

Power Purchasing Pitfalls: Don't Be Fooled Again

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ABSTRACT

Retail power markets offer many opportunities to energy buyers, but the procurement process may present pitfalls. While most power suppliers are honest, a few are less so, as are some brokers and at least a few consultants. Troubleshooting the process and the contract before signing it could avoid problems and save a bundle. Doing so may also help a customer avoid later feeling like he's been "had." Understanding and reviewing some of those potential pitfalls is the first step to buying like a professional. Training and certification are both available, as are fee-based services, to handle power procurement.

INTRODUCTION

Based on 14 years of experience with retail power procurement, some lessons become clear: understand the underlying market forces, be aware of how deals are done, and read the contract before signing it. But that's not enough for customers to ensure getting the best available power pricing; a variety of techniques, caveats, and tasks are also worth pursuing to that end. Several studies and experiments performed by the author have revealed ways to trim costs and/or find additional savings. With a little effort—and perhaps the assistance of a competent specialist—many have secured lower pricing than they could have secured on their own. The following is not an exhaustive discussion. Power

customers are advised to involve a procurement professional (and, with regard to contracts, a licensed attorney) in at least their first power purchase.

WHO IS DOING THE DEAL?

Retail power pricing may be obtained in several ways. A customer may call several power suppliers directly or choose to use a specialist to handle the task. Specialists come in two flavors:

- A *consultant* is paid directly by a customer as a fee-only advisor and receives a known fee from the customer for setting up the deal, but the consultant makes no money off the actual transaction. The fee is paid in whole or in parts, as defined in the consultant's contract with the customer. It is typically fully paid shortly after the deal is done.
- A *broker* gets a fee on a monthly or quarterly basis from the winning supplier, and it is proportional to the kilowatt hours (kWh) actually taken by the customer during a contract's term. That fee is included in the price offered by the supplier to the customer. If the customer goes out of business, or reduces power consumption, the broker's monthly fee may thus be eliminated or reduced.

Experience has shown that using a specialist generally secures the best pricing. It should be understood that each type of specialist has a built-in agenda that may or may not be exactly the same as that of the customer.

A broker, for example, may urge a customer to take a multi-year deal, even if doing so is not in the customer's best interest, as the longer the term of the deal, the more kWh bought, and thus the greater the broker's total fee. A broker may also steer a customer to suppliers with whom the broker has existing arrangements offering him the highest \$/kWh commission, rather than those that offer the lowest pricing. The broker may suggest inclusion of accounts that, for various reasons, may be better left with the utility. Doing so increases the volume (number of kWh) of the deal, and thus the fee. Or, as we shall discuss later, a broker may recommend that a deal be struck at a time when it is advantageous

to the broker but not to the customer.

While most deregulated states require that brokers be licensed, none presently (January 2012) license energy procurement consultants. Enforcement is relatively lax, however, with only a handful of brokers having licenses suspended or revoked since this process started several years ago.

Broker fees (typically measured in mills per kWh, where a mill equals \$.001) vary and may be higher when more accounts/markets are involved, or where more sophisticated tasks are involved (e.g., modeling and projecting day-ahead pricing over a contract's term). The rate may also be higher for smaller customers (i.e., fewer kWh/yr) or lower for larger ones. A typical fee range is 1-3 mills/kWh, but a rate of .5 mills (or lower) may be more appropriate when dealing with a multi-million dollar and/or long-term contract.

A consultant, on the other hand, is generally indifferent to the term of a deal, though analysis of the risks and benefits of a multi-year term may require more work on his part (and thus a slightly higher fee). Likewise, a consultant gets no direct benefit from a particular winning supplier, though some may maintain a closer working relationship with some suppliers than with others.

Like a broker, a consultant may wish to consummate a deal at a time better suited to his financial needs than those of the customer. Remember that the consultant gets paid up front, so the sooner a deal is done, the sooner he collects his entire fee. If the customer goes out of business or reduces his power consumption, a consultant has still collected his full fee. Unlike brokers, a consultant has no financial conflict of interest should it be determined that some accounts are better left with the utility (if their usage characteristics are sufficiently poor that little or no savings may result from including them in a bid).

