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January 15, 1997

Honorable Members of the Seventy-fifth Texas Legislature:

We are pleased to submit our 1997 Report on the Electric Power Industry Scope of Competition and Potentially Strandable Investment, as required by Sections 2.003 and 2.057(e) of the Public Utility Regulatory Act of 1995 (PURA95).

Since the Texas Legislature adopted significant legislation to initiate wholesale competition in the market in 1995, changes in the structure of the electric industry have occurred at an accelerated pace. Even though the retail electric market is not formally competitive, both customers and companies are acting in ways that anticipate possible retail competition in the future.

At a time when the industry is experiencing rapid change, the Commission recognizes the Legislature's need for up-to-date, accurate information. The enclosed Report provides a thorough discussion of the current status of competition in Texas' electric industry, a review of alternate market structures, an investigation into the sources and possible magnitude of potentially strandable utility investment from competition, and some recommendations for legislative action on these issues. If you need additional information about any issues addressed in the report, please call on us.

Sincerely,

Pat Wood, III
Chairman

Robert W. Gee
Commissioner

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Report to the 75th Texas Legislature

Volume I

Electric Power Industry Scope of Competition and Potentially Strandable Investment Report

Public Utility Commission of Texas
January 1997

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ELECTRIC POWER INDUSTRY SCOPE OF COMPETITION AND POTENTIALLY STRANDABLE INVESTMENT REPORT

FROM THE PUBLIC UTILITY COMMISSION OF TEXAS TO THE MEMBERS OF THE TEXAS LEGISLATURE

I. INTRODUCTION

The 74th Texas Legislature, recognizing that the wholesale electric market was becoming increasingly competitive, passed S.B. 373 authorizing competition in Texas' wholesale electric market and mandating non-discriminatory open access to the State's electric transmission system. S.B. 373 also directed the Public Utility Commission of Texas (the "Commission") to prepare reports on the State's electric industry and on the potential for stranded investment (specifically, "on methods or procedures for quantifying the magnitude of stranded investment, procedures for allocating costs, and the acceptable methods of recovering stranded costs"). To that end, the Commission submits the Scope of Competition in the Electric Power Industry in Texas Report (as required by §2.003 of the Public Utility Regulatory Act of 1995 (PURA95)) and the Potentially Strandable Investment (ECOM) Report (PURA95 §2.057(e)).

This report (Volume I) reviews and summarizes the Commission's findings on the current state of the wholesale and retail electric markets, developments in other states and at the Federal level, and various issues relating to electric industry competition and restructuring, particularly issues relating to potentially strandable investments of electric utilities. Volume I also contains the Commission's recommendations on possible legislative action to protect the public interest in this time of rapid change in the electric industry. Volume II is a detailed analysis of the scope of competition in the electric industry in Texas and a discussion of the issues associated with on-going

electric industry restructuring. Volume III presents the Commission's detailed investigation into the matter of stranded investment. Volume III presents an estimate of the magnitude of potentially strandable investment attributable to wholesale and retail competition, and reviews ways to allocate and recover stranded costs. (References to specific material in the detailed volumes are included throughout Volume I.)

This report is the culmination of over a year of research and analysis by the Commission, with the assistance and participation of organizations and individuals from every sector associated with the Texas electric industry. The research process included 11 public hearings and workshops to discuss these complex issues, and over 50 parties submitted thousands of documents to offer their testimony, comments, and recommendations. This extensive effort is reflected in the detailed analyses that support this report.

II. TEXAS ELECTRIC INDUSTRY STRUCTURE

The electric industry in Texas consists of a diverse set of organizations established to generate and distribute power throughout the State. Until recently, all electricity generators and distributors were classified as "utilities" of one sort or another. Utilities include investor-owned utilities (IOUs), generation and transmission (G&T) cooperatives, distribution cooperatives, river authorities, and municipally owned utilities. Texas is served by ten investor-owned utilities (e.g., Texas Utilities Electric Company and Central and South West Corporation), 78 distribution cooperatives (e.g., Cap Rock Electric Cooperative and Medina Electric Cooperative), four river authorities (e.g., Sabine River Authority and Lower Colorado River Authority), and eight generation and transmission cooperatives (e.g., Brazos Electric Power Cooperative).

