LESSONS LEARNED FROM THE DEREGULATION OF THE TEXAS ELECTRICITY INDUSTRY AND THE CHALLENGES THAT LIE AHEAD

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ABSTRACT

The deregulation of the Texas electric utilities has created many opportunities and challenges for oil and gas producers. Questions continue to be asked regarding how oil & gas producers will purchase power. With the enactment of 1999's Senate Bill 7, electricity buyers are beginning to find out the "devil is truly in the details". Challenges when purchasing electric power include reviewing contract terms and conditions; determining (deciding on (or selecting)) the most suitable contract duration; analyzing complicated pricing proposals and their links to gas markets; determining the optimum pricing options. The buyer's challenges continue with billing and collection issues such as ancillary charges, profiling, bill formatting and delivery options, and procedures for contesting billings.

As Retail Electric Providers fight to establish market share, more creative and innovative pricing options will become available. Minimizing power costs will require producers to keep both eyes open: One eye on the power markets to make the best power purchases they can, and the other eye on their operations to optimize power use.

INTRODUCTION

Beginning January 1,2002 competitive forces will be introduced into the Texas retail electricity market. The march to a competitive market was set in motion in June 1999 with Governor George W. Bush's signing of Texas Senate Bill 7 or SB7 into law. **SB7** began a process of unbundling or separating the utilities' functions into three distinct areas - generation, transmission and distribution and retail electric providers (REPs).

SB7 will bring profound changes in the way we purchase power at our homes and in our professional lives. Deregulation will bring choice. This choice brings added responsibility, which lies flatly on the shoulders of you, the end user.

NEW INDUSTRY STRUCTURE

The new industry model consists of three segments. The first will be an unregulated or competitive generation segment that may sometimes be referred to as the GenCo. Next, a regulated segment will exist to handle the transmission and distribution of the electric power. The nickname for this portion of the new model is the TDSP (Transmission/ Distribution Service Provider). The last segment of the new model is the unregulated retail electric provider or REP. While each segment could be an entirely new, independent entity, many will be subsidiaries or affiliates under a corporate umbrella.

The generation portion will be owned and operated by independent power producers (IPPs) and unregulated affiliates of the transmission and distribution businesses. In the either instance, the GenCo will not be allowed to share information with either of its downstream business segments.

Likewise, the TDSP (often called WiresCo) will to be separated or distanced from the corporate fold. The TDSPs will remain regulated monopolies. The Texas PUC will maintain an even tighter regulatory grip on the TDSPs than they had in the past. They will monitor system reliability, power quality, and meter reading services. The TDSP will read the electric meter each month, forwarding the usage data to the ERCOT data-clearing house where the REP will pick up the usage data for billing purposes.

REPs have been mandated to be the sole source for retail electric power contracts. **As** provided by SB7, REPs are regarded as "legislated middlemen". The customers' relationship with their chosen REP has the potential to be very complicated. The REP will be responsible for procuring a source of power and arranging for the delivery of this power to the customer at a certain bundled price per kilowatt-hour (kWh). This requires the REP to schedule power deliveries and handle billing settlement issues for the customer. This places the REP in the position of being responsible for all communications between the customer and the upstream power system components. The REP will also provide customer services such as equipment financing, hosting of data from specialized meters, energy audit assistance, substation maintenance and repair and power quality assistance.

The REP will invoice the customer for payment based on the negotiated price. The customer will remit payment to the REP. The REP will in turn pay the GenCo for the commodity power, the TDSP for delivery, the QSE (Qualified Scheduling Entity) for ancillary services and the aggregator (if an aggregator is involved).

LESSONS LEARNED AND CHALLENGES THAT LIE AHEAD

LOAD FACTORS AND LOAD PROFILING:

When pricing power, REPs focus on two issues – load factor and load profile. Load factor is the relationship between the amount of electrical energy consumed by a metered load over a given time period and the peak electric power demand recorded over that same time period. Power is measured using kilowatts (kW) or demand and kilowatt-hours (kWh) or energy. Demand is a function of how much power is required by a customer at one time, or how fast the customer was using power (i.e. speedometer). Energy, or kWh, is a function of how much power was used over a specified period of time or billing period (i.e. odometer). A "good" load factor indicates that the customer used power steadily without great swings between maximum and minimum demand. A "bad" load factor is indicative of significant swings in demand and/or minimal "run hours" for the load involved.