No specialist, however, wants to steer a customer to a risky price structure (e.g., fully indexed to the wholesale market) without a good basis for doing so. If market pricing becomes suddenly extreme and/or volatile (e.g., during an August Texas heat wave), the customer may become unhappy with the results and discharge the specialist.

The main benefit of choosing a broker over a consultant is that there is no separate fee to pay. Many facility executives would like the assistance of a power procurement professional, but they either lack the budget to pay a consultant or prefer that the cost of such assistance be shared by all users of the purchased power rather than being charged to

the facilities' management budget.

The latter case is typical in commercial real estate management where tenants are submetered. Except for the cost of common area electricity (usually only 10-15% of a building's total kWh), a real estate manager is able to pass on the cost of a broker through the tenant's \$/kWh charge. When engaging a consultant, however, that cost may need to appear as a line item on the managing agent's bill to the owner, potentially raising questions.

To put this into perspective, for a 200,000-sq-ft office building, a consulting fee (at 1 mill/kWh) could be \$5,000 or more. For a 5-million-sq-ft college campus or building portfolio, such a fee rate would (over the term of the contract) pay the broker \$100,000 for each year of the contract's term. Depending on the knowledge and savvy of the customer, a consultant may also charge a larger fee than a broker doing the same deal.

Smart customers desiring procurement assistance from a specialist should consider the following options.

- Whether a broker or consultant, have a written agreement that spells out the fee or rate and the scope of work to be performed. Separate out the fee for procurement from any other activities to be performed, such as bill auditing, savings monitoring, or energy data analysis. (A discussion of an appropriate scope of work was detailed in a prior article in SPEE; see the bibliography.)
- When using a broker, ask the amount of the fee (in mills/kWh) that will be collected from the deal. Verify it by contacting several of the suppliers to be invited to bid. Many agreements between suppliers and brokers require the supplier to inform a customer of that fee—but only if asked.
- For a consultant, calculate the proposed fee in mills per kWh and compare that to the ranges discussed above. Be sure your agreement bars the consultant from also getting a commission as a broker.
- For large loads, a request for a procurement specialist may be put out for competitive bids, just as one may seek bids for power supply. In several such bids for specialist services, proposed fees ranged over a factor of 3 (i.e., highest bidder wanted to charge 3 times the fee of the low bidder) for the same work.

- Consider choosing a specialist holding the AEE Certification for Energy Procurement (CEP). While not a guarantee of either competence or honesty, those holding the CEP have taken several days of live training, passed a 3-hour test, and been vetted for prior experience and background. Most who take the test pass it. Those that don't shouldn't be selling energy. Review eligibility requirements at <http://www.aeecenter.org/i4a/pages/index.cfm?pageID=3363>.

A list of those holding the CEP may be found at

http://www.aeecenter.org/custom/cpdirectory/search_results.cfm?page=1&showall=1&sort=cert_code

(Scroll down the "Certification" column until you start to see "CEP." Look for practitioners in a state/city near you.) Contact AEE for additional practitioner information.

HOW IS THE PRICING TO BE DETERMINED?

The process through which pricing (regardless of structure) is elicited and compared often makes a difference in the bottom line. Fixed forward power pricing (and even a fixed index) varies across both time and locale. Getting a price from one supplier this week and another a week later from a different supplier is good way to collect "apples and oranges."

Care is also needed in choosing bidders. In most deregulated states, dozens of licensed suppliers may be found at the state public utility commission's web site (though some may merely be brokers masquerading as suppliers). Many are focused on residential or small commercial customers (e.g., dry cleaners) and are unable to price a large commercial load.