All retail public utilities in the State are required to delineate their service territories in a certificate of convenience and necessity (CCN) from the Commission before they can sell power to end-use customers. Utilities are also subject to rate regulation under PURA95 and the Commission's rules, although the degree of regulatory oversight differs by the type of utility. Municipal governments have original jurisdiction over utility rates and services within their corporate limits, although many defer to the Commission for on-going rate regulation.[1]

Traditionally, operating utilities in Texas have integrated the various services required to provide electricity at retail. The services that operating utilities typically provide can be divided into four separate, but non-exhaustive, functions:

1. *Generation* consists of the physical production of electric power.
2. *Transmission* is the transportation of power along the high-voltage wires and the promotion of stability and reliability of the power grid.
3. *Distribution* moves power from the transmission network over low-voltage facilities to final consumers.

[1] See Volume II, pp. V–12 through V–14 for further discussion and an illustration of the service territory boundaries for Texas' major utilities.

4. *Retail Customer Service* is the utility's interface with the end-user, providing hookup, metering, and billing services.

A "fully vertically integrated" utility provides all these services, and may also supply fuel and energy services under the same organizational or corporate umbrella. Although provision of electricity by integrated utilities has been the general rule in the past, competitive pressures are challenging the traditional notion that the generation portion of the electric industry has the characteristics of a natural monopoly (involving economies of scale and scope). Thanks to emerging technologies that have changed the cost structure of generating electricity, and recent federal and State regulatory initiatives, new players are competing against traditional utilities in wholesale electric markets. Companies that do not own transmission and distribution networks are offering to supply generation services only. Texas now has many non-utility companies active in the power market, including 41 registered power marketers and 12 independent power producers and Exempt Wholesale Generators.[2]

A. RELIABILITY COUNCILS INTERCONNECT UTILITIES

All utilities in the United States operate within voluntary "reliability councils" organized to provide transmission interconnection and operational reliability within a region. Interconnection allows the flow of power between utilities in a linked transmission system, providing backup power and system support that minimize disruptions in the system.

The Electric Reliability Council of Texas (ERCOT) operates entirely within the State of Texas. However, some Texas electric utilities are members of other reliability councils. Southwestern Electric Power Company (SWEPCO), Entergy-Texas (Entergy), and Southwestern Public Service Company (SPS) are members of the Southwest Power Pool. El Paso Electric Company (EPE) is part of the Western Systems Coordinating Council. ERCOT is unique among the nine reliability councils in the United States because it is the only council operating entirely within the boundaries of a single state.

[2] See Volume II, p. V-13 for a list of the major electric utilities in Texas by type and p. V-20 for a list of registered power marketers and exempt wholesale generators.

As a result, laws governing the transportation of electricity in interstate commerce may not apply to ERCOT utilities, and some specific requirements may differ from requirements for non-ERCOT utilities. Because ERCOT is entirely within Texas, the Public Utility Commission of Texas has jurisdiction over transmission in ERCOT, separate from the jurisdiction of the Federal Energy Regulatory Commission (FERC). The recent transmission rules issued by the Commission under the authority of PURA95 stem from this unique arrangement.

B. ELECTRIC GENERATION

In 1995, the utilities and non-utilities in Texas together generated 284 million megawatt-hours (MWh) of electric energy. Investor-owned utilities (IOUs) generated the lion's share, accounting for 77 percent of generation in the State, with municipalities, river authorities, and cooperatives generating another 15 percent. Non-utility generators produced the other 8 percent of Texas' electricity in 1995.[3]

During 1995, operating utilities in Texas produced a net system capacity of 64,246 megawatts (MW) and experienced an aggregated 53,759 MW coincident peak demand for the Summer months. This resulted in a statewide reserve margin of 19.51 percent. A utility's reserve margin is the amount by which its generation capacity exceeds its expected peak demand. ERCOT requires its member utilities to maintain a minimum 15 percent reserve margin to ensure that one or more plants can shut down without compromising the system's ability to meet expected load. In 1995 the *excess* capacity above the reserve margin was 4.51 percent. ERCOT is likely to enjoy excess capacity through at least the year 2000—although the extent of excess capacity will be affected by the amount of non-utility generation capacity available, the rate at which Texas electricity demand grows, and the degree to which technological and/or market efficiencies may reduce the quantity of reserves required to maintain reliability. Excess capacity can contribute to competition and lower the market price of electricity,

[3] See Volume II, pp. V–2 through V–5 for discussion and illustration of Texas' generation and power plant capacity by utility type and fuel source for 1995.

because utilities can use their excess capacity to generate power for sale to power marketers and other wholesale purchasers.

