
SENATE COMMITTEE
ON
BUSINESS AND COMMERCE

ELECTRIC UTILITY RESTRUCTURING
AND RENEWABLES



INTERIM REPORT TO THE
79TH TEXAS LEGISLATURE



Senator Troy Fraser
Chairman
 Senator Kip Averitt
Vice Chairman
 Senator Ken Armbrister
 Senator Kim Brimer

Senator John Carona
 Senator Craig Estes
 Senator Mike Jackson
 Senator Eddie Lucio
 Senator Leticia Van de Putte

The Texas Senate
Business and Commerce Committee

December 1, 2004

The Honorable David Dewhurst
 Lieutenant Governor of Texas
 The Capitol, Second Floor East
 Austin, Texas

Dear Governor Dewhurst:

On behalf of the Senate Committee on Business and Commerce, I hereby submit the interim report on electric utility restructuring and renewables for consideration by the 79th Texas Legislature.


This report was prepared pursuant to interim committee charges numbers five and six. Interim charge number five charged the Committee to study and make recommendations on improving the on-going implementation of SB7 (76th Legislature) with particular emphasis on evaluation of the following:

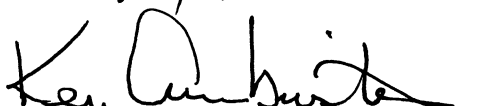
- "price to beat," and the implementation of claw-back provisions for residential and small commercial customers, including on-going requests to adjust fuel factors;
- adequacy and effectiveness of Electric Reliability Council of Texas (ERCOT) and its management structure;
- cost-effectiveness and fairness of congestion management mechanisms;
- delivery of power in areas outside of the ERCOT network;
- stability of the System Benefit Fund; and
- final calculation of stranded costs under the "true-up" provisions.


Interim charge number six charged the Committee to study and make recommendations relating to improving the potential for further renewable energy development in Texas and the effectiveness of current policies encouraging the use of renewable energy sources. This study should focus on the State's capacity for wind generation, current efforts by the General Land Office to commercialize wind generation on state lands, and solutions to the constraints on utilizing wind potential to its fullest. Include an analysis of state and federal mandates, federal tax credits, wind potential, transmission constraints, economics of electricity production and delivery, and environmental considerations.

Respectfully Submitted,


 Sen. Troy Fraser, Chairman


 Sen. Kip Averitt, Vice-Chairman

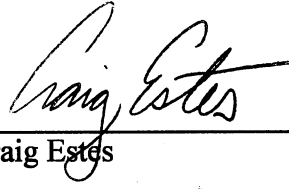

 Sen. Ken Armbrister


 Sen. Kim Brimer





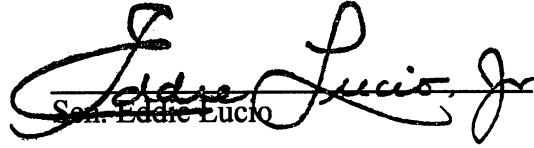
Sen. John Carona



Sen. Craig Estes



Sen. Mike Jackson



Sen. Eddie Lucio



Sen. Leticia Van de Putte

Interim Charges Numbers Five and Six

EXECUTIVE SUMMARY

During the interim of the 78th Legislature, the Lieutenant Governor issued the following charges to the Senate Committee on Business & Commerce (the Committee):

- Interim charge number five charged the Committee to study and make recommendations on improving the on-going implementation of SB7 (76th Legislature) with particular emphasis on evaluation of the following:
 - "price to beat," and the implementation of claw-back provisions for residential and small commercial customers, including on-going requests to adjust fuel factors;
 - adequacy and effectiveness of Electric Reliability Council of Texas (ERCOT) and its management structure;
 - cost-effectiveness and fairness of congestion management mechanisms;
 - delivery of power in areas outside of the ERCOT network;
 - stability of the System Benefit Fund (SBF); and
 - final calculation of stranded costs under the "true-up" provisions.

- Interim charge number six charged the Committee to study and make recommendations relating to improving the potential for further renewable energy development in Texas and the effectiveness of current policies encouraging the use of renewable energy sources. This study should focus on the State's capacity for wind generation, current efforts by the General Land Office (GLO) to commercialize wind generation on state lands, and solutions to the constraints on utilizing wind potential to its fullest. Include an analysis of state and federal mandates, federal tax credits, wind potential, transmission constraints, economics of electricity production and delivery, and environmental considerations.

In order to fully explore these issues, the Committee members and staff sought the input of stakeholders as well as government agency personnel and policy makers. Additionally, the Committee held a number of hearings for the express purpose of hearing invited and public testimony on these charges.

On April 27, 2004, the Committee met to receive an overview of electric issues from the Public Utility Commission. The Committee heard invited testimony from Paul Hudson, Chairman, Public Utility Commission; Julie Parsley, Commissioner, Public Utility Commission; Barry Smitherman, Commissioner, Public Utility Commission; and Jess Totten, Public Utility Commission.

On May 11, 2004, the Committee met to receive an overview of renewable energy issues from the Public Utility Commission and to take public testimony. The Committee heard invited testimony from Julie Parsley, Commissioner, Public Utility Commission; Dub Taylor, State Energy Conservation Office; Adan Martinez, Texas General Land Office;

John Fainter, Jr., Association of Electric Companies of Texas; Walt Hornaday, Cielo Wind Power; Tom "Smitty" Smith, Public Citizen; and Mike Sloan, The Wind Coalition. The Committee heard public testimony from Robert King, Ridge Energy Group.

On September 29, 2004, the Committee met jointly with the House Committee on Regulated Industries and the Electric Utility Restructuring Legislative Oversight Committee to discuss matters pertaining to the restructuring of the electric utility industry. The Committee heard invited testimony from Paul Hudson, Chairman, Public Utility Commission; Tom Schrader, CEO, ERCOT; Mike Greene, Chairman, ERCOT; and Paul O'Malley, CEO, TXU Energy.

THE PUBLIC UTILITY COMMISSION OF TEXAS

The Public Utility Commission of Texas (PUC) is the state agency responsible for, among other things, overseeing the function and operation of the electricity market in Texas.¹

The PUC was created in the Public Utility Regulatory Act (PURA) in 1975 by the 64th Legislature. The agency was created to regulate the rates and services of various telephone and electric utilities throughout the state.² There are three commissioners, appointed by the Governor, that preside over the agency. Of the three commissioners, one is appointed Chairman.

The PUC is in a unique position because unlike other regulatory agencies in other states, the ERCOT grid is located entirely within state boundaries. This allows the PUC to exercise jurisdiction over the competitive market without extensive interference from federal regulatory agencies (specifically the Federal Energy Regulatory Commission (FERC)).

As a result of having jurisdiction over the ERCOT market and ensuring fair competition and reliable delivery of electricity, the PUC has undertaken numerous projects and rulemakings. After the passage of SB 7 during the 76th Legislative Session, the agency was extremely active, responsible for unbundling utilities and helping structure a competitive market. During the past interim, the PUC has continued projects and rulemaking proceedings to further the market and finalize concepts that began with the onset of competition. Some of the key proceedings are listed below.

Wholesale Market Design

The PUC is currently working through Project #28500, activities related to implementation of a nodal market for ERCOT, to determine if a change in the wholesale market structure is necessary to facilitate and improve competition in the electric market in Texas. The project began out of a necessity for direct assignment of local congestion costs (congestion costs will be discussed in greater detail in Section Three).

In order to improve upon the efficiency of the market, the PUC has authority to order market changes. Congestion costs were a concern when the market was first designed because when costs are uplifted to the market there is no incentive to reduce congestion. In order to achieve a more efficient market, the PUC has ordered ERCOT and market participants to examine the viability of changing market structures.

True-up Proceedings

The PUC is required by statute to have a proceeding in 2004 to finalize stranded costs for utilities and "true-up" those numbers with actual market information.³ The PUC has

¹ The agency's mission statement is to "protect customers, foster competition, and promote high quality infrastructure". <http://www.puc.state.tx.us/about/index.cfm>.

² <http://www.puc.state.tx.us/about/history.cfm>

³ PURA 39.262

completed the TNMP and CenterPoint true-up proceedings. A draft order was filed on November 10, 2004 but the order has not been signed and filed. The schedule date for AEP was September or on completion of the sale of generation assets. The filing has been delayed by the approvals required to close the sale of its interest in the South Texas Project. TXU and Entergy settled their stranded costs with the PUC.

Stranded costs are costs incurred by utilities in a regulated environment that might be unrecoverable in a competitive environment. Mostly, these costs relate to capital intensive power generation facilities, where operation costs are relatively low but initial construction expenditures are high and these high costs might not be recovered in a lower priced competitive market (stranded cost numbers and processes will be discussed in greater detail in Section Four).

40 Percent Threshold Cases-Commercial Customers

The PUC held hearings to determine if affiliate retail electric providers (AREPs) had lost 40 percent of their commercial customers to competitors. According to statute and PUC rules, when an AREP can prove a loss of 40 percent of a particular market it can offer a rate other than the Price to Beat (PTB).⁴ All of the AREPs met the 40 percent threshold for commercial customers.