In an experiment done by the author, all licensed suppliers in one ISO were given the option to bid on the load of a midsized (1.3-MW) office building. Fifty-five of them never responded, and another dozen that did failed to provide a required sample contract prior to bidding. Of those remaining, several of the smaller suppliers came in with bids over 30% higher than the winning bid. We concluded that they were likely just brokers securing power from a real supplier (perhaps one of the other bidders) and tacking on a hefty fee for themselves.

It also pays to keep one's utility in mind as a potential supplier.

Too often, customers simply assume that suppliers will be cheaper than an incumbent utility, but this is not always true (despite what some brokers may claim). Even when a utility “price to beat” appears higher than that offered by a supplier, it should be kept in mind that such pricing may apply just to residential or small commercial customers that do not pay separately for demand, or are not based on time-of-use, as may be common for larger customers.

At the opening of a market, utility pricing may be purposely higher than that of competitors to help foster competition, but a variety of changes may occur over time that could make a utility’s supply price lower. Regulated tariffs may change, new ones may be added (e.g., real time pricing), or a utility may downsize to cut its costs. A utility may also hold legacy fuel contracts that (at least for a time) yield lower prices than those available from retail suppliers taking power from the wholesale market. For a given customer’s load profile, comparative pricing should be based on the supply tariff best suited to the customer, not necessarily the one the customer has been on for 20 years. That rate should be modeled and the results in hand when comparisons are made with supplier offerings. A consultant should be indifferent to the results, whereas a broker may have a hard time recommending that a customer continue buying from the utility, since doing so could cost him his fee.

Looking at prices alone may also lead one down a rabbit hole. Without a contract accompanying a price quote, a customer cannot determine which (if any) pricing components (e.g., capacity, line loss) have been left out of the quote, further muddying the waters. A basic list of what should be included will be covered shortly.

Some power customers still use a mailed, paper request for proposals (RFP) or quotes (RFQ) involving blind bids (i.e., suppliers are not told each other’s offerings). Such a process, if protracted, may result in finding the cheapest supplier at one point in time for one price structure. It implicitly assumes that none better will arise while a deal is being consummated and that markets remain stable during that time (which may not be true). By greatly truncating the time involved, web-based, timed blind bids or online reverse auctions avoid those problems. Both involve contract review before securing pricing, with issues being ironed out prior to the bid date. In both cases, pricing is then secured from all participating suppliers at the exact same time, with deal consummation within a few hours of bid receipt.

Blind bids are received during a narrow time period (e.g., less than

an hour), and suppliers do not see each other's pricing; only the specialist and customer see them. Through email, a second or third round of bidding (each with fewer bidders) can then be quickly done, again without suppliers seeing each other's bids. In online reverse auctions, all participating suppliers (as well as customers and specialists) see each other's pricing at a secure web site and, in real time, lower them during a defined time period and/or number of bidding rounds.

In many cases, online auctions yield the best price, but there are counter-examples. In a blind bid, some suppliers give it their best shot first, with the only "wobble room" being the commission of the supplier's internal account rep. Experience has shown that final pricing is sometimes lower than seen in an online auction; but, if open competition always yield the best results, how could that be?

In one case where a blind bid and an online auction were run by the author within a day of each other, with the same suppliers bidding for the same customer, the lowest bidder in the auction bid *just below the next highest bidder*. But that bid was still higher than the supplier had previously offered in the blind bid when having no clue as to the other bids. In the end, the winning blind bid came out lower than the auction bid.

There are, however, other reasons (such as process documentation or corporate preference) that may lead one to use an online auction. Later in this article, we'll look at other issues with that process.

IS IT THE BEST TIME TO BUY?

When seeking fixed forward pricing, some markets bottom out at roughly the same time each year, e.g., early spring and/or late fall. To immediately initiate cash flow, however, a specialist may instead push you to buy right away, despite market trends. In order to be sure, you should review data on forward pricing, which may be found in power trade newsletters (e.g., *Megawatt Daily*, *Hess Energy Update*) or through tracking of power futures pricing, where available. A good consultant or broker should be able to show you this type of data for your region going back at least a few years.

