However, had O&R clearly indicated that the New York program had separate criteria for evaluating supply and DSM bids, this would have been acceptable to proposers.

Based on these findings, the New Jersey program fully integrated supply and DSM bidding. The evaluation found that bids for supply and demand were compared without restrictions on price or the number of firms selected. The New Jersey bidding program led to the selection of five firms offering a variety of measures and delivery options in the residential and commercial/industrial sectors.

By contrast, the New York program, though purporting to be integrated, was not. In examining the process, there was a clear interaction between three program requirements. The low ceiling price had a significant effect on bid price. As a consequence, bid prices were a greater percentage of the ceiling price, resulting in lower scores for New York projects. Franchising exacerbated

the effect by limiting the number of firms that could be selected; the two more expensive but more diverse offers could not be accepted. This resulted in fewer firms being selected to provide services in the New York territory, with each offering similar measure packages.

## Conclusions

Phase II of the evaluation will closely examine the actual implementation of projects by each of the successful contractors. Specific issues to be studied are the effect of bid price on measures installed and the effect of franchising on customer response to the program. Some preliminary conclusions, however, may be offered about the contractor response and selection process.

- Bidders and regulators have certain expectations for what an “integrated” program should be. Utilities may benefit by reflecting this in their proposals.
- The scoring process used by O&R did not differentiate DSM bids except on the basis of price. Other approaches such as additional scoring criteria or carefully considered secondary “subjective” rankings may offer a more useful means for differentiating projects.
- Franchising limits the number of bids accepted and may increase the probability that successful bids are similar to each other.

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