

## DSM Bidding — The Next Generation

*Early experience with DSM bidding suggests nonutility service providers can absorb substantial risk of performance, although bid prices are sometimes high. ESCOs and utilities are moving toward partnerships that make good use of the strengths of both groups.*

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With the advent of large-scale utility demand-side management (DSM) programs, there has been increasing controversy regarding the appropriate roles of utilities and energy service companies (ESCOs) in the design and implementation of these programs.<sup>1</sup> Widespread reliance on competitive bidding to acquire nonutility generation has meant that decisions regarding the relative merits of including demand-side resource providers in bidding solicitations for long-term contracts was often the focal point of this debate.<sup>2</sup>

A defining feature of DSM bidding programs is that they involve utility customers or ESCOs competing for long-term contracts

with utilities — of various ownership types, and located in many areas of the country — which specify amounts of DSM savings to be achieved by the contractor over a defined time period. However, there are significant differences among utilities on key program design and implementation issues. These issues include the method used to determine the appropriate ceiling price, bid evaluation methods, relative weights to assign to price and non-price factors, and specification of reasonable threshold and eligibility requirements.<sup>3</sup> In this article, we review current utility experience implementing demand-side bidding programs, describe market response by DSM bidders, and

discuss future prospects and possible roles for ESCOs in acquiring DSM resources.

### **I. Summary of Results: Market Response and Utility Selections**

As of November 1991, 56 utilities located in 26 states have issued 83 solicitations requesting over 21,000 MW of power. For the subset of utilities that have announced results, over 12,500 MW of supply-side projects and 265 MW of demand-side projects have been selected.<sup>4</sup>

In 20 states, bidding has been restricted to private power producers. Firms or customers that offer DSM options have been included as part of "all-sources" bidding solicitations of utilities in five states (Maine, New Jersey, New York, Washington, and Indiana), often at the behest of state regulatory commissions. In several states, utilities have also issued demand-side only RFPs or developed parallel but separate processes for supply-side and DSM resources. (See **Table 1** on page 36.)

In addition to bidding that is associated with the outcome of integrated resource planning processes, DSM bidding has occurred through utility performance contracting with ESCOs. Performance contracting programs typically select contractors based on qualifications and price. These arrangements were often designed to explore alternative delivery mechanisms for DSM programs.

DSM bidding programs have been shaped to a great extent by

the state regulatory environment, as well as prior experience of utilities in contracting with ESCOs and private power producers. Since its inception, we note these trends:

- **Independent power producers (IPPs) — not ESCOs — are the dominant players in "all-source" bidding RFPs.** Capacity offered by supply-side bidders ranges from three to 15 times that requested by utilities. With the exception of Central Maine Power and New York State Electric & Gas (NYSEG), utilities generally have selected supply projects representing about 90-125% of the

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utility's original resource block. However, individual supply-side projects typically have only a 5-15% chance of being selected, reflecting the large number of supply-side bids utilities have received.

- **DSM bidders have high selection rates.** The market response by DSM bidders has increased significantly in several of the most recent DSM bidding programs. In part, this has occurred because DSM bidders have a relatively good chance of selection: nearly 40% of DSM bids have

been successful on average, as compared with 9% of supply resource bids.

- **The energy services industry is maturing and new players are entering the market.** More DSM firms are bidding and more savings are being offered. New players include companies with expertise in the private power market, as well as increased participation by locally-based equipment vendors, contractors, and architectural/engineering firms. The number of bids submitted has ranged between 20-60 in response to recent RFPs issued by Public Service Colorado, Niagara Mohawk, Long Island Lighting Co., NYSEG, and Bonneville Power Administration. By contrast, in the 1987-89 period the number of DSM bids typically ranged between 8-15 for RFPs issued by utilities in Maine, New Jersey and Washington.

Reductions offered by DSM bidders in recent RFPs range from 80-160 MW, which often represents about 50-80% of the utility's requested need.

However, ESCOs are also being more selective, given the market opportunities. In 1990, Consolidated Edison received only four bids for 12 MW of demand reductions; ESCOs indicated that the utility's stringent threshold and eligibility requirements were onerous and posed barriers to their participation.