C. COMPETITION IN THE WHOLESALE ELECTRIC MARKET

Electricity sales can be divided between wholesale and retail, depending upon the final disposition of the power. Wholesale transactions occur between a generator and power marketer or distributor, which will resell the power. Retail sales are sales from utilities to end-use customers. Wholesale sellers may be either utilities or non-utilities. Some utilities, including G&T cooperatives and river authorities, sell exclusively at wholesale. Distribution cooperatives and municipally owned utilities that do not own generation resources are the primary buyers of wholesale power. IOUs will also buy at wholesale on a short-term basis in the "economy energy" market when it is cheaper to buy than to generate.

The wholesale market represents a small portion of total Texas utility generation. In 1995 total Texas generation equaled 284 million megawatt-hours (MWh) of electricity, from both utilities and non-utility producers. Of that amount, utilities delivered 248 million MWh (87 percent) directly to retail customers, and 36 million MWh (13 percent) went to the wholesale market for sale to distributors or marketers.

1. Non-utility Providers

At present, non-utility providers participate only in wholesale markets. Non-utility suppliers in Texas include:

- *Power marketers* buy and sell electricity at wholesale. They do not own generation, transmission, or distribution facilities and do not have certificated service areas.
- *Exempt wholesale generators (EWGs)* own and operate generation facilities to sell into the wholesale market, but do not own transmission or distribution facilities (other than the transmission line needed to interconnect with the main grid). An EWG may be affiliated with a utility.
- *Qualifying facilities (QFs)* are individuals or corporations that own and/or operate generating facilities, but their main business is something other than the generation or sale of electric power. Most QFs are co-generation facilities that produce electric energy in conjunction with steam used in

manufacturing or thermal energy used for industrial and commercial heating/cooling. Other QFs are small power production facilities (smaller than 80 MW) that qualify as QFs under the Public Utility Regulatory Policies Act of 1978 (PURPA), producing electric energy using biomass, waste, or renewable resources.

- *Energy service companies* are private companies that provide energy management services. They provide energy audits; finance, install, and maintain equipment; provide demand-side management under contract; and manage customer risk. Such companies are not established under State or federal law, in contrast to the other categories of non-utility suppliers.

PURA95 allowed EWGs and power marketers to conduct business in Texas effective September 1, 1995 (after registering with the Commission). As of December 1996, 53 entities have registered as either power marketers or EWGs. In many cases, the registrants are affiliates of existing utilities and competing suppliers (e.g., natural gas pipeline companies). Many of these generators and marketers are currently bidding in solicitations being conducted by utilities requiring new generation, and are expected to bid in future resource solicitations conducted as part of the integrated resource planning process.

Non-utility suppliers are not required to report to the Commission on their generating capacity or market transactions. Limited voluntary reporting indicates that non-utility generators had close to 10,000 MW of installed generating capacity in place in Texas in 1995 and generated 41.6 million MWh that year. Of that amount, they sold 21.3 million MWh to utilities and used the remainder for their own (QF-related) consumption.

2. 1995 Legislation

Senate Bill 373, adopted by the 1995 Texas Legislature, amended the Texas Public Utility Regulatory Act (PURA) in several ways to foster competition in electric service at the wholesale level. Section 2.001(a) of the Public Utility Regulatory Act of 1995 concludes that the "development of a competitive wholesale electric market . . . is in the public interest." Section 2.053 authorizes exempt wholesale generators and power marketers to operate in the wholesale market in Texas. Sections 2.056 and 2.057 of PURA95 require utilities to provide wholesale, open-access transmission service to

other utilities, qualifying facilities, exempt wholesale generators, and power marketers on a basis that is comparable with their own use of their transmission systems. Section 2.057 of PURA95 directed the Commission to adopt rules, within 180 days of the effective date of the new law, relating to wholesale transmission service, access, and rates.