In a study performed by the author, forward pricing in several markets often reached a low point in the early spring and again in late fall. While there's never a guarantee of such behavior, experience (in non-recessionary times) shows such market timing works in about 3

out of 4 years. This is generally true because wholesale power pricing (which forms the basis for retail pricing) closely parallels that of wholesale natural gas, which tends to bottom out just prior to the beginning of the cooling and heating seasons (when demand for both electricity and natural gas are lowest). This method did not work, however, after Hurricane Katrina (and her sisters) did major damage to Gulf natural gas wells in 2005.

HOW WAS THE DEAL STRUCTURED?

Was fixed price the only option considered/recommended by the specialist? That may be the easiest to bid and choose, but it may end up higher than remaining with the utility. Were variable pricing options considered, such as indexed, block and index, fixed energy with floating capacity, or a floating total price with a cap? Recall that the more certain a price, the more likely it will average out to be higher than a riskier structure, due to built-in hedging costs to achieve that certainty.

While more difficult to compare, a good specialist should be able to model the customer's past power usage under a variety of schemes to develop total costs over a known term. For a large customer (e.g., >10 MW), some sensitivity analysis of price variation due to changing variables (e.g., natural gas pricing) should also be involved. When a consulting fee is measured in tens of thousands of dollars, one would expect such a service, especially if a multi-year term is being considered.

IS ANYTHING MISSING FROM THE PRICE?

Retail power pricing has a variety of components. If any one of them is missing from one or more bids, a true apples-to-apples comparison is not possible. Proposed contracts (including confirmation paperwork) should be checked to ensure that all the following components are included in a supply contract.

- Allowable variance (also called "swing"), beyond which pricing is not fixed.
- Capacity (which may be called ICAP, FCM, resource adequacy, or other names, depending on the market).

- Ancillary and ISO services.
- Transmission to your zone or node.
- Line losses to your meter (especially with indexed/floating pricing).
- Taxes, if required. (Some states, such as New Jersey require that sales taxes be included in price quotes, but some suppliers have been known to leave them out, yielding an apparently lower price.)

Missing components could impact price by 20% or more.

WHO ELSE MAY PROFIT FROM THE DEAL?

When a blind bid is handled by a specialist, the cost of that work should be part of the fee paid by the customer. If an online auction is involved, however, the auction site will charge a fee (typically one mill/kWh or more) for its services. In many cases, a broker will simply bring a customer to an auction site, perform little or no work, and collect a piece of the fee paid by the supplier to the auction site, without collecting a separate fee from the supplier. But the latter is not guaranteed, unless the agreement with the broker or auction site bars that option.

Some consultants, however, have been known to take the fee they charged to the customer while also pocketing a piece of the fee charged by the auction site. In all cases, auction fees are built into the winning supplier's price to the customer, just like a standard brokering arrangement.

One or two large online auctions dominate retail power purchasing, but several others are active, with fees varying widely. The scope of work involved may differ (e.g., contract review), but the general issues remain the same. On its web site, one of them bragged about its "low fee," but a quick calculation showed it was charging about 5 mills, taking almost half the savings from a sample transaction. While nearly all charge a fee proportional to the number of purchased kWh, at least one charges a flat fee to run a power auction. When last reviewed (2011), that fee could be competitive with other auction sites for loads of at least 3 MW, but it was more expensive for smaller loads.

While some claim to have proprietary means of achieving lower pricing, all auction sites depend primarily upon the open competition of the suppliers they choose to participate in the bidding. In several cases, competitive suppliers chose not to work with one or more auction sites because of business disagreements, or simply because the supplier account rep lacked the time to sit through an auction lasting over an hour. The end result was less competition and, possibly, a higher winning price than may have been secured through other means.

Before considering use of an auction site, a building executive should check if his firm has its own online reverse auction software. If so, the process may be run internally, saving thousands of dollars. Note that contract review and other tasks will then need to be done by a specialist since no auction site is involved.