ERCOT Fee Filing

The PUC is responsible for approving ERCOT's administrative fee. The fee is a per megawatt-hour (MWh) assessment that is used to fund the operation of the organization. The fee was last approved at 44 cents per MWh, reduced from the ERCOT request of 46 cents. ERCOT files the fee request on an annual basis.

Recently, some legislators have expressed concern about the budget and fee process at ERCOT (this will be discussed in further detail in Section Two). Specifically, members have expressed concerns that the current fee approval process is not transparent enough to determine the appropriate amount that should be assessed. Concerns also focus on the amount of debt the organization has incurred in the short amount of time it has been operating and a lack of communication between ERCOT and the PUC.

El Paso Rulemaking on Transition to Competition

PURA 39.102 provided for a delay in the start of retail competition for a utility that was under a system-wide rate freeze that extended beyond 2001. As a result, under SB 7, retail competition was not scheduled to begin for the El Paso area until the El Paso Electric Company (EPE) rate freeze expires in 2005. In this rulemaking proceeding, the PUC determined that the power region in which EPE is located is unable to offer fair competition and reliable service to all retail customer classes. As authorized under PURA 39.103, the PUC delayed retail competition until a number of development activities are completed and the region is ready for competition.

⁴ While the AREPs can offer a rate other than the PTB, they are still required to offer the PTB until 2007. PURA 39.202.

Delay of Competition – Entergy Territory

The PUC delayed competition in the Entergy area in a decision issued in late 2001.⁵ The PUC then initiated a project to develop the infrastructure for retail competition in the Entergy service territory. The PUC ultimately approved a set of Protocols to facilitate competition in the area, and Entergy filed the Protocols with FERC. These Protocols affect the operation of Entergy's interstate transmission system, so they must be approved by the FERC.

A critical issue for retail competition in Entergy is independent operation of the transmission system. There is not a regional transmission organization or other independent entity that operates or oversees the operation of the transmission network and assures open and non-discriminatory access to it. Entergy proposed that the transmission system be subject to oversight by an independent third party, until the FERC approved a regional transmission system that included Entergy and it began functioning. In July 2004, the PUC concluded that Entergy's proposal did not meet the independence requirements of PURA and ordered a further delay of retail competition in the Entergy area. It also terminated the pilot project in the Entergy area.⁶

Administration of the System Benefit Fund (SBF)

The principal use of funds from the SBF was to provide electric rate discounts for low-income customers from 10 to 20 percent. The 78th Legislature approved appropriations sufficient to provide a 10 percent discount for low-income customers. The discounts provided a benefit of about \$140, on an annual basis, to eligible customers. In August 2004, approximately 360,000 customers were enrolled in the electric low-income discount program.

In addition to the above cases and rules, the PUC has worked through transmission certifications, security and reliability exercises, customer protections rules, and various enforcement actions.

The PUC is currently undergoing Sunset review. Sunset is a process that allows the Legislature to periodically evaluate the necessity of a state agency. On July 13, 2004 the Sunset Commission heard testimony on the PUC and on September 15, 2004 the Sunset Commission made recommendations concerning the PUC. Pertaining to electric oversight functions of the agency, the Sunset Commission recommended the following:

- continue the PUC for six years;
- change the ERCOT board structure to increase independent membership and make one of the independent members the chairman of the board;
- require that ERCOT board meetings be open to the public and that agendas be published in advance;

⁵ *Staff's Petition to Determine Readiness for Retail Competition in the Portions of Texas within the Southeastern Reliability Council*, Docket No. 24469, Order (Dec. 20, 2001).

⁶ *Application of Entergy Gulf States, Inc. for Certification of an Independent Organization for the Entergy Settlement Area in Texas*, Docket No. 28818, Order (Jul. 12, 2004).

- enhance the PUC's market oversight function; and
- direct the PUC to establish classes of violations that warrant administrative penalties and authorize penalties of up to \$25,000 for the most serious classes of violations.

THE ELECTRIC RELIABILITY COUNCIL OF TEXAS

The Electric Reliability Council of Texas (ERCOT) is one of ten regional reliability councils in North America and operates under the reliability and safety standards set by the North American Electric Reliability Council. The organization is an independent, not-for-profit entity responsible for facilitating reliable power grid operations in the region by working with various electric utility industry organizations. ERCOT is unique because it is located entirely within the boundaries of the state of Texas. While most of the other reliability councils fall under the jurisdiction of FERC, the PUC is responsible for overseeing ERCOT.⁷

The deregulation of the electric industry brought significant change and responsibility to ERCOT. Along with being responsible for reliability, ERCOT was made the independent system operator (ISO), an organization responsible for the several functions that are important to the operation of the competitive electricity market. As a result of becoming the ISO, ERCOT was responsible for hiring additional staff, constructing new facilities, installing new computer systems and software, and managing a stakeholder process for drafting market protocols, the rules by which the wholesale and retail electric market operate.

Structure and Governance

ERCOT is headed by a chief executive officer that is selected by the board of directors. The Chief Executive Officer (CEO) is responsible for the day to day operations at ERCOT while the board, comprised of market participants and independent board members, governs the organization. Recently, the board hired a new CEO, Tom Schrader. Mr. Schrader was hired by the board to replace Tom Noel as CEO. The new CEO has an extensive background in both electricity and natural gas, working for Wisconsin Gas Company, Wisconsin Electric Power Company, and other utility industry organizations throughout his career.⁸

The board is composed of a total of 14 members. The members are selected from stakeholder groups within electric utility industry. In addition to the stakeholder members of the board, three members are independent members, one is the chairman of the PUC, and one is the CEO of ERCOT. The chairman of the PUC is a non-voting member. The board is responsible for voting on policies, procedures, and guidelines proposed by various stakeholder committees that report to the board.

The Technical Advisory Committee (TAC) reports to the board and is responsible for developing policies, procedures, and guidelines for power grid coordination, operation, and reliability. There are four standing subcommittees that report to TAC; the Protocol Revisions Subcommittee, Reliability and Operations Subcommittee, Retail Market Subcommittee, and Wholesale Market Subcommittee.⁹ All of these committees are composed of market participants, who are either selected through a voting process or vote

⁷ <http://www.ercot.com/AboutERCOT/Index.htm>

⁸ <http://www.ercot.com/AboutErcot/Organization/Directors/TSchrader.htm>

⁹ <http://www.ercot.com/AboutERCOT/Organization/Directors/Index.htm>

through proportional representation rules, and are responsible for making recommendations on policy and procedure to TAC.

The board make-up has been the subject of discussion for several years. The concern being that a board composed entirely of market participants will act in the best interests of those market participants. In an effort to alleviate those types of concerns, the board added three independent members in 2003 and industry membership was reduced to one member per market segment beginning in 2004. Some discussion surfaced during the interim that ERCOT should adopt a board structure of entirely independent members, similar to the majority of ISOs throughout the country. While stopping short of recommending an entirely independent board, the recent Sunset recommendations encourage additional independent members be added to the board as well as ensuring that one of the independent members be chairman of the board.

Issues at ERCOT

Over the past year there have been ongoing investigations into alleged financial impropriety at ERCOT. Most of the allegations surround a few employees and their ability to use a lack of financial and managerial controls to steal money from the organization.

The details of the scheme were reported in the Dallas Morning News. Employees of the company were able to funnel at least \$2.5 million through fictitious contractors supposedly working at ERCOT on security and technology related contracts. In actuality, the employees appear to have received the funds without any of the work being performed. At this time the Department of Public Service and Williamson County District Attorney's office are investigating the case.

While the lack of financial and managerial controls were taken advantage of, more concerning to the Legislature, PUC, and market participants was the apparent lack of security at an organization responsible for ensuring the security and reliability of the electric grid. ERCOT is responsible for ensuring reliable delivery of electricity, but it is also responsible for millions of dollars of financial transactions on a daily basis, as well as safe-guarding all of the customer information contained at ERCOT.

The allegations of impropriety arose in March 2004 but were not reported to the PUC, the state agency with oversight authority, until May 2004. At that time, no members of the Legislature were aware of the events taking place at ERCOT. The PUC held an emergency meeting in May 2004 and immediately informed members of the Legislature. At the emergency meeting, the PUC determined it was necessary to conduct several audits to assess the problems at ERCOT and begin working towards developing remedies. In addition to the PUC emergency meeting and subsequent audits, the Legislature held a joint hearing of the Senate Committee on Business and Commerce, House Committee on Regulated Industries, and Electric Utility Restructuring Legislative Oversight Committee to address concerns about management structure, budgeting, security, and communications with ERCOT.

At the hearing, the new CEO of ERCOT made extensive commitments to the Legislature that improvements will be made at ERCOT. He also stated that although he had only been CEO for a few months prior to his first legislative hearing, he was gathering as much information as possible to determine what changes were necessary at ERCOT and was committed to improving the relationship between ERCOT, the PUC, and the Legislature.