- **Contracted savings from DSM bidding typically represent a relatively small part (10%-15%) of a utility's overall DSM program.** This can be seen by

comparing the last column of Table 1, which shows the utility's current estimate of cumulative load reductions that will occur from existing or planned conservation and load management programs undertaken by utilities themselves during the same time frame that bidders must achieve their savings targets (i.e., 1994-1995). We believe that the rather small contribution of bidding programs to overall utility DSM goals is primarily attributable to four factors: (1) bidding programs are not appropriate for all market segments or program types;

(2) utilities are often skeptical and, in some cases, hostile towards DSM bidding; (3) the ESCO industry is still maturing, and; (4) ESCOs may be cautious, given risks associated with guaranteeing savings and their limited experience with DSM bidding.

At the same time, we are beginning to see utilities like Public Service Colorado and some small municipal utilities rely on DSM bidding as the *principal* mechanism to acquire DSM resources. Contracted demand reductions from DSM bidding represent the bulk of Public Service Colorado's

current DSM efforts; the utility is planning to issue another RFP for 50 MW in 1992.

• **Few utility customers participate directly in DSM bidding programs.** Most utilities have received only one to three small bids from customers, although there are a few exceptions (Public Service Colorado). Thus far, ESCOs have submitted the vast majority of bids.

## II. Economics of DSM Bidding Programs

We have collected information on DSM bidding program costs,

**Table 1: Summary of Utility DSM Bidding Programs**

Utility	RFP Issued	Am't Re- quested (MW)	DSM Projects		Supply Projects		C&LM Program Goal
			Proposed (MW)	Winning (MW)	Proposed (MW)	Winning (MW)	
<b>Integrated Auctions</b>							
CMP #1	12/87	100	36	17	666	0	65-105
CMP #2	5/89	150-300	30	9	2338	50	65-105
PSE&G	8/89	200	47	47	654	210	360
JCP&L	8/89	270	56	26	712	235	200
PSI Energy	12/88	550	78	10	1800	640	75
Puget Power	6/89	100	28	10	1251	127	100
ORU	6/89	100-150	29	18	1395	181	100
Niagara Mohawk	11/89	350	162	36	7115	405	350
Con Ed	2/90	200	11.9	10.5	2976	204	650
NYSEG	7/90	130	98	17	595	0	275
<b>Separate Auctions</b>							
LILCO	11/89	150/15 <sup>b</sup>	23	10	1750	132	450
RG&E	9/90	50/20	67	24	59	0	50
Cent Hud	11/90	50/20	40	NS	680	NS	175
PS Colorado	12/90	50	131	59	N/A	N/A	80
City of Anaheim	4/91 <sup>a</sup>	150	77	NS	3600	NS	60
Northern CA Power Authority	7/91	200	139	NS	9866	NS	
BPA	2/91	300	116	NS	5209	NS	41
<b>Performance Contracting (DSM only)</b>							
NEES	10/87	14	N/A	18.8			685
BECO	5/88	35	N/A	35			326
PEPCO	3/91	6	-	-			170

Notes: N/A = Not Applicable NS = not selected yet

<sup>a</sup> Separate RFPs issued for customers and ESCOs on demand-side at different times in 1991.

<sup>b</sup> Supply block/demand block

of which incentive payments to winning bidders are the major component. (See **Table 2** on page 38.) Data on other program costs are more speculative.

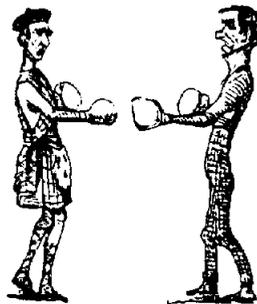
Few utilities have systematically collected data on customer contributions to the costs of installed measures (which would be included in the total resource cost test). In some cases this information was included in ESCO bids; for others, rough estimates of potential customer cost contributions were provided by program managers or ESCOs. Administrative costs vary significantly during different phases of a bidding program.

The availability and quality of program cost data are quite uneven. For example, in New Jersey signed contracts are filed with the commission, permitting fairly accurate calculation of levelized costs for winning bids. However, this is not yet the norm in other states. Some utility program managers were willing to divulge information on utility payments to winning DSM bidders in only the most general terms. For these utilities, we have estimated the likely range of utility payments. To provide some guidance on the relative confidence and uncertainties associated with utility payments to ESCOs and customer cost contributions, we have listed a confidence level (high, medium, or low) for each DSM bidding program.

