

PENN STATE FACILITIES ENGINEERING INSTITUTE

AE Newsletter - Fall/Winter 2001

PSFEI AIDS AGENCIES IN THE USE OF ELECTRONIC TECHNOLOGIES TO PROCURE RETAIL ENERGY SUPPLY

The Penn State Facilities Engineering Institute has provided the Bureau of Purchases of the Commonwealth of Pennsylvania with a paperless process to procure the retail supply of electric and natural gas. The process of issuing a bid document that incorporates account information and the receipt of and analysis of supplier price quote submissions is now performed electronically. Most procurement agents have had limited experience with energy markets; therefore, an efficient method to seek price competitive supply of energy commodities for hundreds of accounts was lacking. The quantity of historical account data and the suppliers' various price and supply term proposals have challenge most procurement departments. Furthermore, where public funds and large energy volumes are involved, a defensible decision process is necessary that seeks to maximize potential cost savings. The described best value method used by the Bureau of Purchases seeks these objectives.

Background

Pennsylvania became the second state after California to offer a deregulated retail electricity and natural gas market with the introduction of an electricity pilot program in January 1998. As additional retail accounts were phased-in, Commonwealth agencies with large electric and natural gas needs anticipated the opportunity to avoid significant energy costs. The Department of General Services needed a process to procure the competitive supply of energy for many facilities across the Commonwealth. However, the traditional "shopping" procedures used by the Bureau of Purchases have proven to be insufficient to meet the volatile prices of the dynamic energy markets. Significant challenges facing the traditional process included prolonged contracting timelines, ever-changing supplier organizations in a maturing industry, inconsistent pricing options, and differing supply terms.

A two-step procurement process was implemented to remedy these issues. The Bureau of Purchases occasionally opens an Invitation To Qualify (ITQ) to the market suppliers wishing to provide retail energy to Pennsylvania government facilities. This qualifying process is a zero-dollar contract between reputable suppliers and the Commonwealth. Once a supplier meets and agrees to the requirements of the Commonwealth's contract, they become a "qualified energy provider." Next, monthly usage data for those accounts to be shopped are given to the qualified suppliers through a Request For Quote (RFQ). Suppliers get several weeks to review these data and determine a pricing strategy. Those interested in participating must respond on a pre-determined date with their price and term length quotations. The submission that provides the most favorable price and term length combination, not the lowest price, is selected for award. To complete the energy shopping process, an agency simply issues a field purchase order to the qualified supplier providing this "best value" quotation.

To assure that a credible decision is made, the "best value" analysis had taken several days when many accounts were involved. However, energy market prices tend to fluctuate daily. To protect themselves against price volatility, suppliers will include a slight increase in their quoted prices when required to hold them for a number of days. An example of daily electricity price fluctuation is illustrated in Fig. 1.

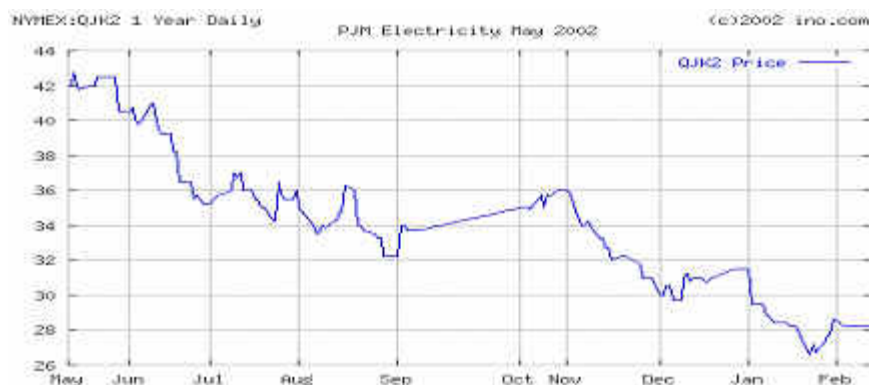


Figure 1 PJM Electricity Futures: May 2002 (\$/MWhr), © 2002 INO.com, Inc.

Quick Calculation of the Best Value

An analysis process to determine the best value in near real-time was needed to eliminate the daily price volatility risk premium assigned by the suppliers. PSFEI has developed such a method that provides this capability by using the electronic capabilities that the Bureau of Purchases maintain. The methodology incorporates a standardized price submission spreadsheet, an electronic bid-box, and a best value analysis spreadsheet.

The standardized price submission spreadsheet allows suppliers to offer several pricing strategies while maintaining consistency from supplier to supplier in the presentation of their quotes. Pricing strategies include fixed and indexed offers with varying supply term lengths. The standardized presentation allows price quotes to be transferred electronically into the analysis spreadsheet. At the time of quote opening, each of the price submission files are queried, and the offers are immediately available to the analysis spreadsheet.

The methodology used to evaluate the supplier's offers is founded on a common-life, net present value analysis approach. Price quotes with differing supply terms are contrasted against one another by indexing each of them against future price expectations for the energy commodity being purchased. Future pricing expectations are available on the New York Mercantile Exchange (NYMEX) web page. The most current NYMEX prices are obtained by the analysis spreadsheet through a web-based data query. This process has passed the scrutiny of the Commonwealth's Office of the Treasurer and provides a means for quick evaluation. Within a matter of seconds, the least costly, net present value pricing is determined and the recommended awarding scenario is known.

The risk premium issue can essentially be eliminated by giving suppliers the ability to submit price quotes in the morning and commit to wholesale energy purchases that same day. To do this, the suppliers must know within hours if they provided a selected, best value price quote. PSFEI worked with the Bureau of Purchases' IT department to establish an electronic bid-box. This is a secure email address whose access is locked until the time of the bid opening. Within minutes of the bid closing, qualified suppliers may send price quotes to this email address using the standardized price submission spreadsheet. This allows suppliers to provide the best possible, market responsive pricing. Within an hour, suppliers with successful price quotes may begin to receive award notifications and by the end of the day, start to receive faxed field purchase orders.

Commonwealth agencies have saved nearly \$2 Million dollars in energy purchases using this process. Further savings are anticipated for the 2002 calendar year as additional energy purchases are scheduled for this spring. Taxpayers of Pennsylvania should be pleased with these results.

Larry F. Myers, P.E., MBA, Coordinator, Information Systems

Mr. Myers has studied energy markets and develops application specific solutions for PSFEI's customers.

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