Load profiling is a representation of a customer's energy usage over a 24-hour period, showing the demand variation on an hourly or sub-hourly basis. Customers use power in their own unique way. setting peaks at different times of the day, month or year and developing unique load shapes. For example, a typical office building has a "top hat" or bell shape profile during the summer months. The office load, which is weather and time sensitive, increases steadily throughout the day reaching a peak in the late afternoon then decreasing to a minimum in the late night and early morning hours. In contrast, a typical oil and gas production load (account) has a flat usage pattern indicating that neither weather nor time has any significant impact on the amount of power used. For such loads, load factor is primarily related to the percentage of daily run time vs. down time, not on the rise and fall of demand throughout a 24 –hour cycle.

The ERCOT retail market requires a fifteen (15) minute settlement interval, yet the vast majority of customers do not have the specialized metering necessary to measure their consumption at this level. Because the actual load shape for customer without special metering is unknown, a guess has to be made in order to settle the bill. That guess is the "deemed" load shape or "force fit profile", established by ERCOT-ISO (Independent System Operator). ERCOT has created "deemed" load profiles that provide a cost-effective way of estimating fifteen (15) minute load for these customers that enables the accounting of their energy usage in the market settlement process, and allows the participation of these customers in the retail market.

Based on the load factor of the particular account. the TDSP is for assigning a "force-fit generic profile" to each electric account with standard kW and watt-hour metering. The profile assignment is based on the account's past 12-month usage data (load factor) that is "deemed" to represent a customer's usage pattern. There are basically five assignments: 1) non-demand metered accounts 2) accounts with load factor less than 40% 3) accounts with load factors between 40% and 60% 4) accounts with load factors greater than 60% and 5) accounts that have specialized IDRs (Interval Data Recorders).

These profiles will be adjusted daily for varying weather conditions throughout the state. They will also be adjusted for presumed usage variations on weekdays vs. weekends.

Regardless of how a customer actually uses power, the customer will be "deemed" to have used power in the forced-profile pattern to which it has been. Improving your load shape or load factor through various techniques will not necessarily translate into immediate power cost reductions. The change in profile assignment must be submitted by the TDSP and then the account profile must be updated by ERCOT-ISO.

A potential cost-saving step between the standard kW and kWh metering found on smaller accounts and the IDR meters used on large accounts is the time-of-use (TOU) meter. A TOU meter is a programmable electronic device capable of measuring and recording electric energy in pre-specified time periods. (For load profiling purposes this definition does not include IDRs).

A TOU price or rate is a price in which the cost of electricity is dependent upon when the electricity is used. For example, a TOU rate would have multiple "buckets" into which the kWh is allocated. Under previous tariffs, the "bucket" for usage during a weekday, "on peak", would cost more than the "bucket" for weekend, "off peak" usage.
The potential cost saving in using the TOU meter hinges on two items. First, the ESI ID (the Electric Service Identification – the new account number format). using the TOU meter must be coded into the ERCOT settlement system as a TOU. Second, the customer's usage must occur primarily in off-peak "buckets". The settlement process still requires that the force fit profile be used to calculate charges but the calculation is made slightly more accurate by allocating the actual usage in the TOU "buckets". By breaking the kWh usage down into "chunks", the benefits of off-peak pricing are captured.

As a specific example, the data for a TOU account in TXU's territory would be handled as follows. For market open, TXU's current TOU tariffs (2-part and 4-part) are available for use in settlement in TXU's service territory only. The profiling of premises or customer points of delivery, participating in TOU programs requires TOU meter reads so that consumption can be distributed within the appropriate time periods. TDSP's will be responsible for providing the meter reads necessary to support Time-of-Use pricing offered in their service territory. The ERCOT DAS (Data Aggregation System-the data clearing house) shall collect and handle multiple TOU reads for each Settlement Interval. These settlement intervals may include on peak, off-peak, and shoulder periods.

Although TOU metering has been touted as a good alternative to the use of "standard" force fit profiles for loads that have a "flat" shape, pricing received from REPs has indicated that TOU pricing is inferior. This is at least partly due to the fact that those REPs now offering TOU pricing are using generic "pricing models" rather than actual TOU historical data. TOU historical data from TXU's TDSP costs $20.00 per month per account, an amount that has discouraged REPs from requesting it.

CONFIDENTIALITY

One issue that seems to put a damper on the competitive process is the fact that all the REPs want customers to require a Confidentially Agreement. There just seems to be something inherently wrong when a vender for a commodity product such as electric power is afraid or hesitant to openly advertise the price of their product or the terms associated with its purchase.

This will impose on the market a limited number of third parties, subjective professionals who will maintain enough knowledge of electric commodity prices to assists customers in power procurement. Examples if these parties are consultants, aggregators. Customers who go to the power market every year or every other year as their power contract expires will have to re-educate themselves as to where the market has been, where the current market is and where it is going.