We calculate levelized costs per kWh saved over the term of the contract using a common discount rate (11%) in order to pres-

ent program costs on a consistent basis among utilities. Average bid prices and economic lifetimes reported for each program represent a weighted-average based on kWh savings of individual contracts. For comparison, we calculated the utility's estimated avoided supply costs at the meter (accounting for transmission and distribution losses) over a comparable economic lifetime.

We also developed a rough breakdown of the *mix of DSM measures and market segments*, weighted by their contribution to savings. (See **Table 3**.)



The breakdown of measures in performance contracting programs of Bonneville Power Administration, Boston Edison, and New England Electric System (NEES) is based on estimates of actual installations. For more recent DSM bidding programs, the breakdown is inferred from signed contracts or estimates provided by program managers prior to installation, and so are not directly comparable because of differences in program implementation stages. In more recent DSM bidding programs, the largest cat-

egory is "commercial and industrial comprehensive," which includes programs where ESCOs have proposed to install multiple measures (e.g., lighting, HVAC, and motor efficiency options).

As actual installations occur in customer facilities, it will be important to determine the relative mix of low-cost (e.g., lighting) and high-cost (e.g., HVAC system) measures. Some ESCOs are focusing exclusively on certain types of measures (lighting, thermal storage) or specific markets (residential only), while customer bids tend to be for industrial process efficiency improvements.

In theory, we would expect the level of utility payments to DSM bidders to be affected by: (1) the allowed ceiling price for DSM bids (e.g., the utility's avoided supply cost or some lower value); (2) the relative cost and mix of DSM options because of the large variation in life cycle costs for various measures; (3) comprehensiveness of services being provided by bidders; (4) the degree to which performance risks and marketing and measurement costs are borne exclusively by the ESCOs; (5) flexibility in payment streams; and (6) the relative maturity of the energy services market and perceived competitors. We would also expect that levelized costs would increase for measures with longer economic lifetimes. In practice, it is difficult to make definitive judgments because of the relatively small sample of programs, uneven and inconsistent data, and the presence of con-

foundings factors. With those caveats in mind, we offer the following observations regarding the economics of DSM bidding programs:

- **Levelized costs range from 3-7¢/kWh among utility bidding programs.** Relative to avoided supply costs, most DSM bidding programs appear to be marginally cost-effective from a total resource perspective. However, in some states, regulators should be concerned about overall cost effectiveness because of limited data and uncertainties associated with utility administrative costs and customer contributions. Ceiling price levels probably have the largest impact on bid price because they define an upper bound on DSM costs. In a practical sense, they can significantly affect the mix of measures bid or services offered by ESCOs.

- **Evidence suggests that prices of winning bidders are coming down over time.** Payments to ESCOs are somewhat lower in re-

cent bidding programs compared to early performance contracting programs. Central Maine Power, which has the most experience with DSM bidding in its Power Partners Program, reported lower winning bid prices in its *second* RFP (4.8¢ vs. 3.4¢/kWh). In contrast to RFP #1, CMP did not provide information on its ceiling price in RFP #2, but this is just one of the confounding factors.

- **ESCO bid prices are influenced by flexibility in contractual terms (particularly payment streams) and degree of performance risk.** In its Performance Contracting Program, New England Electric System (NEES) made one-time up-front payments to ESCOs upon verification of installation. Payments were based exclusively on engineering estimates of savings. The company did not post a DSM ceiling price and levelized costs of utility payments to ESCOs ranged between 2.5 to 4.8¢/kWh, depending upon assumptions related to

the load factor and economic lifetime of measures.

More recent DSM bidding programs (in New Jersey, Maine, and New York) strongly encouraged payments over time which are linked to the ESCO demonstrating that savings have actually occurred. This increased performance risk, as well as associated monitoring costs (which are often part of the ESCO's bid), appear to be reflected in higher bid prices (4-7¢/kWh).