HOW WAS PRICE RISK HEDGED?

Price *risk* has no relation to *service reliability*; we are not talking about the lights going off. Instead, we are concerned with the volatility of the power price. Unless one has a fixed price, a potential exists for the price to vary considerably more than may be expected. In some cases, customers have been drawn in by exceptionally low variable pricing, only to see it rise suddenly during an unusually hot summer, or for some other reason. At that point, it may be too late to switch to an acceptably low fixed price.

In the summer of 2011, for example, many Texas customers experienced a severe heat wave and drought that for several weeks greatly increased electric demand while decreasing available capacity. Wholesale pricing spiked by 2000% for several days, more than doubling monthly bills for customers on floating price plans, relative to the prior year.

Those still taking supply from the utility, or on fixed price plans, were saved by the hedging performed by their suppliers, which limited the price impact. Such customers, however, did not realize savings when prices were, at other times, low or subsequently dropped.

Hedging is done through price structuring. A block and index plan, for example, fixes the price of a portion of the usage while allowing the remainder to float with the market. Alternatively, one may choose a floating price with a cap to limit the impact of high pricing. To ensure the fixed (or limited) price, a supplier may buy portions of his

needs directly from wholesale power plants, and/or buy power futures, or use other financial instruments. The customer is indifferent to that part of the process.

Fixed price contracts need to be examined for any “outs” that may give the supplier an opportunity to increase the price due to unforeseen circumstances (such as an increase in capacity costs or changes to market regulations). While such conditions do not occur often, customers need to understand that such changes could result in a 10% (or more) change in price. Where such latitude exists in a contract, it should be a two-way street: if rising capacity charges or changes in market rules may raise a “fixed” price, changes in the other direction for such variables should lower the fixed price.

This issue becomes especially important for a multi-year contract since such changes are more likely over a long time period. For a short term deal, one may endure the issue for the remaining months of the contract and secure a better arrangement during the next bid process.

WHAT DOES THE CONTRACT ALLOW?

Far too many customers never read a power contract, and some later regret that laziness. Any contract, whether for a fixed or variable price, may contain or be missing various conditions, to the benefit of the supplier and possible detriment of the customer.

Ask yourself this question: what is the standard of caution used by my company when signing a contract having the dollar value of the proposed power contract? Some firms routinely involve an internal counsel for any agreement with a face value exceeding \$100,000. By comparison, a one-year power deal for a 1-MW customer could easily exceed \$300,000. Before bringing in the legal department, the following several items should be reviewed. A good specialist will have caught and corrected most of them, but customers should not depend on that occurring. To make this task easier, always secure proposed contracts in *word-searchable* electronic formats (e.g., .doc, or .pdf), not in barely readable, faxed, 6-point type, as has been offered by some suppliers.

- Are any services other than providing power included in the contract, e.g., a free energy audit, or a utility bill review? Some suppliers that double as energy service companies (ESCOs) seek

opportunities to sell and/or install energy-related equipment in addition to power. Others may seek to sell natural gas or other utility services such as telephone, cable, or security systems. Allowing entry into a facility (or its utility accounting), even at no apparent cost, may result in disruption, distraction, or other problems. Unless one desires quotes on such services, any mention of them in a contract for energy should be deleted.