YOUR ACCOUNT REPRESENTATIVE

The Texas electric utility industry has been going through tremendous change over the past several years preparing itself for deregulation. The breakup of the larger utilities into Generation Companies, Wires Companies and Retail Service Providers has brought many new faces into the industry and has displaced many experienced utility employees out of the industry.

As was experienced in the deregulated phone industry, the representative that calls on power consumers will have varying degrees of experience in the electric industry. Many will have little to no experience in issues regarding electric power marketing and delivery. Few will have the experience consumers were accustomed to in the regulated market. Many of the larger Texas utilities have re-tooled their customer service groups with "sales forces". The loss of their strong customer-oriented group to a more sales-oriented group will put those companies who choose to focus on customer service to the top. This assumes they can provide high levels of service and not effect the competitiveness of their price offerings. Remember, salesmen are focused on making sales and reaching margin goals. This could be at your expense.

The result is the consumer will have to remain current on all issues and facets of power marketing and delivery. This will also provide a thriving industry for professionals outside the historical Wires Company and Retail Electric Providers to step in and provide those services.

DEMAND SIDE MANAGEMENT

Beginning in January 2002 the Texas Public Utility Commission will assess through the TDSP charge a fee to fund Demand Side Management programs. The fee will provide funds to allow power consumers to make capital investments in higher efficiency lighting systems, air conditioning systems, motor installations and other process improvements.

The current structure of power agreements seems to work against DSM programs. REPs are requiring take or pay type contracts. Benchmarks are set based on the past 12-month usage patterns. As described in a coming paragraph, the contracts also include restrictions on the "swing" in a customer's usage. Significant "swing" penalties may apply if the customer reduces his consumption markedly through efficiency improvements. In a second scenario, the customer might be liable for liquidation penalties resulting from a need to reduce his contractual power purchase obligations following efficiency improvements. How will these circumstances encourage a customer to improve his overall power usage efficiencies? As businesses analyze DSM investments, the structure of the power contract may discourage the decision to improve power consumption patterns.

The use of ERCOT's generic "force fit" load profiles will also discourage customers' utilization of DSM programs. REPs determine pricing strictly on the load factor of the account. Unless a DSM program will directly improve the overall load factor to allow the account to move up into the next "force fit profile" pricing category, the customer will not see any overall commodity price break. The customer will not receive any immediate relief from TDSP charges because most of the TDSP charges are based on 100% annual ratchets. This means that customers will have to live with the highest kW peaks prior to the improvement for 12 months or more, depending on the TDSPs recognizing the change in the load factor and adjusting the "force fit" profile accordingly.

CIAC - CONTRIBUTION IN AID OF CONSTRUCTION

When the Wires Company made line extensions in the regulated environment they based the total expenditure on the overall utility investment which included generation, transmission and distribution costs. In the deregulated market, the Wires Company will only be able to make expenditures on the transmission and distribution segment. Since generation was more than half of the regulated utilities' investment, customers should prepare themselves to pay for most or all of the cost of line extensions. The TDSP charges are for the delivery of power, not the construction of line extensions.

Through 2001, utilities had already begun to implement changes in the CIAC calculations. They will continue to modify these models, as they better understand their cost structure while functioning strictly as a TDSP.

TAXES

Oil and gas producers will be required to monitor sales tax and state gross receipts tax. All oil and gas extraction is exempt for state and local sales tax. As these accounts are moved from the regulated utility to the new REP, the producer must follow up on the application of sales tax on his accounts.

The application of the state gross receipts tax is based on the physical location of the point of delivery out in the field and local incorporated municipalities. The percentage of state gross receipts tax is based on the population of the local municipality.

Timing – Allow yourself enough time to work through the process of acquiring pricing offers, and understanding and negotiating contracts. This process could take as long as two to fours months. Attempt to have the contract complete prior to securing "transactable pricing. This will allow you to watch the gas markets and review pricing. Don't wait until the last minute of the last hour of the last day and end up rushing things.

CONTRACT CONTRACT CONTRACT

In today's competitive and volatile electricity market in Texas, oil and gas producers should aggressively shop the market to identify the best supplier(s) for their electric supply needs. Customers can likely benefit from savings in the competitive deregulated market for electricity by negotiating price reductions for electric supplies, but they must also weigh any projected savings against the risks associated with assuming all of the responsibility for their own electricity purchases and deliveries. Adequate supplies of electricity appear to exist today in Texas and it appears deregulation will proceed on schedule except in parts of east and west Texas. There is no guarantee, however, that Texas will not have shortages of electricity at some point in the future if additional generating plants are not added rapidly enough to keep up with Texas' rapidly expanding economy. In negotiating an electricity supply contract with a REP, the Customer should recognize that the contracts proposed by the REPs in the first instance are very one-sided in favor of the REPs. These contracts have been developed by the REPs over a relatively long period of time and have been vetted with a broad group of engineers, attorneys and finance personnel who are experts in the electric industry. They undoubtedly contain provisions that address problems that have been incurred under past contracts. The REP marketing representatives are aware of all the likely issues that arise under their contract and have probably thought through many of the issues. Their task is obviously to obtain the highest possible price from the Consumer and allocate as much risk under the contract as possible to Consumer.