- **An important benefit of DSM bidding is risk-shifting. It is inappropriate to compare costs of DSM bidding programs with most conventional utility-sponsored rebate programs.**

Winning bidders typically bear substantially greater performance risk compared to most utility DSM programs. In return for a fixed price payment, winning bidders often agree to maintain and guarantee a specified level of savings either in aggregate or at each host facility. Thus, the bidder is

**Table 2: Economics of DSM Bidding Programs**

Utility	Utility Payment (¢/kWh)	Customer Payment (¢/kWh)	Avoided Supply Cost (¢/kWh)	DSM Ceiling Price (¢/kWh)	Economic Lifetime (yrs.)	Confidence Level
<b>Performance Contracting</b>						
BPA	6.8	NA	NA		7-18	High
BECO	5.3	NA	7.8		10	High
NEES	2.5-4.8	NA	4.5-4.9*		3-7	Low
<b>DSM Bidding</b>						
CMP #1	4.8	0.6	6.7		12	High
ORU (NJ)	6.5	NA	7.6		15	High
JCP&L	5.7	1.6	7.2		13	High
PSE&G	6.0-6.7	NA	7.1		NA	Low
CMP #2	3.4	0.5	6.6*		15	Medium
Puget Power	2.7-4.7	NA	5.8-6.6	4.6-5.4	10	Low

NA = Not Available \*Ceiling price not posted in the RFP

responsible to guarantee persistence of estimated savings; this obligation is not typically present in utility rebate or loan programs.

ESCO bid prices typically reflect and internalize measurement/verification costs and, in some cases, expected operations and maintenance over the measures' expected lifetime. We will be in a better position to assess the relative value and cost of DSM bidding programs as resource options as ESCOs produce and are paid for verified, metered savings and as long-term impact evaluations become a routine component of other utility-sponsored programs.

### III. Lessons Learned

Our views on lessons learned in design and implementation of DSM bidding programs are structured to follow the actual sequence of choices that utilities and regulators face with respect to program design: type of auction approach, overall objectives,

and bid evaluation and selection criteria.

#### A. Separate solicitations for DSM and supply-side resources are preferable, given inherent differences in resource characteristics and market structure.

Integrated, all-source bidding is theoretically appealing because it appears to provide an acquisition framework which is consistent with IRP objectives of evaluating all resource options in a consistent framework. However, we believe that the search for the "level playing field" has been largely a detour and that it is not particularly useful to structure competitive bidding processes under the assumption that "negawatts = megawatts."

There is a strong tendency in all-source bidding RFPs to view ESCOs as "QF-equivalents" and to structure scoring systems and contracts so that DSM resources are evaluated and treated like

mini-power plants. We believe this approach is counterproductive and that it generally leads to bidding systems that are sub-optimal — particularly DSM resources — because it fails to recognize fundamental differences between these options.<sup>5</sup>

*First*, the market for energy efficiency is ultimately a retail market, while the competition for private power contracts is a wholesale market. *Second*, provision of "saved energy" typically involves a complex relationship among customers, the ESCO, and the utility; the output of demand-side resources can never be measured with the same degree of certainty as supply-side resources. *Third*, within a particular demand-side market and/or end use, individual bidders and the utility's own programs are all "mining" the same resource, which means that, unlike the supply-side, DSM bidding must be coordinated explicitly with other utility programs. Given this situation, utili-

Table 3: Estimated Distribution of Measures

Utility	Ind. Process	Ind. Motors	C/I Lighting	C/I Comprehensive	Gen'l Comm'l HVAC	HVAC Control	Thermal Storage	Resid
<b>Performance Contracting</b>								
BPA			73%		15%	9%		
BECO			70%					
NEES		10%	80%			10%		
<b>DSM Bidding</b>								
CMP #1	14%		7%	62%				19%
ORU (NJ)			50%	50%				
JCP&L			20%	31%			47%	
PSE&G		5%	59%		8%		27%	
CMP #2	2%			98%				
Puget Power			11%	89%				

NA = Not Available \* Ceiling price not posted in the RFP.

ties have experimented with such creative solutions as targeted solicitations seeking third party firms to deliver DSM resources to various market or geographic segments, or even franchising arrangements between ESCOs and utilities.

These differences argue for procurement processes that are specifically tailored to evaluate the attributes and distinctive features of each resource. Integrated, "all-source" bidding processes such as that utilized by Central Maine Power can be made to work, but we would argue that the distinctive feature of CMP's approach is not its integrated auction but rather the discretion and flexibility retained by the utility in bid evaluation and selection and CMP's emphasis on extensive negotiations with a short list of bidders.