The PUC and ERCOT have employed various firms to conduct several audits to determine where problems at ERCOT exist and how to solve those problems. The initial round of audits were issued November 15, 2004 and include a managerial audit performed by Deloitte and a security assessment performed by Ernst & Young. Prior to the release of the audits, ERCOT released a detailed list of problems that had been identified. In addition to identifying problems, the list also provided solutions. A summary of the problems and solutions include:

- tightening management practices and controls;
- strengthening accountability; and
- improving efficiency in the use of resources.¹⁰

The recent audits highlight some of the same problems identified in the ERCOT November 9, 2004 letter. The Deloitte management audit discovered substantial "opportunities for improvement" within the management of ERCOT.¹¹ As well, the Ernst & Young security audit found room for improvement within the security structure of ERCOT.¹²

Despite all the issues ERCOT is currently working through, one final to be resolved is improving communication and cooperation with the PUC and the Legislature. While the new CEO has assured members of the Legislature and the PUC that there will be a new cooperative spirit at the organization, the prior CEO had a different idea on how ERCOT should interact with certain organizations. ERCOT faces a significant challenge in changing the corporate culture already in place and moving toward a more collaborative effort among all market participants, including the Legislature and PUC. If the competitive electric market in Texas is going to continue to be successful, ERCOT must understand the role it plays in the market and improve any damaged relationships that currently exist.

Generation and Transmission

Securing the reliability of the electric grid in ERCOT must take into consideration several complicating factors. ERCOT, on a daily basis, must balance and manage generation, voltage, and congestion over transmission lines to ensure the reliable delivery of electricity to consumers and the proper functioning of the electricity market in Texas.

¹⁰ ERCOT letter to the co-chairman of EURLOC November 9, 2004.

¹¹ Deloitte Review of Internal Controls, November 15, 2004.

¹² Ernst & Young, Electric Reliability Council of Texas Internal Information Technology Assessment, November 15, 2004.

Having adequate generation to meet growing demand is essential for ensuring reliability. An important factor to the success of the wholesale electricity market in Texas was the passage of Senate Bill 373, 74th Regular Session, in 1995. SB 373 provided open access to utility transmission and distribution systems, enabling independent power producers to enter the market. As a result of this and other legislation, Texas now has a market where generation exceeds peak demand. Recent analysis indicates current installed generation capacity at 75,000 megawatt (MW) and peak demand at 57,000 MW. Considering recent announcements of both construction projects and moth-balling of units, the capacity reserve margin remains well above 20 percent. Taking into account that a reserve margin of 15 percent is considered sufficient for reliability, Texas currently has a healthy level of generation to meet demand.¹³

Load Forecast:¹⁴		2004	2005	2006	2007	2008	2009
	Total Summer Peak Demand, MW	61,432	62,906	64,416	65,962	67,545	69,166
	less Load Acting As Resource (LAAR), MW	1478	1478	1478	1478	1478	1478
	less Balancing Up Load (BUL), MW	0	3	3	3	3	3
	Firm Load Forecast, MW	59,954	61,425	62,935	64,481	66,064	67,685
Resources:		2004	2005	2006	2007	2008	2009
	Installed Capacity, MW	77,336	77,336	77,336	77,336	77,336	77,336
	plus 100% DC Ties, MW	856	856	856	856	856	856
	plus 100% Switchable Capacity, MW	2,988	2,988	2,988	2,988	2,988	2,988
	plus 10% Existing Wind Generation, MW	120	120	120	120	120	120
	plus Planned Units with Signed Interconnection Agreement (IA), MW	0	351	943	943	943	943
	plus 10% Planned Wind Generation, MW	0	23	31	49	49	49
	less Mothballed Units, MW	6,244	0	0	0	0	0
	less Retiring Units, MW	0	278	278	278	669	734
	Resources, MW	75,056	81,395	81,996	82,014	81,623	81,558
	Reserve Margin (Resources – Firm Load Forecast)/Firm Load Forecast)	25.2%	32.5%	30.3%	27.2%	23.6%	20.5%

While adequate generation is an integral component of reliability, sufficient transmission and distribution systems are necessary to move the electricity from generation sources to meet customer demand. Where transmission is lacking, congestion can occur. Congestion can have an impact on reliability because when it occurs, electricity that is necessary to meet demand is restricted. There are a few areas in Texas where congestion is a concern, however, ERCOT has the necessary tools for alleviating and mitigating congestion when and where it occurs. ERCOT produces annual plans for increasing and improving transmission facilities to reduce congestion and improve the flow of electricity, continually ensuring reliability of the grid.¹⁵

¹³ Testimony provided by Chairman Paul Hudson, Senate Committee on Business and Commerce, April 27, 2004.

¹⁴ This is from an ERCOT Oct. 1 report, Report on Existing and Potential Electric System Constraints and Needs within the ERCOT Region, PUC Project No. 29171 (Oct. 1, 2004). Since then TXU has announced its intention to mothball 2516 mw of capacity.

¹⁵ Ibid.

Natural Gas Prices

The fluctuating price of natural gas has a direct and significant impact on the price of electricity in ERCOT.

As the price of natural gas increases, the cost of producing electricity increases because natural gas is the fuel source for over half of the generating fleet in Texas. When the production cost of electricity increases the price to consumers also increases. The increase in price to consumers is due to the fact that utilities are allowed to recover their fuel costs through rates charged to consumers. In the competitive market, AREPs can increase the PTB twice a year to reflect changes in the cost of fuel or energy. Competitive retail electric providers (CREPs) also reflect changes in power costs in the prices that they charge for electricity, subject to the terms of their contracts with customers.

While the price to beat is a six percent reduction from the 1999 base rates, statute and PUC rules allow the AREP to adjust the fuel factor portion of the PTB up to two times per year to reflect changes in fuel costs. Clearly, the direct correlation between the fuel price and price of electricity can be seen.

WHOLESALE MARKET DESIGN

Currently, the PUC, ERCOT, and market participants are working through rules that would change the wholesale market structure in ERCOT. The wholesale market currently employed in ERCOT is a zonal market. A zonal market is a market divided into different zones in an effort to manage congestion. There are currently five zones in ERCOT: northeast, north, west, south, and Houston.

While the current wholesale market is functioning well in Texas, there are some problems that need to be addressed. There are significant congestion costs, inefficient congestion management, inadequate price signals, limited gaming opportunities, and no spot market. Modifying the wholesale market design would involve directly assigning congestion costs to provide for more efficient economic dispatch of generation and address these other problems.

Transmission congestion is an important cost in competitive markets that was a less significant issue in a regulated environment. Congestion is a bottleneck on the transmission grid. When significant amounts of power have to reach load and there are few avenues for the power to flow, congestion occurs. There are costs associated with both the creation of the congestion and the alleviation of the congestion.

In order to alleviate congestion on the electric grid, the system operator must reduce generation on the supply side of the congested transmission line and ramp up generation on the demand side of the congestion. When the system operator makes such demands on generators, the generator changing output must be compensated for the reduction or increase in generation.¹⁶ In a regulated environment, a utility recognized the constraints in dispatching its generation facilities, but the costs were typically internal to the company and were recovered from customers. In a competitive environment, the congestion can affect competitors differently, and the market participants must have the ability to manage the congestion risks.

When the market rules were created, congestion costs were uplifted to the market based on a load ratio share basis. Two types of congestion take place in the market: interzonal and intrazonal (or local). The rules stated that when congestion costs reached \$20 million in any 12 month period in either interzonal or local congestion, direct assignment of the costs would be implemented. The \$20 million limit was reached on August 14, 2001 for interzonal congestion and on March 5, 2002 for local congestion. Direct assignment of interzonal congestion costs was implemented on February 15, 2002. Local congestion is still not directly assigned. While the rules call for the direct assignment to be implemented six months after the limit is reached, market participants concluded that the

¹⁶ The technical term for this is Out-of-Merit Order or OOM. Generators place bids for their energy. The bids are stacked from lowest to highest. When there is congestion the system operator must choose higher priced generation from the bid stack, and out of order.

direct assignment of local congestion costs was not feasible. Instead, ERCOT adopted a series of protocol revisions in an attempt to mitigate the affects of local congestion.¹⁷

In September 2003 the PUC adopted a rule that set forth the basic principles of a new market design for ERCOT.¹⁸ The key changes in the rule are:

- requirements that ERCOT require that bids for energy and other services procured by ERCOT in the day-ahead and real-time market be submitted on an individual generating unit basis;
- a requirement to directly assign the costs of resolving all transmission congestion, including local congestion to the resources that caused the congestion; and
- a requirement for the use of nodal energy prices for resources and zonal energy prices for loads.

Instead of the ERCOT grid being divided into zones, as it is currently structured, a nodal market consists of nodes. Each node represents a point in ERCOT where a generator injects power into the transmission grid or where power is delivered to the distribution network or to a customer. Managing congestion through a nodal market would allow ERCOT to identify entities responsible for creating local congestion and directly assign those costs to the parties. Zones would still exist for pricing energy delivered to loads. Zonal energy prices would be an aggregation of the nodes in a zone.