- Does the contract allow use of the customer's name by the supplier for any purpose? It is not uncommon, especially when a new market opens up, for a contract to include wording that allows the supplier to use the name (and possibly the logo) of the customer in its advertising or web site. If such a proviso is found, delete it. If use of the company name or logo could be allowed by your firm in return for monetary compensation, ask the supplier what it would offer in order to do so. Some customers have received a one-time payment, a reduction in the offered power price, or (especially for non-profits and institutions) a tax-deductible donation.
- How long does the customer have before a fee is incurred due to late payment of a bill? The norm is 20 days, though some suppliers seek 15 days or less. Compare this to the utility's late payment terms. Be sure that your accounting department can pay the power supplier's bills within the contractual time period. If that limit is too short, negotiate an acceptable time period.
- What is the late fee interest rate? Most utilities and power suppliers charge 1.5% per month (i.e., 18% per year) or less. At least one supplier, however, tries to charge 3% per month, if allowed in the customer's state. Others charge X% plus the federal discount rate, which varies with economic conditions. Look for (or request) a number that is no higher than that charged by the utility.
- On a fixed-price contract, is the allowable variance at least 10%, or anything less than a "material change?" Year-to-year variations in electric use due to weather are rarely more than about 10% unless severe conditions occur. Addition of a new building wing, major change to a central chiller plant, a lighting upgrade, significant vacancies, or a switch from an electric process to a natural gas process could, however, yield a change greater than +/-10%. Verify with

your facilities and engineering personnel if any planned changes during the term of the proposed contract are possible, and what the impact would be on electrical consumption from both a monthly and annual standpoint. If unsure, negotiate a larger allowable variance. The worst-case scenario is that electricity purchased beyond a limit in a given month would be priced instead at a wholesale market-based rate.

If the contract has no stated variance limits, and instead calls for notification of a “material change,” secure an understanding of what the supplier means by that term. The general rule of thumb is a +/-25% difference on a monthly basis relative to usage in the same month in the prior year. To avoid misunderstandings, secure from the supplier (via email or a contract addition) a quantification of a “material change.”

- Is there a clause that allows the contract to automatically renew? If so, for how long? Many fixed-price contracts allow the supplier to continue supplying on a month-to-month basis at a wholesale price plus an index until such time that a contract is renewed or the customer requests cessation of power services. In some states, such a proviso is a good idea because loss of a supplier may place the customer automatically onto utility service, possibly for as long as a year before a new supplier may be chosen.

One supplier’s contract stated that, if it does not receive at least 60 days notice before the end date of a contract of a customer’s desire to not renew, it may automatically renew a contract *for an entire year*, possibly at a new fixed price not subject to negotiation. If found, such a clause should be eliminated or altered to require no more than a 30-day notice, and a limit on automatic renewal of one month at a time, under a floating rate with a defined (\$/kWh) index. The customer then has the option to either renew or to put his load out to bid before the end of the contract, possibly including the present supplier as a bidder. If such an unacceptable clause somehow ends up in a signed contract, immediately send the supplier a written notice that you do not intend to renew, ensuring that the 60-day limit has been met long in advance. (If the supplier’s services are acceptable over the contract term, that notice may be rescinded before the end of the contract, and an extension or renewal then pursued.)

- Are any additional fees allowed by the contract, such as balancing? When markets first opened up in the Chicago area, many contracts contained large balancing charges in lieu of an allowable variance. For some customers, their variations from the prior year's usage resulted in charges that effectively consumed most of the savings from the competitive supply process. Any additional fees or charges beyond energy, capacity, ancillary services, line losses, etc. must be listed and quantified in the contract.
- What options are included in the force majeure clause? If language indicating that causes of force majeure are "not limited to" a given list (e.g., war, natural disaster), the potential may exist for a supplier to renege on a fixed price because of a sudden wholesale market price shift. Where such language is seen, a clause should be seen (or added) that excludes changes in market pricing as a condition for a force majeure declaration.
- How is the termination penalty quantified? If a customer wishes to terminate a contract during its term, the costs involved should be easily calculated in advance. Some contracts, especially in new markets, have tried to charge the entire remaining value of a contract as a penalty even if the supplier is able to resell that power at a profit due to improved market conditions. Others have tried to charge two months worth of electricity even when only one month remained in the contract. Cancellation fees are a sore point for some customers. Most are fixed amounts, but one Canadian supplier, Planet Energy, assesses a cancellation fee based upon how much electricity the customer is expected to use in the future. Another supplier, Oasis Energy, includes a cancellation fee with a variable rate, putting the customer at risk of paying a penalty to leave, even if the supplier raises its rates exorbitantly. The norm is liquidated damages, meaning that the supplier is to be made whole by being paid the difference in price between the customer price and what he could get instead by re-selling it on the wholesale (or other stated) market, multiplied by the remaining expected kWh usage, based upon the prior year's consumption.
- Are there any operating restrictions placed on the customer? Some contracts include a section that bars the customer from installing solar photovoltaic panels, cogeneration, or other means to reduce