**B. "Partnership" or "replacement" bidding?  
Policy objectives should be linked with program design.**

Another lesson that emerges from the first generation of DSM bidding programs is that potential role(s) of ESCOs need first to be more explicitly discussed with respect to DSM program policy goals<sup>6</sup> and then reflected in program design. Conceptually, "partnership" and "replacement" bidding represent alternative approaches to link policy choices regarding the role of ESCOs to program objectives listed at note 6.

"Partnership" bidding represents opportunities for ESCOs to extend the type of activities of-

fered, including provision of "saved energy" or comprehensive delivery of energy services under performance contracting arrangements.<sup>7</sup> In "partnership" bidding programs, there is explicit recognition that utility and ESCO activities are complementary, that a high degree of coordination is required, and that the ESCO in effect acts as a agent for the utility in its DSM activities.<sup>8</sup>

Under partnership, the principal aspect of competition is among ESCOs and occurs in the selection phase. Ironically, it might be eas-



ier to develop partnership bidding in situations where utilities conduct few of their own DSM programs or their offerings are not comprehensive across all customer classes or market segments. For example, DSM bidding programs conducted by Public Service Colorado and Public Service Indiana have these characteristics.

In "replacement bidding," ESCOs are given an opportunity to replace a specific activity that has been defined in the planning process and compete against the

relevant entity. A distinctive feature of "replacement bidding" type programs is that ESCOs become the demand-side equivalent of independent power producers on the supply-side. In DSM-only replacement bidding programs, ESCOs would compete against a planned utility DSM program or set of programs. In this type of solicitation, a primary objective is to have ESCO bids provide a "price check" compared to the utility's estimated DSM costs after quantity goals had been set in the planning process.<sup>9</sup> An example of this type of program is Madison Gas & Electric's Competition Pilot Program. DSM-only replacement bidding programs have been viewed primarily as a policy option (mainly "stick") available to regulators for motivating utilities that are performing poorly in the DSM area. However, this type of DSM-only replacement bidding could be formalized with planned utility DSM programs being put out for bid on a regular basis; this idea is under consideration in California.

Utilities in New York, Maine, and New Jersey have conducted "replacement bidding" programs in which ESCOs compete alongside independent power producers (IPPs) to displace some or all of a planned utility supply-side project. One goal in this type of bidding program is to determine if ESCOs can provide DSM resources at a lower cost than IPPs or planned utility supply-side additions. The utility is typically placed in the position of deciding if ESCO bids would adversely af-

fect planned utility DSM programs.

In most situations, we believe that "partnership bidding" types of programs are the preferred approach, given the relative immaturity of the ESCO industry and the difficulties of structuring effective competitions between ESCOs and utilities. Most parties involved with DSM bidding would agree that much more experimentation is needed to determine the most effective way to utilize ESCO capabilities. However, the viability of ESCO/utility partnership arrangements hinges on the utility's ability to resolve satisfactorily potentially thorny "market share" conflicts at the planning and/or implementation stage.

**S**tate regulators have significant responsibilities in this area. At a minimum, they should ensure that utility management does not have a financial incentive to pursue utility-sponsored

DSM programs at the expense of third-party delivered programs. In addition, in states where utilities are required to conduct comprehensive, full-scale DSM programs, we expect regulators will increasingly be required to provide explicit policy guidance on the role of third parties in delivering DSM.

**C. Bid evaluation criteria need to reflect the buyer's preferences explicitly, but this can be accomplished without relying on self-scoring systems.**

Several losing bidders have filed formal complaints with regulators in several utility bidding programs protesting lack of fairness in the utility's bid selection process.<sup>10</sup> It is tempting for regulators to conclude that implementation problems in bid evaluation and scoring systems can be reduced by forcing the utility to disclose its valuation of all attributes

to bidders in the RFP. Bidders then self-score their projects, assigning points in various categories based on characteristics of their project. The utility then verifies scores and bidder representations and selects winners based on a ranking of scores. This type of process is relatively transparent and open to bidders. However, the inherent limitations to self-scoring systems include their inability to handle interactive effects among projects, and the simplifying assumption that all attributes are independent.<sup>11</sup>

Most utilities favor bid selection and evaluation processes that allow them more discretion and flexibility than self-scoring systems in selecting the optimal mix of projects.<sup>12</sup> Utilities argue that a flexible approach is better suited to evaluating DSM projects which require consideration of various economic perspectives and thorny implementation issues



*DSM futures at the Chicago Board of Trade.*

that inevitably arise in the side-by-side operation of utility DSM and DSM bidding programs.