ERCOT has created the Texas Nodal Team (TNT) to examine how a nodal market in Texas should be structured and to work through various technical issues surrounding changing the wholesale market structure. In addition to working through the technical issues, the TNT will receive a cost-benefit analysis associated with a market redesign. All of the information gathered by the TNT is provided to the PUC to assist with determining the correct market structure to implement.

Some of the potential drawbacks of a nodal system will be the cost of implementation on market participants, the affect on bilateral contracts and prices, the complicated nature of the system, and price variations from node to node.¹⁹

The current timeline for the development of a new market design is:

- November 2004 to May 2005 - PUC review of cost/benefit study and review of proposed protocols;
- June 2005 to April 2006 - development of software;
- January 2006 to September 2006 - testing;
- October 2006 - implementation.²⁰

¹⁷ Electric Utility Restructuring Legislative Oversight Committee Report to the 78th Legislature, February 2003.

¹⁸ *Wholesale Market Design for the Electric Reliability Council of Texas*, Project No. 26376, Order Adopting New §25.501 (Sep. 23, 2003).

¹⁹ Commissioner Parsley presentation to the House Regulated Industries Committee, September 24, 2004.

²⁰ Ibid.

Because of the time that it has taken to conduct the cost-benefit study and develop market protocols, the PUC has changed the date for review of the cost-benefit study and protocols. The cost-benefit study is required to be filed by December 31, 2004, and the protocols are to be filed for review in March 2005.²¹ The implementation date remains October 2006.

²¹ *PUC Rulemaking Proceeding Concerning Implementation of a Nodal Market Design for the Electric Reliability Council of Texas*, Project No. 30160, Order Adopting Amendments to §25.501 as Approved at the October 28, 2004 Open Meeting (Oct. 29, 2004).

STRANDED COSTS and TRUE-UP PROCEEDINGS

The true-up proceeding is a case at the PUC convened to determine the final stranded costs and other true-up components for utilities. All utilities that had projected stranded costs had to file their stranded cost estimates with the PUC during 2004 on a schedule determined by the commission.²² These utilities include: TNMP, CenterPoint Energy, and AEP. Both TXU and Entergy Gulf States settled their stranded costs with the PUC.

The largest component of the true-up proceeding, stranded costs are costs incurred by utilities in a regulated environment that might be unrecoverable in a competitive environment. Mostly, these costs can be associated with capital intensive power generation facilities, where operation costs are relatively low but initial construction expenditures are high. These high costs might not be fully recovered in a competitive market. SB 7 defined stranded costs as the difference between the book value and market value of investments.²³

In 2001, the PUC set rates for delivery of electricity in the competitive market and estimated stranded costs. By running a model, the PUC concluded that for several of the utilities, stranded costs were projected to be negative, primarily due to the high price of natural gas. The increase in the price of natural gas made generation for stranded investments such as coal and nuclear generation more competitive, thus reducing estimated stranded cost numbers. SB 7 and prior PUC orders had allowed utilities to begin recovering projected stranded costs from customers in 1998, but the statute also provided that utilities could not over-recover stranded costs. To prevent the possibility that the utilities would over-recover stranded costs, in November 2001, the PUC ordered utilities to begin returning the projected over-collected stranded costs to customers through excess mitigation credits (EMC).²⁴ The EMCs increased headroom for CREPs by reducing the non-bypassable delivery charges.

To reduce the burden on ratepayers, SB 7 and PUC rules allow utilities to use securitization.²⁵ Securitization allows utilities to issue bonds to recover their stranded costs upfront in a large payment rather than through rates collected over multiple years. The principal and interest on the bonds are then paid through charges to customers over a period of years at a lower interest rate.

One of the non-stranded cost true-up components was the determination of the retail claw-back. Provisions of SB 7 require AREPs to “refund” earnings to residential and small commercial customers if 40 percent of their respective customer base has not migrated to a new provider within two years of the introduction of competition. For the small commercial customers, all of the AREPs met the 40 percent threshold within two years. (TXU, AEP, and Reliant all met the 40 percent threshold, although the PUC

²² TXU did not have to file stranded cost numbers because it settled its stranded cost case with the PUC in 2002.

²³ Scope of Competition in Electric Markets in Texas, Public Utility Commission of Texas, 2003.

²⁴ Scope of Competition in Electric Markets in Texas, Public Utility Commission of Texas, 2003.

²⁵ Scope of Competition in Electric Markets in Texas, Public Utility Commission of Texas, 2003.

struggled with the issue due to the confusion with whether Reliant could include GLO customer switches as migrating customer base.) None of the AREPs met the 40 percent threshold for residential customers, so the retail clawback has been calculated for Reliant (in the CenterPoint Energy true-up) and the Texas-New Mexico AREP, and it will be an issue in the AEP true-up case.

Texas-New Mexico Power

TNMP filed stranded cost numbers with the PUC on January 22, 2004. TNMP initially requested \$307,569,665 for their stranded cost figure. The PUC determined that TNMP should be allowed to recover \$128,820,365. The true-up amount has not been finalized because the case was remanded to the State Office of Administrative Hearings for a final interest calculation. Once the stranded costs are finalized the PUC will have to conduct proceedings to determine whether securitization is beneficial to customers, to include the stranded costs in delivery rates, and to recalculate the PTB taking into consideration stranded cost recovery.

CenterPoint Energy

CenterPoint Energy filed stranded cost numbers with the PUC March 31, 2004. The company requested recovery of \$4,249,069,435. The PUC determined that CenterPoint should be allowed to recover \$2,301,028,796.²⁶ CenterPoint and the interveners in the case are meeting in an effort to come to agreement on a Financing Order. In addition they are considering possible issues for settlement of the entire true-up case. If these issues are not resolved through a settlement, the PUC will have to conduct proceedings on the Financing Order to determine if securitization is beneficial to customers, to include the true-up amount in delivery rates, and to recalculate the PTB taking into consideration new delivery rates.

American Electric Power

AEP is in the process of selling the generation assets of its Texas Central Company in an effort to establish values to use in the company's true-up proceeding. Current estimates indicate AEP should file stranded cost numbers with the PUC prior to July 2005.

TXU

TXU did not file with the PUC for a true-up proceeding in 2004 because the company settled its stranded costs and other lawsuits in 2002. While complex, the general results of the settlement were that TXU was allowed to securitize \$1.3 billion of regulatory assets and agreed not to seek recovery of any additional stranded costs.²⁷

Entergy Gulf States, Inc. (EGSI)

The PUC approved a non-unanimous agreement stating that because EGSI had not entered competition the company has no stranded costs and no need for a true-up proceeding in 2004.

²⁶ PUC Docket No. 29526, Commission Schedule I, Summary of True-up Amounts.

²⁷ Scope of Competition in Electric Markets in Texas, Public Utility Commission of Texas, 2003.

AREAS OUTSIDE OF ERCOT

While ERCOT encompasses the vast majority of the electric grid in Texas, there are four areas of the state that fall under other reliability councils. Although SB 7 envisioned the entire state moving to competition as expeditiously as possible, these areas are in different states of readiness for competition.

Southeast Texas

Southeast Texas is in the Southern Electricity Reliability Council and Entergy Texas is the investor-owned electricity provider in the territory. Entergy's service territory is attractive for competition because there is sufficient generation and significant load. Since the implementation of competition, Entergy and the PUC have worked together to move toward opening the territory to competition but have encountered several obstacles.

One of the primary problems has been the lack of an ISO or regional transmission organization (RTO) to manage market operations. Entergy had pursued the formation of the Southeastern Transmission Company RTO, however recent developments have halted the FERC ordered RTO and left the area with little possibility of an ISO or RTO. Government officials and regulators in the Southeastern states have opposed the FERC's efforts to create a standard wholesale market design operated by a regional transmission organization. This opposition was a key factor in the decision by Entergy, the Southern Company, and other SeTrans sponsors to discontinue their efforts to create an RTO in the Southeast, and Mississippi and Louisiana appear to oppose Entergy's joining an RTO.

While the recent designation of the Southwest Power Pool (SPP) as an RTO by FERC could provide an RTO for the area, there are several issues to resolve before a realistic implementation of competition in the area. In order for Entergy to join the SPP, the Louisiana, Arkansas, and Mississippi regulatory bodies would have to approve the change. Arkansas appears to be interested in having Entergy join the SPP, but the regulators in Louisiana and Mississippi are unlikely to approve it.

Entergy has proposed an alternative arrangement in which it would contract with a third party to oversee its operation of the transmission system. This arrangement would provide some of the benefits of an RTO, but Entergy has linked this proposal to changes in how transmission projects are funded. This proposal on transmission funding would require transmission customers, such as independent power producers, cooperatives and municipal utilities, to pay all of the costs of new transmission facilities that are built to accommodate their service requests. The current FERC rules provide for a sharing of the costs of new facilities among all transmission customers, including the utility's retail customers, because transmission facilities typically provide broad benefits.

