The Electricity Journal 31 (2018) 1–9

Contents lists available at ScienceDirect

The Electricity Journal

journal homepage: www.elsevier.com/locate/tej

All-source bidding: Extending integrated competition to utility resource procurement

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ARTICLE INFO

Keywords:
Utility procurement
All Source Bidding
Solicitation
Integrated resource planning
Distributed energy resources
Non wires alternatives
Energy efficiency
Demand response
Least cost planning

ABSTRACT

When facing a resource need, utilities should use all-source bidding to help identify the highest value resources to procure. By soliciting proposals from suppliers across all resource options, the utility applies to procurement the same important principles that guide integrated resource planning. All-source bidding is not new, but many utilities have not used it. This article explains how all-source bidding works, describes the benefits, and offers practical recommendations for utilities and utility regulators.

1. Introduction

Thanks to new technologies and innovation, electric utilities have an unprecedented array of options when they need power resources. To illustrate, consider a common scenario: New construction of offices and apartments in a city's downtown area creates a resource need for the utility. Power usage in the area at peak times is expected in a few years to exceed the amount of power available to reliably serve the area. A traditionally regulated utility has more resource options today than ever before to fulfill its obligation to serve its customers:

- The utility could increase energy efficiency in homes and buildings, such as by offering incentives to owners to install high-efficiency air conditioners, add insulation, or weatherize windows. These measures reduce electric load, thereby freeing up existing power resources to fulfill new power needs.
- In some locations, solar power could deliver added electricity to the system at very low cost. The cost of making solar panels has declined by over 75% in the past 10 years.
- The utility could offer building owners in the constrained area incentives to reduce usage at times of peak use, a program called demand response.
- Wind power is available to many utilities often at low cost due to advances in technology and development of transmission lines to areas with great wind resources.
- Battery storage is one of the most promising new technologies. Batteries can store electricity during times when it is cheap to produce, such as from solar facilities during daytime, for use at peak times. The cost of storage has declined rapidly and batteries can provide a utility with other valuable grid services.
- Utilities have new data analytics tools to help deploy resources in specific locations and at specific times when and where a resource is most valued. This is a force-multiplier for demand-side management and distributed generation.
- Of course, utilities have conventional power supply options. Some utilities could develop projects such as gas-fired power plants or hydropower, while others may buy more power from competitive suppliers. More power supply may necessitate distribution and transmission projects.

But innovation in utility resources has outpaced innovation in utility regulation in many states.

This paper is about a mechanism called "all-source bidding" that utilities and utility regulators should use to help navigate resource procurement in this new era. Using all-source bidding, a utility solicits competitive proposals from companies in the market for plausible ways to address all or part of a resource need, looking across the full range of resource alternatives: power supply, demand-side management, energy storage facilities, and the like.

All-source bidding offers many benefits in comparison to the

The author thanks Ralph Cavanagh, Jackson Morris, and Miles Farmer at NRDC for their support and comments on this material. They are not responsible for any errors in this document, which was revised by me after receiving their comments.

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https://doi.org/10.1016/j.tej.2018.04.007

traditional procurement process, which is still used by many utilities. Traditionally, a utility selects a resource to procure based upon its own evaluation of options. The utility will typically provide assurances to its regulator that the selected resource is a reasonable and prudent investment and that alternatives have been evaluated. The utility's decision may be subject to intervenor challenges about lower-cost alternatives, but such adversarial proceedings are costly for all stakeholders.

Traditional procurement is a relic from the era when electric utilities were expected to simply develop another power plant and distribution facilities when resource needs were anticipated.[1] Some states have implemented requirements for utilities to obtain competitive proposals, but only for the resource the utility has selected.

All-source bidding offers many benefits. By using it, the utility and all stakeholders will identify when more cost-effective options, such as energy efficiency, are available. It should make the resource selection decision more accurate with market-current proposals. It should make resource decisions more transparent by documenting how alternatives stack-up and showing the complexity of certain resource selection decisions.

Using it should foster innovation by giving new companies an opportunity to propose solutions to utilities. For many smaller companies with new products and services the cost of sales efforts to reach procurement teams at large utilities across the country is substantial and a barrier to growth.[2]

All-source bidding is not a new idea. It has been described in several papers going back at least 25 years.[3] It is also a modest idea. It simply extends to procurement the principles of competition among resource alternatives and transparency that have been widely embraced by utilities and their regulators for purposes of long-term resource planning.[4] Yet it regrettably has not been implemented by many of the nation's utilities.

All-source bidding can be used by utilities of different structures and in states with different regulatory models to assess the resource options available. It offers the greatest promise for utilities responsible for resource adequacy. Many of the largest utilities in the country are good candidates to employ all-source bidding to assess what resources to procure.

Applying principles of competition to the highly planned utility system promises significant benefits and raises challenges that require careful consideration and oversight in implementation. This paper reviews how utilities and utility regulators can use all-source bidding as part of the resource procurement process and describes several recent uses. Safeguards are discussed, including on the important question of whether a utility may bid its own assets or efficiency services in a solicitation. I conclude by summarizing practical recommendations for utilities and utility regulators to consider when implementing all-source bidding.