Several items on the power agreements should be analyzed:

Term and Pricing Options – How long should we lock in prices? 1 year, 2 years, 3 years? Electric supply contracts are usually for 1-3 years because the prices for electric power have been so volatile in recent years. The longer the term of a supply contract is the more risk there is for both the REP and Customer. This is because it is impossible for anyone to accurately predict future electricity prices. As a practical matter, REP will charge Customer a higher price for a two-year term than for a one-year term, and a higher price for a three-year term than a two-year term. This higher price charged by REP for a longer-term contract is to compensate the REP for the significant risk it is accepting for guaranteeing the firm delivery of electricity supplies several years into the future. What type of pricing best fits our needs: fixed, time-of-use, indexed, caps and collars? Since power will be a commodity today's price may not necessarily be better than tomorrow's. Customers need to determine the strategy that best fits their needs and their understanding of the power markets.

Swing or bandwidth- Swing or bandwidth is the percentage of power you use that exceeds or is less than the amounts contracted for. Typically REP's are pricing on a 5% swing, which results in a 10% window for excess or deficient purchases. In order to protect itself against unexpected fluctuations in actual electric needs, Customer should negotiate the broadest bandwidth possible – in other words if the Customer is taking from REP volumes of electricity which are within a ten percent (10%) variation of its benchmark volumes (either over or under) and it has a 10% bandwidth in the Contract, it will not be charged a penalty by REP. Customer should recognize that if it uses significantly more or significantly less than its projected baseline volume requirement it has negotiated in its electric supply contract with REP (and its total electricity usage exceeds the parameters of the permitted bandwidth contained in the contract), Customer will likely have to pay very stiff penalties to the REP. It is recommended to secure the largest bandwidth affordable.

Excess/Deficient Energy and Demand Charges – The penalties applied for exceeding your benchmark or taking less than your benchmark could be severe. When you use more than your benchmark, power has to be secured on the open market to meet those demands

Assignment – Most oil and gas producers buy and sell leases like schoolboys trade marbles. It is important that the terms and conditions for assigning the power contracts meet your requirements. So far assignment of the contracts when a property is sold is being allowed, assuming the assignee wants the contract, and the REP has determined the assignee has an acceptable credit rating.

This also means that when you purchase leases an analysis of the power contract should be completed in order to determine if the existing power contract is acceptable or not. Be aware that rejecting the existing power contract may not be possible.

Liquidation – Often called "unwinding" When part of the benchmark load is sold, mechanisms should be in place to partially reduce the benchmark obligation through some type of liquidation language. This can be done on a premise-by-premise basis. This will allow you to sell the asset, assign the more favorable price and contract and reduce your benchmark load.

Incorporating Additional Locations - Mechanisms should be in place in the contract to allow the incorporation of additional locations' loads until you have reached the maximum of the swing allowed. Such additions would then initiate a material change in the overall load requiring a new contract.

Definition of Terms - It is important that each term has a definition that both parties can agree on. It seems that REP's are defining certain terms just a little bit differently and consequently changing the meaning significantly.

Right of first Refusal - Some REPs will request a right of first refusal which allows such REP to match the terms of any electric supply contract offer received by Customer from a third party to the extent such terms are more favorable to Customer than those in its existing supply contract with its utility. Customer should recognize that if a REP has the unequivocal right to match all better terms offered to Customer by any of its competitors, it would have little incentive to lower prices or improve terms for Customer under its existing contract with Customer. This is because it knows it will always have the opportunity to match any better price or terms offered to Customer by another REP. Moreover, any other REPs which compete with the REP Customer has already contracted with will have little incentive to make a more attractive price offer to Customer because of the likelihood of always having its offer to Customer cancelled out by a matching counteroffer from Customer's existing REP. For these reasons, Customer should strongly resist inclusion of this type of provision in its electric supply contract.