The PUC considered a proposal for a third party to oversee the Entergy transmission system, in connection with its efforts to implement retail competition in the Entergy area. The PUC concluded that the Entergy proposal did not provide adequate independence

and rejected Entergy's proposal. In the proceeding, the PUC also terminated the pilot project.²⁸

Northeast Texas

Northeast Texas is in the SPP reliability region, and the SPP organization has been declared an RTO. However, during the 78th Regular Session, SB 1437 attempted to delay competition in the Southwestern Electric Power Company (SWEPCO) service territory. Most of the electricity generated in the area comes from coal and given the rise in natural gas prices, customers in the area were receiving relatively low rates. There had also been no participation in the Pilot Project since its inception.

SB 1437 was not passed, however, because the PUC approved an agreement among interested parties and through an order delayed competition in the area until 2007. The pilot project for retail competition remains in effect in the SWEPCO service area.

Panhandle

Similar to Northeast Texas, competition was delayed in the territory. The Panhandle is located in SPP. HB 1692, 77th Regular Session, delayed competition in the Panhandle until at least January 1, 2007.

El Paso

El Paso Electric Company (EPE) was exempted from competition by SB 7 until September 1, 2005. EPE is the only utility in Texas that is located within the Western Electric Coordinating Council. In a rulemaking proceeding, the PUC determined that the power region in which EPE is located is unable to offer fair competition and reliable service to all retail customer classes. As authorized under PURA 39.103, the PUC delayed retail competition until a number of development activities are completed and the region is ready for competition. These activities include developing a regional transmission organization in the area, conducting a pilot project, unbundling EPE, and adopting unbundled delivery rates. The formation of a regional transmission organization is a key milestone that would have to be completed before a pilot project is initiated or the EPE is unbundled.

²⁸ *Application of Entergy Gulf States, Inc. for Certification of an Independent Organization for the Entergy Settlement Area in Texas*, Docket No. 28818, Order (Jul. 12, 2004).

PRICE TO BEAT

The PTB is the rate charged by AREPs to customers in the service territories of the utility they are affiliated with. The PTB is a rate established in statute that is a six percent reduction from the base rates the utilities charged customers in 1999. Initially, the PTB was both a price ceiling and a price floor. A key concept in SB 7 was headroom, the difference between the PTB and the costs that a retail electric provider (REP) would incur to provide electricity to customers. Major cost components for REPs are power costs, ERCOT-related costs, and non-bypassable charges. The non-bypassable charges consist of competitive transition charges, SBF assessment, and transmission and distribution fees. The PTB mechanism has been an important issue throughout the restructuring of the electric industry.

First and foremost, the PTB is the mechanism that allows competitive providers to enter the market and offer a price that is lower than the incumbent AREP. Competitors use the headroom to offer a price that is less than the AREP but above the price floor, allowing for at least a minimum profit margin while still reducing monthly bills for consumers. Clearly, since the AREP had all of the customer base, there had to be some way for competitors to attract customers in order to compete. By requiring the AREPs to offer the PTB and ensuring sufficient headroom, competition can occur in the market place.

The adjustment of the PTB fuel factor is a critical issue to the electric market in Texas. Statute provides that an AREP can request an adjustment to the fuel factor portion of the PTB not more than twice per year.²⁹ The PUC, through its rulemaking, established guidelines which the AREP had to follow to demonstrate an adequate increase in fuel costs to justify an increase in the PTB fuel factor. The threshold consisted of a four percent increase in the price of natural gas on any rolling twenty day average.

The following table shows the change in PTB associated with the increase in natural gas and the number of increases requested by AREP.³⁰ First Choice filed for an increase on October 29, 2004 and Reliant filed on November 1, 2004; for these two companies both the current and proposed rates are shown. All rates are shown as the annual average rates. All PTB rates include higher rates in summer than in other times of the year.

²⁹ Section 39.202(1)

³⁰ Source, Public Utility Commission of Texas

Company	Initial PTB in \$/kwh	Initial Gas in \$/mmBtu	Current/ Proposed PTB	Current Gas	No. of Increases
TXU	0.083	3.11	0.108	6.52	5
Reliant Current	0.086	3.11	0.108	6.10	4
Reliant Proposed	0.086	3.11	0.119	7.50	5
First Choice Current	0.087	3.11	0.11	6.45	5
First Choice Proposed	0.087	3.11	0.117	7.45	6
CPL	0.089	3.11	0.122	6.52	4
WTU	0.089	3.11	0.129	6.52	4

The PTB has been mired in some controversy. One of the biggest issues associated with the PTB is the fuel adjustment mechanism. As stated above, the PUC rule provides that AREPs can adjust the PTB no more than two times per year and must demonstrate a five percent increase in the price of natural gas over a twenty day rolling average (or a ten percent increase if the request is filed after November 15). Natural gas was selected as a proxy for several different reasons. First, the trends for the price of natural gas and electricity correlate closely. Also, the generation fleet in Texas is composed over more than fifty percent natural gas fired power plant. Because of this, natural gas has a significant impact on the price of electricity.

Another issue associated with the PTB is the fact that only the AREP can request an adjustment to the fuel factor. There have been some discussions that other groups, including the Office of the Public Utility Counsel (OPUC), should be able to request a downward adjustment to the PTB when natural gas prices drop to a certain threshold level.

Finally, it is important to note the critical function fuel factor adjustments have on headroom and competition. When the price of natural gas increases but there is not a corresponding increase in the fuel factor competitive headroom is reduced. The reduction comes from an increase in the price of generation in the wholesale market without a subsequent increase in the price of electricity at the retail level. In order for the market to remain competitive, headroom must remain consistent. For headroom to remain consistent adjustments to the fuel factor are critical.

CUSTOMER PROTECTIONS

Customer protections have been a primary objective for the Legislature and PUC throughout the restructuring process. The goals for customer protections were enumerated in SB 86 and SB 7 when passed in 1999.

System Benefit Fund

The SBF is a fee assessed on retail customers that is used to fund four different programs. The fee is capped by statute at a maximum of 65 cents per MWH. That means that the average residential customer pays 65 cents per month to fund the SBF. The four programs funded by the SBF are: a discount off electric bills for low-income customers, a weatherization and energy efficiency program for low-income customer, a customer education campaign and administrative costs, and a program to help schools with reductions in property tax revenues associated with deregulation.

The low-income discount is currently a ten percent reduction off monthly electric bills, but the statute permits a discount of up to 20 percent. Customers at or below 125 percent of the federal poverty level or that receive benefits from the Health and Human Service Commission (formerly the Department of Human Services) are eligible to receive the low-income discount. Customers are enrolled through a computer matching program that matches Health and Human Service Commission beneficiary and electric customer names, or they can self-enroll in the program.

The weatherization portion of the program was established to assist customers at or below 125 percent of the federal poverty level with energy efficiency improvements to residences in order to reduce monthly electric bills. The weatherization program and the school tax program were not funded in the last legislative session.

The PUC has made several modifications to the low-income discount program:

- integrating the telephone and electric discount programs, relying on a single vendor to administer a computer matching system to identify low-income customers for the electric and telephone discount programs;
- modifying the enrollment process to allow eligible customers to enroll in both the electric and telephone discount programs simultaneously; and
- modifying the matching process for electric customers to rely on customer identification, rather than address information.

The PUC concluded that basing the match on customer information, rather than residence information, would be more effective in ensuring that the discount is applied to eligible customers.

Credit Scoring

Recently, TXU Retail Energy Services announced the implementation of new rate structure for customers where the company competes as a CREP. The proposed rate structure would have benchmarked the rate a customer received against a credit score

established for the customer. The result of the proposed new rate structure would have been an increase in rates for many customers that TXU served in areas in which it is not the AREP. TXU stated that implementing the new rates was necessary because the company was attempting to reduce "bad debt". Normally, a REP provides electric service to a customer and issues a bill after a month's worth of service has been provided. A customer normally has 16 days to pay, once a bill is issued, so a REP is, in effect, extending credit for roughly a month and a half. TXU has stated that its bad debt levels have risen significantly, as customers fail to pay or are slow to pay for service. The bad debt is difficult to manage, according to TXU, because customers have the ability to switch to a new REP without paying for the service already provided to them by TXU.

While collection of bad debt is an important issue for both companies and customers in a competitive market, minimizing or eliminating the practice of establishing and implementing rates based on a credit score is equally important.

The issue that needs to be addressed is that companies need to have access to customer payment history to determine whether to enroll the customer as a new customer and to help determine if a deposit should be required.

Currently, REPs that compete in Texas have numerous tools at their disposal to alleviate bad debt. Customer protection rules allow a REP to receive up to 1/5 of an annual bill as a deposit, disconnect the customer for non-payment, or not accept the customer for new service. REPs can also use credit reporting agencies, but they do not necessarily have a way of knowing the payment history of a customer with another REP.