2. What is all-source bidding?

To fulfill their obligation to serve their customers with safe and reliable power, traditional electric utilities must continuously monitor the resources they will need over a long time horizon. This planning process is geared to identify potential resource needs. Once a resource need is identified, all-source bidding is a tool to identify resource alternatives.

All-source bidding begins with a solicitation published by the procuring utility inviting prospective vendors to submit proposals. The solicitation should describe the utility's resource need with sufficient detail to enable prospective vendors to propose creative solutions. It should contemplate prospective suppliers proposing conventional power supply, demand-side resources, and new technologies in any quantity, expecting the utility might opt to aggregate multiple solutions to address the resource need.

The solicitation should request prospective suppliers identify how its products or services would contribute to addressing the resource need, provide indications of cost, and other information requested by the procuring utility.[5]

An all source solicitation should generally describe the evaluation criteria the utility expects to use to select resources to procure.[6]

An all source solicitation can take the form of an informal request for information (RFI), which asks for indicative pricing or pricing ranges. This is a way for the utility to make an initial evaluation of resource options in a quick manner. Responses to the RFI may give the utility information that allows for one or more subsequent solicitations for specific resource types.

A solicitation could be a more formal request for proposals (RFP) if the procuring utility is in a position to define the resource need with sufficient detail and give prospective bidders assurances needed to submit firm offers. An RFP typically indicates the issuer is prepared to make a procurement decision based on submitted offers. An RFP could carry confidentiality obligations and other requirements related to submissions under applicable procurement rules.

All-source bidding is distinct from competitive procurement used by many utilities. Competitive procurement refers to a utility soliciting bids from prospective suppliers for a particular resource type, such as proposals to develop a power plant, or contracts to provide power supply, or bids from prospective suppliers for energy efficiency programs.[7]

If a utility uses competitive procurement to solicit bids for, say, 250 MW of power supply, it obtains some confidence that terms for that specific resource are market and disciplined by competition. But it does not address the fundamental question of whether 250 MW of additional power supply is the optimal resource for the utility and the best use of funds as compared to alternatives.[8]

While competitive procurement is useful in seeking bids for a specific resource type, all-source bidding informs the threshold decision of what resources to procure.

[1] See Frank Graves, James Read, and Joseph Wharton, *Resource Planning and Procurement In Evolving Electricity Markets*, Brattle Group prepared for Edison Electric Institute (2004). The authors write: "Twenty-five years ago the supply planning problem for electric utilities primarily entailed two major challenges: load forecasting and least-cost generation expansion planning for power plants that would be built, owned and operated by the utility." (at pg 6).

[2] For discussion of the challenges faced by "cleantech" companies, see Gaddy, Sivaram, O'Sulivan, *Venture Capital and Cleantech: The Wrong Model for Clean Energy Innovation*, Working Paper of MIT Energy Initiative, July 2016 (located on the MIT website at www.mit.edu).

[3] See e.g., Goldman and Hirst, *Key Issues in developing Demand Side Bidding Programs*, Lawrence Berkeley Laboratory, LBL-27748 (1989); Goldman and Kito, *Review of Demand-Side Bidding Programs: Impacts, Costs, and Cost-Effectiveness*, Lawrence Berkeley Laboratory, LBL-35021 (1994); and, *Reinventing Competitive Procurement of Electricity Resources*, Ralph Cavanagh, published on ElectricityPolicy.com (Sept. 2010).

[4] See Ralph Cavanagh, *Least Cost Planning Imperatives for Electric Utilities and their Regulators*, Harvard Env. Law Rev. Vol. 10 No. 2 (1986); and, Alexandre Makler, Steven Schleimer, *Preserving the Benefits of Competition through Effective Competitive Bidding Rules for Utility Resource Procurement*, Electricity Journal, Vol. 16., No. 6 (2003).

[5] For a recent example see the solicitation issued by El Paso Electric Co., *2017 All Source Request for Proposals for Electric Power Supply and Load Management Resources*, June 30, 2017 (located at www.epelectric.com).

[6] For a recent example, see Consolidated Edison's evaluation criteria in their presentation "*Non-Wires Solutions Webinar*," November 2017, located on the ConEd website www.coned.com.

[7] See Tierney and Schatzki, *Competitive Procurement of Retail Electricity Supply: Recent Trends in State Policies and Utility Practices*, Analysis Group (July 2008). For a discussion of demand-side procurement, see Eric Belliveau, et al., *Yet Another Look at Demand-Side Bidding: Long Island Power Authority's 75-Megawatt Efficiency RFP*, ACEEE Proceedings (2004). For an example of state requirements to use competitive procurement, see Arizona Admin. Code, § R14-2-705.

[8] Competitive procurement by distribution utilities is not to be confused with the competitive procurement used by system operators in wholesale electricity markets. See *Resource Investment in Competitive Markets*, a Report of the PJM Interconnection, May 2016. (Located on the PJM website www.pjm.com).