The most important element of a scoring system is that the buyer's preferences are explicitly communicated in the RFP and that the relative valuations of major criteria are reasonable and fairly reflect the true value of various attributes to the utility. However, this can be accomplished without self-scoring.

In our view, bid evaluation criteria should emphasize (1) reasonable bid price (relative to costs of measures, and value provided in terms of services offered and risk-bearing), (2) qualifications, experience, and technical competence of firms, (3) measurement and verification of savings with payments linked to performance, (4) encouragement of comprehensive retrofits at host facilities, and (5) market research and program design that demonstrates knowledge of targeted customers and strategy

to facilitate customer acceptance (e.g., types of financing, letters of intent or signed commitments).

#### IV. Future Prospects

Table 4 describes the three "generations" of DSM bidding we have witnessed — the past, present and future of DSM bidding.

Decisions by regulators to allow utilities to conduct separate bidding processes for supply-side resources could help shape the next generation of DSM bidding programs. On the demand-side, this will allow utilities with large DSM programs to address more realistically complex issues related to side-by-side coordination of utility and third-party DSM programs. We expect utilities in these states will experiment with different approaches to involve ESCOs, including more targeted and narrowly focused solicitations (perhaps focusing on specific market niches or sectors) to provide saved energy or services.

A crucial policy issue that remains is to what extent utility DSM planners are allowed to define and shape the roles and types of services provided by entities in the energy services market (e.g., ESCOs, vendors, contractors, equipment manufacturers, trade allies) that are involved in delivery of the utility's DSM programs. Will some type of regulatory oversight be needed to ensure that the energy services market stimulated by utility-sponsored DSM programs is developing under conditions of fair, efficient, and properly structured competition?<sup>13</sup>

The prospects and challenges for DSM bidding will be quite different for utilities that have had little experience implementing their own DSM programs. Ironically, these utilities may find it easier to issue and administer broad RFPs that seek energy savings proposals from customers or ESCOs, because coordination with their

**Table 4:** Evolution and Future Prospects of DSM Bidding

	Program Evolution	Period	Context & Distinguishing Features
1st Generation	Performance Contracting	1985-90	<ul style="list-style-type: none"> <li>• Explore alternative delivery mechanisms (ESCOs) for DSM</li> </ul>
2nd Generation	Integrated "All-Source" Bidding	1987-Present	<ul style="list-style-type: none"> <li>• Regulatory driven; search for the "level playing field"</li> <li>• Reform of PURPA</li> <li>• Application of IRP principals to resource acquisition process</li> </ul>
	DSM Bidding to Jump-start DSM	1990-Present	<ul style="list-style-type: none"> <li>• Utility-initiated; piggyback on ESCO experience</li> <li>• Separate DSM auctions</li> </ul>
3rd Generation	"Targeted" DSM Bidding	Future	<ul style="list-style-type: none"> <li>• Utility/ESCO partnerships</li> <li>• Define ESCO market niches &amp; roles</li> </ul>
	RFPs for DSM Savings		<ul style="list-style-type: none"> <li>• Utility-initiated</li> <li>• For utilities that are inexperienced with DSM or smaller</li> </ul>
	"DSM-only Replacement Bidding"		<ul style="list-style-type: none"> <li>• Explicit utility-ESCO competition</li> <li>• Regulatory driven</li> <li>• Objective: use ESCOs and competition to lower costs of utility-delivered DSM</li> </ul>

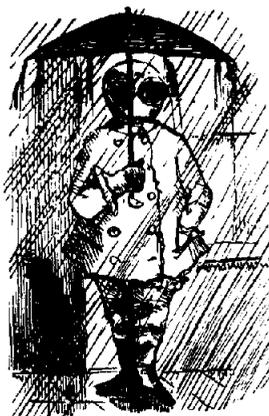
own programs will not be a major problem.