OPUC filed a complaint with the PUC prior to the proposed rate implementation. TXU agreed to halt the rate implementation and work with OPUC, the PUC, and other groups in an effort to more effectively address bad debt and customer switching. The groups have agreed to a memorandum of understanding under which TXU will not implement the proposed rates, OPUC will drop the complaint, and the PUC will open a project to consider remedies to the bad debt problem faced by many CREPs in the market.

Energy Efficiency

The PUC administers an energy efficiency program under PURA §39.905. This program is operated by the utilities and funded through their rates. In 2003, utilities spent roughly \$70 million on this program. The goals of the PURA energy-efficiency program are to:

- achieve energy savings through incentive programs conducted by electric utilities in a market-neutral, nondiscriminatory manner;
- give all customers access to energy efficiency alternatives that allow them to reduce energy consumption and reduce energy costs; and
- acquire cost-effective energy efficiency equivalent to at least 10 percent of each electric utility's annual growth in demand.

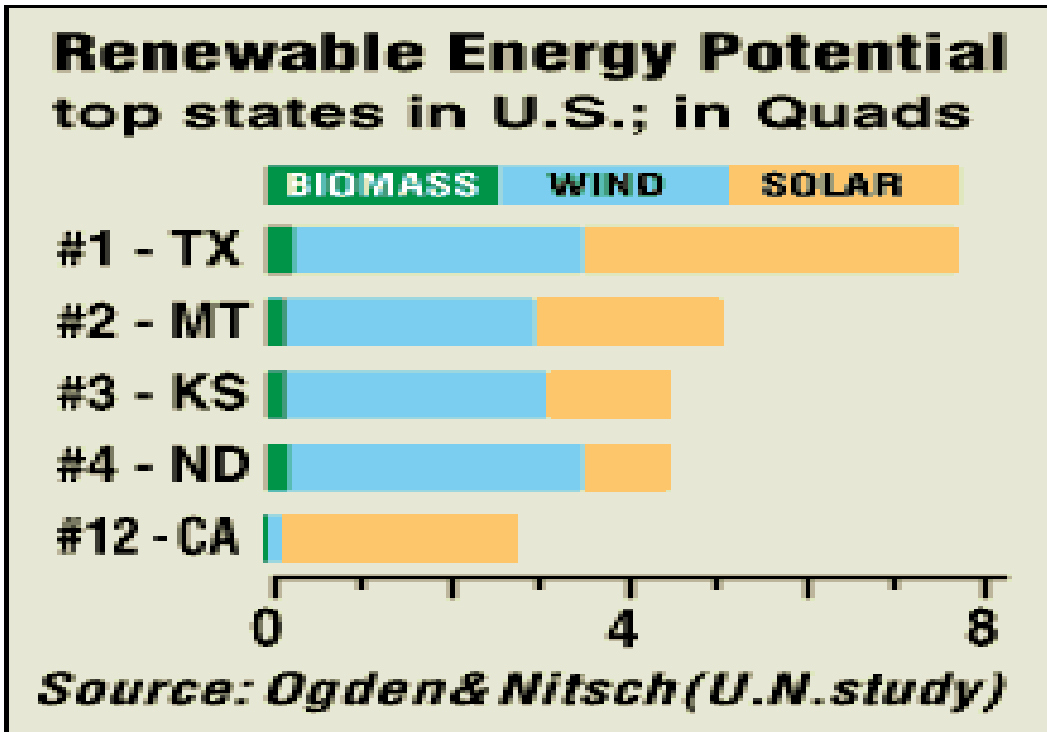
In the aggregate, the utilities exceeded the goal of a 10 percent reduction in growth in demand, and provided savings to all customer classes. In addition, the majority of the savings occurred in non-attainment areas, thereby contributing to air emission reductions.

The PUC also has administered an energy-efficiency grant program under the Health and Safety Code that is intended to reduce air emissions in areas that do not meet air-quality standards under the Federal Clean Air Act or that are on the verge of falling into non-attainment status. This program was not funded in the last legislative session. The Health and Safety Code also calls on the PUC to calculate the air emission benefits of both the grant program and the PURA energy-efficiency program.

RENEWABLE ENERGY

Renewable energy is a social policy that Texas has embraced wholeheartedly. The energy primarily comes from harnessing various naturally occurring processes: sunshine, wind, the flow of water; and converting them to energy.

Texas, of all 50 states, has the greatest potential to harness and utilize renewable energy. Texas has significantly more days of sun than most other states and has large wind resources in the western part of the state. These two renewable energies combined could contribute substantially to the state's overall energy supply.



Current Policies

While Texas has significant potential to utilize renewable energy resources, the requirements set forth in SB 7, 76th Regular Session, established mandates that ensured the use of renewable energy would be a part of Texas' energy future. Section 39.904 of the PURA, implemented by that bill, required that an additional 2,000 MW of renewable energy be installed in Texas by 2009. The bill specifically stated that 1,280 MW be installed by January 1, 2003, 1,730 be installed by January 1, 2005, 2,280 be installed by January 1, 2007, and 2,880 be installed by January 1, 2009.

Section 39.904 of PURA also requires the PUC to implement a Renewable Energy Credit (REC) trading program. In order to facilitate the use and reliance on renewable energy, the program requires REPs, municipally owned utilities and electric cooperatives that do not own or purchase capacity from renewable energy to purchase and hold RECs sufficient to satisfy PUC rules and requirements.

Under the REC trading program, renewable energy generators earn RECs for every megawatt-hour (MWh) they produce. One REC is equal to one MWh. REPs are required to purchase RECs that meet a certain percentage of their retail sales. The RECs are tradable credits that exist for up to three years and may trade separate from energy. The REC program is administered by ERCOT.

The program implemented here in Texas is generally regarded as one of the best in the country. Since the inception of SB 7, 1187 MW of renewable energy capacity have been installed in Texas, with another 194 MW of capacity announced to begin operation in 2005. This represents over half of the 2009 goal established by the bill. Approximately 88 percent of the renewable energy capacity in Texas is from wind generation. The vast majority of the installed and announced capacity growth has taken place in West Texas predominantly due to the wind speed and consistency.

Technology	Existing MW	New MW	Total MWh (2003)
Biomass	0	5.4	39,496
Hydro	202	10.2	239,683.7
Landfill Gas	6.3	31.7	154,206
Solar	0	0.2	219.9
Wind	115.8	1139.7	2,515,482.2

In the newly established retail energy market, demand for green power has been successful and is growing. REPs offer renewable energy to customers in all residential markets and at rates that are comparable to the PTB.

Economics

There are many reasons that energy derived from wind power is attractive, but one of the concerns that has limited its development has been economic. Wind generation, as with most evolving and developing technologies, has been saddled with the stigma of being prohibitively expensive. Policymakers have been able to look past the expense to see the value of installing renewable energy and have attempted to develop ways to help mitigate the expense. Those tools include tax based incentives and portfolio requirements.

The Federal Production Tax Credit were credits that established a 10 year, 1.5 cent per kilowatt-hour tax credit for wind generation facilities that were completed through December 2003. The credits are indexed to inflation, so the current production tax credit (PTC) is roughly 1.8 cents. A key factor in the limited development of renewable resources in early 2004 was the expiration of the federal production tax credit. The Congress recently enacted H.R. 4520 to extend the PTC, and renewable development is expected to resume. (Texas cosponsors included Reps. John Carter, Kevin Brady, Sam Johnson, Randy Neugebauer, Kay Granger, Pete Sessions, and Lamar Smith.)

The tax credit and the Texas renewable energy credits make wind generation projects much more competitive when compared to established, fossil-fueled energy sources. Recent increases in the cost of natural gas also make wind generation more competitive, but without the tax credit, wind generators would be unable to compete in a competitive market.

Wind generation has also helped local economies. In Texas, wind generation facilities have contributed \$12 million in taxes for rural school districts. It has created over 1,000 construction jobs, over 1,000 jobs in the service, manufacturing, and transportation industries, and has provided \$2.5 million in royalties to local landowners.

Transmission

One of the biggest facing the development of wind generation in Texas is the lack of sufficient transmission to move the power from where it is produced to where it is needed.

ERCOT has extensive transmission planning to lessen constraints on the electric grid. Due to the rapidly expanding generation in West Texas associated with wind generation, significant congestion has arisen. As a result, both the ERCOT has done extensive planning to increase the transmission in the area. In addition, the PUC has approved additional transmission lines to the West Texas area to improve congestion and help move generation from west to east.

HB 2548, 78th Regular session, gave the PUC broader authority to site transmission as necessary to help solve transmission congestion and permitted it to consider the renewable energy mandate in assessing the need for new transmission facilities.

Any future wind development could increase congestion in West Texas and result in demands for significant additional transmission there. An additional problem with transmission occurs because of the nature and speed with which wind farms and transmission projects can be developed and sited. Wind projects can go from siting to full operation in a much shorter time period than it takes to plan, site and construct new transmission facilities. This has also contributed to the congestion problem.