electricity consumption. Some have also sought to bar customer participation in demand response programs without permission of the supplier. In some cases, the supplier is also a demand response provider and is seeking to lock the customer into that additional service. As with power supply, demand response services may be competitively bid, so a customer should not be locked in to a provider without his permission. Such provisos should be struck out or negotiated to instead give the supplier 60 days prior notice of when such activities will be initiated.

- Has your company's attorney reviewed the proposed contract's text? The general goal of the contract review is to correct obvious problems and to live with the rest of it. A company's attorney should review the contract for any legal language, such as indemnification, or requirements for corporate information that could violate company policy or corporate desires. It is better to lose out on a good price in a bad contract than to challenge a company policy merely to seek a slightly lower price. Doing so could end up jeopardizing your job.
- If the price structure is fully or partially indexed (i.e., floating based on wholesale, plus a fixed adder to cover capacity, ancillary services, etc.), does it include a clause allowing the customer to, with XX days notice, switch to a fixed price for the remainder of the term? Some customers find a floating price to be financially challenging, so this option gives them an out during the contract term.

It should be noted, however, that switching to a fixed price in the middle of severe weather could yield very high fixed pricing. In a customer's first use of floating pricing, a different approach would be to choose months that, in prior years, have not shown wide price variation. The remaining (e.g., summer) months could then be at a fixed rate to avoid such volatility. This may be done in the same contract, which is best started long in advance of the fixed price months to secure acceptable pricing for that part of the term.

HOW DO I DO BETTER NEXT TIME?

Buying power is not a "learn while doing" process. One or two seemingly small errors can cost a company several times the annual sal-

ary of a purchasing or facility manager. For at least one's first procurement, it pays to secure professional services and closely observe the process as it happens. Where multi-million dollar contracts are involved, it may also pay to take a course to develop an independent command of the lingo, concepts, and procedures.

AEE offers two courses in energy procurement:

- For power and natural gas procurement at both the wholesale and retail levels, AEE offers a 3-day, live, on-site intensive course, with an option at the end to take the CEP test. That class is given at one or more of AEE annual trade shows such as the World Energy Engineering Congress (WEEC) or GlobalCon. Find details at:
https://www.aeeprograms.com/store/detail.cfm?id=747&category_id=4
- To focus on retail power procurement, AEE also offers a 6-hour, live webinar (2 hours on each of 3 consecutive days) several times a year. No certification or test is involved. Find details at:
www.aeeprograms.com/realtime/PowerPurchasing/

Portions of this article are excerpted from the above webinar.

CONCLUSION

These days, controlling energy costs involves pricing as well as efficiency. With markets and technologies always changing, it pays to know how get the most out of both opportunities.

ABOUT THE AUTHOR

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Audin entered the energy services business in 1974. His 38 years in the industry include 8 years as an energy manager for Columbia University and 12 years with private engineering and energy consulting firms in New York City, prior to founding Energywiz in 1996. He holds

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In 1993, AEE named Audin its International Energy Manager of the Year and in 1996 inducted him into its Energy Manager's Hall of Fame. He was also named Energy Manager of the Year by the Association of Professional Energy Managers and *Energy User News* magazine. Over 200 of Audin's columns and articles on energy issues have appeared in trade publications such as *Engineered Systems*, *Architectural Record*, and *Building Operating Management*, where he has been a contributing editor since 2002.

Audin has served on many energy-related professional and certification boards and written portions of several certification tests. He has taught over 150 on-site and web-based seminars on load analysis, power procurement, lighting, and other energy issues.

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