We expect reliance on ESCOs to deliver DSM through bidding programs may prove to be an attractive approach in specific situations, especially for smaller utilities, those that decide provision of DSM services is not part of their core business, or those that decide it is simply more efficient to look to third parties to provide most of these services. DSM bidding or performance contracting programs may become institutionalized in these situations. However, because bidding programs are relatively complex to design and administer, inexperienced utilities should proceed with caution.

Over time we expect that the attention of some regulators will shift from ensuring that DSM programs are cost-effective and capable of producing reliable long-term savings to ensuring that these programs are being delivered in an optimal fashion. As these newer concerns are raised, we would expect to see more experimentation with demand-side only replacement bidding programs, focusing on explicit price competitions between utilities and nonutility DSM firms. Based on the limited experience to date, these types of structured competitions will require significant regulatory oversight. The challenge, as always, will be to clearly articulate objectives, weigh anticipated benefits to ratepayers, and structure the competition to ensure that it is beneficial and not destructive. ■

#### Endnotes

1. W.H. Wellford, *Fair Competition for DSM Services*, ELEC. J., Dec. 1991 at 52.
2. R. Cavanagh, *The Role of Conservation Resources in Competitive Bidding Systems for Electricity Supply*, Testimony before House Energy and Commerce Committee's Subcommittee on Energy and Power, Mar. 1988.
3. W.J. Cole, D.R. Wolcott, and M.J. Weedall, *Competitive Bidding of Demand Side Management*, in PROCEEDINGS OF THE ACEEE 1988 SUMMER STUDY ON ENERGY EFFICIENCY IN BUILDINGS, Vol. 6., 1988; C. Goldman and D. Wolcott, *DSM Bidding: Assessing Current Experience*, PROCEEDINGS OF THE



ACEEE 1990 SUMMER STUDY ON ENERGY EFFICIENCY IN BUILDINGS, Vol. 6., 1990.

4. Robertson's Current Competition, Dec. 1991.
5. E. KAHN AND C. GOLDMAN, *ROLE OF COMPETITIVE FORCES IN INTEGRATED RESOURCE PLANNING* (Lawrence Berkeley Laboratory, LBL-30982 Oct. 1991).
6. Policy goals often embraced by proponents of DSM bidding (and sometimes by regulators) include these: (1) experiment with alternative delivery mechanisms compared to conventional utility-operated DSM programs; (2) promote development of an "infant" energy services industry; (3) encourage performance-based DSM programs in which DSM savings are

guaranteed and maintained over the long-term; and (4) provide a competitive benchmark to help assess utility performance in terms of program cost, cost-effectiveness, and/or development of DSM market potential.

7. D. Schultz, *Alternative Bidding Paradigms for Integrating Demand and Supply-Side Resources*, Unsolicited Working Paper prepared for the California Demand-Side Bidding Advisory Committee, Oct. 11, 1991.

8. Typically, "partnership bidding" approaches will emphasize the first three program objectives rather than the fourth objective (i.e., yardstick cost function on the utility).

9. Schultz, *supra* note 7.

10. N. Y. Pub. Serv. Comm'n, *Order Denying Petition of Enersave and EUA Cogenex for a Declaratory Ruling with regard to the Commission's guidelines for bidding to meet the future electric capacity needs of the Niagara Mohawk Power Corporation*, Case 90-E-1189, Mar. 15, 1991; N. Y. Pub. Serv. Comm'n, *Notice Requesting Comments on complaint of Northeast Energy Services against New York State Electric and Gas*, Case 91-E-082, Nov. 6, 1991.

11. See E. Kahn and C. Goldman, *Alternate Approaches to Competitive Bidding*, ELEC. J., Mar. 1990 at 28.

12. In more "closed" systems, the utility may reveal project selection criteria in qualitative terms only, although some utilities may provide an indication of the relative importance of various attributes. The utility thus possesses information about the evaluation process that is not available to bidders at the time they prepare their bid.

13. For some utilities, implementation of the DSM bidding in integrated bidding programs (favored by regulators) may collide with its own DSM programs, especially where regulators require utilities to develop their own comprehensive DSM programs and at the same time adopted ratemaking mechanisms that address utility DSM incentives.