The Lower Colorado River Authority is in the process of constructing additional transmission facilities and upgrading facilities in the McCamey area to allow additional wind power to be exported from that area. ERCOT has adopted a plan to build additional high-voltage transmission lines from McCamey to the San Angelo area and from McCamey to the Odessa area, if developers make commitments to build additional wind generation facilities in the McCamey area. ERCOT projects that the first of these projects would roughly double of the export capacity from the McCamey area, and the two projects would roughly triple the export capacity. The two wind projects that were announced for construction in 2005 are not in the McCamey area and would not be subject to the transmission constraints in that area. One of the new projects is planned for the Abilene area, and the other is west of Amarillo, outside of ERCOT.

In Project No. 28884 the PUC is considering amendments to its rules relating to transmission planning, licensing, and cost recovery in response to HB 2548.

Natural Gas

With the price of natural gas significantly higher than when SB 7 was initially drafted and continually fluctuating, the price of wind power has moved toward being much more competitive. What is the price when you factor in current natural gas prices and the federal production tax credits? is it less than the cost of power from natural gas?

Wind industry advocates argue that current production cost for wind generation, without the federal production tax credit, is \$0.04/kilowatt-hour (kwh). The availability of the PTC reduces the cost to less than three cents.

At a current gas price (November Houston Ship Channel price of \$7.32) and a representative heat rate (8000 kwh per mmbtu), the price of power from an efficient natural gas plant, with capital costs, would be \$0.07/kwh. There is an expectation that gas prices will not remain at current levels but fall after the winter heating season is over and the production in the Gulf of Mexico is restored. The Energy Information Administration, for example, is forecasting prices in the \$4 range through 2020. If gas prices return to the \$4 range in 2005, the price of power would be in the 4 to 5 cent range. Natural gas generation can normally be built with a smaller transmission investment, since it can be built close to major urban areas. Cost is clearly one important factor, but the ability to call on a resource when there is demand for electricity is also important. The availability of wind-generated electricity is dependent on the availability of wind, while natural gas generation has, for the most part, not been at risk due to fuel availability.

Transmission within ERCOT is paid for by all consumers, through regional rates. The PUC has not estimated the cost of transmission to meet any additional renewable goals. Assuming that the PTB expires in 2007, the additional transmission would affect all REPs similarly. The differential impact of the additional transmission would fall in two areas: Texas vs. other states and competitive areas vs. non-competitive areas. In a high gas cost future, the investment in significant transmission to bring wind to a higher utilization might reduce electric costs compared to other areas of the country that do not invest in renewables and the transmission that they require. In a low-cost future, this investment might increase electric costs in Texas compared to other areas. The differential impact between regulated and non-regulated arises because all of the ERCOT consumers would share in the cost of the transmission facilities, but many of the municipal utilities and cooperatives in ERCOT are sheltered from some of the impact of the renewable mandate because of their access to renewable resources that existed before SB 7 was enacted.

RECOMMENDATIONS

The Committee finds the following:

- ERCOT will continue to evolve from a start-up organization to a matured system operator. As the evolution progresses, the Legislature should focus on needed changes and improvements to management and board structure. The Legislature should also focus on the budget and fee process at ERCOT and help facilitate communication between ERCOT and the PUC, the state agency with oversight authority.

The committee recommends that the PUC have additional budgetary discretion and authority when it comes to approving the ERCOT administrative fee. The PUC should have all necessary information on the operating expenses and debt management procedures at ERCOT to make an informed decision regarding the appropriate fee rate.

- The Legislature should consider how to structure market oversight within ERCOT. While there is a market oversight division at the PUC, there is no real oversight agency at ERCOT to examine market data and transactions to ensure the market and market participants operate as intended and act when there are problems.

The committee recommends working with the PUC and ERCOT to create an entity responsible for overseeing market transactions and data to ensure the electric market in Texas operates as intended.

- The Legislature should consider the feasibility of whether areas outside of ERCOT but still within the state should move to competition.

The committee recommends that areas outside of ERCOT but still within the state borders be opened to competition as expeditiously as possible but not until the areas are sufficiently ready to move forward.

- The Legislature should maintain support for strong customer protection rules to ensure customers will continue to see the benefits of competition.
- The Legislature should consider the important public policy goals associated with renewable energy goals and achieving those goals.

The committee recommends the Legislature explore the idea of increasing the renewable goal established by SB 7. The Legislature should consider the costs associated with a substantial increase in transmission and the market benefits received from siting new wind generation. The Legislature should also consider ways to improve the use of other forms of renewable energy.

Appendix A

Committee Minutes

MINUTES

SENATE COMMITTEE ON BUSINESS & COMMERCE

Tuesday, April 27, 2004

8:30 a.m.

Betty King Committee Hearing Room, 2E.20

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Business & Commerce was held on Tuesday, April 27, 2004, in the Betty King Committee Hearing Room, 2E.20, at Austin, Texas.

MEMBERS PRESENT:

Senator Troy Fraser, Chairman
Senator Kip Averitt, Vice Chairman
Senator Kenneth Armbrister
Senator Kim Brimer
Senator John Carona
Senator Craig Estes
Senator Mike Jackson
Senator Eddie Lucio, Jr.
Senator Leticia Van de Putte

MEMBERS ABSENT:

None

Chairman Fraser called the meeting to order at 8:40 a.m. There being a quorum present, the following business was transacted:

The Chairman welcomed Senator John Carona, who is returning as a member of the Senate Business and Commerce Committee.

Chairman Fraser made brief opening remarks and advised that the committee would be discussing Interim Charge #5 regarding the on-going implementation of SB7. Because of the importance of this charge and the fact that the Public Utility Commission (PUC) will be going through Sunset in the upcoming session, the Chairman had invited Senate members of the Electric Utility Restructuring Legislative Oversight Committee and of the Sunset Commission to the hearing.

Upon completion of Chairman Fraser's opening remarks, the Chairman called the first witness, Paul Hudson, Chairman of the Public Utility Commission. Chairman Hudson presented an

SENATE COMMITTEE ON BUSINESS & COMMERCE

Minutes

Tuesday, April 27, 2004

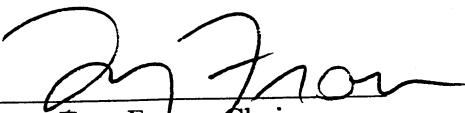
page 2

overview of electric competition in Texas. Chairman Hudson's testimony covered the retail market, price to beat, industry activity, customer protection, non-ERCOT (Electric Reliability Council of Texas) areas, and issues that will be facing the state in the future. During Chairman Hudson's testimony, Jess Totten of the PUC was called to respond to members' questions.

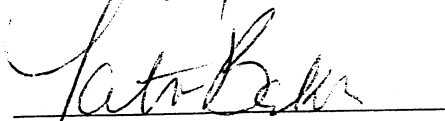
Following the above invited witnesses' testimony, Chairman Fraser called for Commissioner Julie Parsley, representing the PUC, to present her testimony. Commissioner Parsley gave an overview of the ERCOT Wholesale Market and Security-Constrained Economic Dispatch. Jess Totten was called again to respond to members' questions.

Upon completion of Commissioner Parsley's testimony, Chairman Fraser called Barry Smitherman, the newly appointed Commissioner of the Public Utility Commission. Senator Jackson formally introduced Commissioner Smitherman, who is from Senator Jackson's district.

There being no further business, at 10:43 a.m. Senator Jackson moved that the Senate Business and Commerce Committee stand recessed subject to the call of the Chairman. Without objection, it was so ordered.



Senator Troy Fraser, Chairman



Tatum Baker, Clerk

WITNESS LIST

Business & Commerce
April 27, 2004 - 8:30 AM

Review of Electric Competition

ON: Hudson, Paul Chairman (Public Utility Commission), Austin, TX
Parsley, Julie Commissioner (Public Utility Commission), Austin, TX
Smitherman, Barry Commissioner (Public Utility Commission), Austin, TX
Totten, Jess (Public Utility Commission), Austin, TX

MINUTES

SENATE COMMITTEE ON BUSINESS & COMMERCE

Tuesday, May 11, 2004

9:00 a.m.

Betty King Committee Hearing Room, 2E.20

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Business & Commerce was held on Tuesday, May 11, 2004, in the Betty King Committee Hearing Room, 2E.20, at Austin, Texas.

MEMBERS PRESENT:

Senator Troy Fraser, Chairman
Senator Kip Averitt, Vice Chairman
Senator Kenneth Armbrister
Senator Kim Brimer
Senator John Carona
Senator Craig Estes
Senator Mike Jackson
Senator Eddie Lucio, Jr.
Senator Leticia Van de Putte

MEMBERS ABSENT:

None

The chair called the meeting to order at 9:00 a.m. There being a quorum present, the following business was transacted:

Chairman Fraser made brief opening remarks and advised that the Committee would be hearing testimony on Interim Charge #3, regarding the Texas Residential Construction Commission which was established by HB 730 in the 78th Legislative Session. The Committee would also discuss and hear testimony on Interim Charge #6, relating to improving the potential for further renewable energy development and the current status of policies encouraging the use of the renewable energy sources.