SUBTRACT METERING

Many typical oil and gas companies receive electric service at a primary voltage point of delivery. The oil company builds their own central power distribution system within the oil field to each of the various loads such as pump jacks, water stations, compressors etc. When another company required service in the field where a customer-owned electrical system was already in place, a mutually beneficial agreement was struck. The serving utility, TXU for example, would install a meter on the second customer's load, read that meter each month and subtract this usage from that of the meter of the company who was operating the electrical distribution system.

Terms developed such as master meter (the meter for the company owning the power system) and subtract meter (the meter for the second company). A subtract meter agreement (approved by the PUC) between the parties involved was developed. Billing systems were modified to handle the calculations required for billing. Subtract meters loads are usually very small compared to the master meter load and have no real affect on master meter billing.

Over the years TXU has accumulated approximately 1,000 subtract meter customers.

REASONS FOR SUBTRACT METER INSTALLATIONS

TXU has encouraged the use of the subtract meter because it benefited both TXU and the customers.

The subtract meter customer benefited through reducing the cost to electrify its operation. Subtract metering provides access to electric service for customers with small loads miles from TDSP existing lines. Neither the TDSP nor the subtract customer can economically justify building lines to small loads.

The master meter customer benefited from minimizing foreign line crossings within its system and generating good will with other oil and gas producers.
TXU benefited through minimizing construction of low revenue lines resulting in high customer costs and duplicate delivery systems.

Subtract meters are worth retaining in their present form as more oil companies complete 3-D seismic exploration. These discoveries are typically small reservoirs that may be geographically discontinuous and cover a limited area thus making a central electrical system uneconomical. If there is not a mechanism for subtract metering, these prospects will be made even more marginal due to high electrification costs.

There are a number of multiple well properties currently served by customer-owned central power distribution systems that will one-day reach their economic limits. At this point the current operator will seek to divest this property either in whole or in fragments. If subtract meter service could not be obtained for the fragmented segments, there could be no way to economically provide electric service to those facilities.

Because of these reasons, the subtract meter was and will remain the best solution to this problem.

THE FUTURE OF SUBTRACT METERING

I believe, along with the Permian Basin Oil and Gas Electric Users Group, the function of the subtract meter is a TDSP function. As long as the TDSP is installing and reading meters, they should continue to install subtract meters, read the master and subtract meters each month. make the calculations and forward that usage data to the clearinghouse. Unfortunately, REPs do not share this view.

I have discussed subtract metering issues with several REPs. All the REPs have indicated that they will not put expensive billing systems in place to accommodate subtract meter installations. Yet, the grandfathered subtract meters have been assigned ESI ID numbers. No new billing system should be required to accomplish a task already occurring. If the master meter customer and the subtract meter customer both choose to take the price to beat, the justification for terminating subtract meter installations seems even more indefensible.

These grandfathered accounts will indeed have the choice of REP in the competitive environment Companies with potential subtract meter loads in the future should be given the same opportunity.

Deregulation was designed to bring customer choice and improvements in service. The loss of subtract meters installed, read and monitored by the TDSP will be harmful to the oil and gas industry. Refusal by the TDSP to allow the far cheaper alternative for serving an isolated load imposes an unnecessary burden on the customer, wastes resources, poses a high risk of surface owner resentment, and makes for a less efficient system

In the past, utilities provided solutions to problems faced in the oil fields. It seems now that REPs and TDSP's are eliminating solutions to the problems faced by the oil industry. Mechanisms must be put in place to provide the type of service necessary to provide the nation's energy needs.

POLR – PROVIDER OF LAST RESORT

The Provider of Last Resort is the customer safety net mandated by SB7. POLR is in place in case something happens to the REP. If the REP has to terminate business activities the customers that he serves ~~to~~ default to the POLR until such time that the customer has chosen a new REP.

In addition, those customers who are not served by a REP will end up with the POLR. These will be less credit worthy customers. POLR prices are significantly greater that market offerings. Those who will be least able to afford the higher market power prices will have a greater propensity to end up with the POLR.

STANDARD OFFER PRICE

For individual loads greater than 1,000 kW who choose not to "make a deal" with a REP,-those customers will default to the affiliate standard offer price. This price, reviewed by the PUC, is considerably greater than current regulated pricing and significantly greater than current market price offerings. The significantly higher price provides the economic incentive to customers to get out into the market and make a "deal" with a REP.

CONCLUSION

Negotiating an electric power contract will have a serve impact on your bottom line if not done properly. Power costs represent from 30%- 45% of lifting cost for many oil and gas producers. Competition will bring increased responsibility when determining price, terms and conditions. That responsibility falls squarely on the shoulders of the customer.

SB7 will bring profound changes in the way we purchase power at our homes and in our professional lives. Deregulation will bring choice. This choice brings added responsibility, which lies flatly on the shoulders of you, the end user.