The Chairman called invited witness Stephen Thomas, Texas Residential Construction Commission, to present his testimony on Interim Charge #3. Mr. Thomas gave a brief update on home builder registration; state-sponsored inspection and dispute resolution process; limited warranties and building and performance standards; industry task forces; Texas Star Builder

SENATE COMMITTEE ON BUSINESS & COMMERCE

Minutes

Tuesday, May 11, 2004

page 2

Program; voluntary certification of arbitrators and filing of arbitration awards; Commission infrastructure; and public information efforts.

Following Mr. Thomas' testimony, Chairman Fraser called for public testimony. Chairman Fraser called Scott Norman, Texas Association of Builders, to present his testimony and respond to members' questions. Mr. Norman was the only public witness to testify, although Ray Tonjes and Jim Frankel had filled out cards to testify if committee members had questions of the industry. Chairman Fraser then closed public testimony on Interim Charge #3.

The Chairman then advised the Committee and those present that the Committee would now begin testimony on Charge #6. Chairman Fraser called Julie Parsley, Commissioner, Public Utility Commission of Texas, to present her testimony. Commissioner Parsley testified on the status of renewable energy in Texas; effectiveness of current policies; economics associated with renewable energy; and potential for renewable energy development. Before completion of Commissioner Parsley's testimony, Chairman Fraser moved at 10:13 a.m. that the Committee stand recessed until after adjournment of the Senate; without objection, it was so ordered.

At 11:48 a.m. the Committee reconvened. Chairman Fraser called Commissioner Parsley to complete her testimony and respond to members' questions.

Following Commissioner Parsley's testimony, the Chairman called Dub Taylor, Director of the State Energy Conservation Office (SECO). Mr. Taylor gave an overview of SECO; energy in Texas; purchasing renewable energy; and renewable energy projects.

Upon completion of Mr. Taylor's testimony, Senator Averitt assumed the Chair and called Adan Martinez, General Land Office (GLO), to present his testimony. Mr. Martinez testified on past efforts by the GLO to develop renewable energy on state lands and current efforts by the GLO to commercialize wind generation on state lands.

Chairman Fraser resumed the Chair and called John Fainter, President of the Association of Electric Companies of Texas. Mr. Fainter presented his testimony and responded to members' questions.

Upon completion of Mr. Fainter's testimony, Chairman Fraser called Walt Hornaday, President of Cielo Wind Power. Mr. Hornaday presented his testimony and responded to members' questions.

SENATE COMMITTEE ON BUSINESS & COMMERCE

Minutes

Tuesday, May 11, 2004

page 3

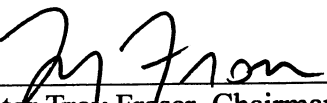
Chairman Fraser then called Tom "Smitty" Smith, Director of Public Citizen's Texas Office. Mr. Smith presented his testimony and responded to members' questions.

Upon completion of Mr. Smith's testimony, Chairman Fraser called the final invited witness, Mike Sloan, Consultant representing The Wind Coalition. Mr. Sloan provided information on the status of the Texas wind industry and described policy needs.

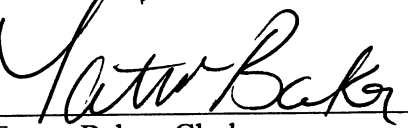
Following Mr. Sloan's testimony, the Chairman called for public testimony. Chairman Fraser called Bob King, Engineer, representing Ridge Energy Group. Mr. King presented his testimony and responded to members' questions. Mr. King was the only public witness to testify.

Upon completion of Mr. King's testimony, Chairman Fraser moved that public testimony be closed; without objection, it was so ordered.

There being no further business, at 2:04 p.m. Senator Fraser moved that the Committee stand recessed subject to the call of the Chairman. Without objection, it was so ordered.



Senator Troy Fraser, Chairman



Tatum Baker, Clerk

WITNESS LIST

Business & Commerce
May 11, 2004 - 9:00 AM

Interim Charge #3

ON: Norman, Scott General Counsel (Texas Association of Builders), Austin, TX
Thomas, Stephen Executive Director (Texas Residential Construction),
Austin, TX

Registering, but not testifying:

FOR: Frankel, Jim Home Builder (Self), Houston, TX
Tonjes, Ray Home Builder (Self), Austin, TX

Interim Charge #6

FOR: Smith, Tom "Smitty" Director (Public Citizen Texas), Austin, TX

ON: Fainter Jr., John President (Association of Electric Companies of Texas),
Austin, TX
Hornaday, Walt President (Cielo Wind Power), Austin, TX
King, Robert Engineer (Ridge Energy Group), Austin, TX
Martinez, Adan (Texas General Land Office), Austin, TX
Parsley, Julie Commissioner (Public Utility Commission of Texas), Austin,
TX
Sloan, Mike Consultant (The Wind Coalition), Austin, TX
Taylor, Dub Director (State Energy Conservation Office), Austin, TX

**MINUTES
JOINT HEARING**

SENATE COMMITTEE ON BUSINESS & COMMERCE

Wednesday, September 29, 2004

10:00 a.m.

Capitol Extension, Room E1.036

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Business & Commerce was held jointly with the House Committee on Regulated Industries and the Electric Utility Restructuring Legislative Oversight Committee on Wednesday, September 29, 2004, in the Capitol Extension, Room E1.036, at Austin, Texas.

MEMBERS PRESENT:

Senator Troy Fraser, Chairman
Senator Kip Averitt, Vice Chairman
Senator Kim Brimer
Senator Eddie Lucio, Jr.
Senator Leticia Van de Putte

MEMBERS ABSENT:

Senator Kenneth Armbrister
Senator John Carona
Senator Craig Estes
Senator Mike Jackson

A joint hearing of the Senate Committee on Business and Commerce, House Committee on Regulated Industries, and the Electric Utility Restructuring Legislative Oversight Committee was held. Chairman Fraser and Chairman King shared presiding duties. At 10:10 a.m. Chairman Fraser called the Senate Committee on Business and Commerce and the Electric Utility Restructuring Legislative Oversight Committee to order. Chairman King called the House Committee on Regulated Industries to order. The following business was transacted:

Chairman Fraser welcomed Representative Burt Solomons, Chairman of the Sunset Commission, and everyone to the hearing. The Chairman made opening remarks and advised that the Committee would hear testimony regarding ongoing investigations concerning the Electric Reliability Council of Texas (ERCOT).

Upon completion of Chairman Fraser's opening remarks, Chairman Fraser called Mike Greene, Chairman of ERCOT, Tom Schrader, CEO of ERCOT, and Paul Hudson, Chairman of the Public Utility Commission of Texas (PUC), to testify before the Committees. Mr. Greene testified about the investigations currently taking place at ERCOT and advised that there are seven audits in progress at the present time. Mr. Schrader also testified and responded to members' questions.

SENATE COMMITTEE ON BUSINESS & COMMERCE

Minutes

Wednesday, September 29, 2004

page 2

Chairman Hudson testified that documentation will be provided showing a checklist of results of the various audits. Barry Smitherman, Commissioner, PUC and Julie Parsely, Commissioner, PUC, both joined the panel to testify and respond to members' questions.

Chairman Fraser moved that the Committees stand at ease at 12:09 p.m.

At 12:30 p.m. the Committees reconvened.

Maxine Buckles, CFO, ERCOT, joined the panel to respond to members' questions.

Following the above invited witnesses' testimony, Chairman Fraser called Paul O'Malley, CEO of TXU Energy. Mr. O'Malley testified on the issue of bad debt and the use of credit information to set electric utility rates.

Upon completion of Mr. O'Malley testimony, Chairman Fraser opened up public testimony. Bob King, President of Good Company, was called by Chairman Fraser. Mr. King testified and responded to members' questions.

At the conclusion of Mr. King's testimony, Chairman Fraser closed public testimony.

There being no further business, at 3:00 p.m. Chairman Fraser moved that the Senate Committee on Business and Commerce and the Electric Utility Restructuring Legislative Oversight Committee stand recessed subject to the call of the Chairman. Without objection, it was so ordered.

There being no further business, at 3:00 p.m. Chairman King moved that the House Committee on Regulated Industries stand recessed subject to the call of the Chairman. Without objection, it was so ordered.



Troy Fraser, Chairman



Tatum Baker, Clerk

WITNESS LIST

Business & Commerce
September 29, 2004 - 10:00 AM

Credit Information

ON: O'Malley, Paul CEO (TXU Energy), Austin, TX

Electric Utility Oversight

FOR: King, Robert President (Good Company Associates), Austin, TX

ON: Buckles, Maxine Chief Financial Officer (Electric Reliability Council of Texas), Austin, TX
Greene, Michael Chairman (Electric Reliability Council of Texas), Austin, TX
Hudson, Paul Chairman (Public Utility Commission), Austin, TX
Parsley, Julie Commissioner (Public Utility Commission), Austin, TX
Schrader, Thomas CEO (Electric Reliability Council of Texas), Austin, TX
Smitherman, Barry Commissioner (Public Utility Commission), Austin, TX