3. Adoption of Transmission Rules

The Commission adopted new transmission rules, P.U.C. Substantive Rules 23.67 and 23.70, to carry out this legislative mandate for ERCOT utilities.[4] The new rules:

- Require electric utilities to provide open-access transmission service on the same terms by which they use the transmission system themselves;
- Establish a pricing mechanism for transmission service;
- Require utilities to file transmission tariffs and take transmission service for their own uses in accordance with their transmission tariffs;
- Require transmission service providers and customers to coordinate their planning efforts, to identify needed facilities in a timely fashion;
- Require utilities that own 100 megawatts or more of generating capacity to provide ancillary services; and
- Establish safeguards, including the development of an independent system operator, to ensure that transmission service is available to customers on a non-discriminatory basis.

The Commission adopted Substantive Rules 23.67 and 23.70 within the time prescribed in Senate Bill 373, and is confident that the rule is effective in fostering competition in the wholesale market in Texas. The Texas transmission rules are consistent with the transmission access and pricing rules adopted by the Federal Energy Regulatory Commission (in Order No. 888).

4. Setting Transmission Rates

In May 1996, utilities filed tariffs and cost information for transmission and ancillary services to permit the Commission to establish rates for these services. The key

[4] Non-ERCOT utilities in Texas (subject to the exclusive wholesale jurisdiction of the FERC) are deemed to be in compliance with Texas law by fulfilling the requirements of FERC Order No. 888.

principles for setting transmission rates are that the rates be transparent, that they be comparable and non-discriminatory, and that they be based on the reasonable costs of the utility providing the service. The costs of the transmission-owning utilities have been reviewed in separate rate proceedings, and the Commission will adopt transmission rates for ERCOT in January 1997.

Implementation of S.B. 373 made it possible for all wholesale competitors (including non-utilities) to use the transmission system fairly to deliver power to wholesale customers.

5. The Independent System Operator

Pursuant to P.U.C. Substantive Rules 23.67 and 23.70, ERCOT has reorganized itself to become the nation's first independent system operator (ISO). The ISO is responsible for the reliability of the *intra*state portion of the Texas electric grid and for ensuring equal access to transmission service by all wholesale market participants in the ERCOT region. The ISO's responsibilities include coordinating scheduling for generation and transmission transactions, overseeing the instantaneous balancing of generation and load, managing and redispatching generation in system emergencies, ensuring that new transmission facilities are built when and where they are needed, and coordinating payments and reimbursement between all those who own and use transmission facilities. The ISO also administers the ERCOT electronic transmission information network, which will permit utilities and their competitors to access contemporaneous, real-time information about the availability of transmission and ancillary services. The ISO is located in Taylor, Texas, and is governed by the ERCOT Board, composed of 18 members from all wholesale market groups.

6. Integrated Resource Planning (IRP)

Finally, the adoption of integrated resource planning rules advances wholesale competition by requiring integrated electric utilities to conduct solicitations to meet their new resource needs, so that other generation providers and technologies (and energy efficiency as well) can be chosen as supplements or alternatives to the

traditional utility self-build option. All generating utilities are scheduled to file their first IRP within the next three years.

7. Effects of Wholesale Competition

The effects of these changes can already be seen since PURA95 went into effect. As shown in Table 1, only a few existing contracts have come up for renewal, but in each case the new contract will secure service at a lower rate than before. Some new contracts, like the College Station-TU Electric contract, depend on wheeling services from a third party as enabled by PURA95's open access provisions. Contracts with power marketers like LG&E Power would not have been possible before PURA95 allowed such wholesale suppliers to enter Texas. LG&E Power is headquartered in Louisville, Kentucky, and may be buying power for Texas utilities from many sources across the nation. New competitive opportunities ensure that as they come due, contracts are likely to be renewed or replaced by contracts offering a better deal from new or traditional power suppliers.

Table 1: Recent Firm Capacity Contracts Renewed and/or Replaced

Purchasing Utility	Prior Supplier under Contract	New Supplier under Contract	Firm Capacity under Contract (MW)	Contract Term (years)
Lyntegar Electric Cooperative and Taylor Electric Cooperative	TU Electric	TU Electric (rate discount)	25	5
City of College Station	TMPA and City of Bryan	TU Electric	120	4
Granbury Municipal Electric Department	Brazos Electric Cooperative	LG&E Power Marketing	16	5
City of Weatherford	Brazos Electric Cooperative	WTU	53	5
Rayburn Country Electric Cooperative	TU Electric	LG&E Power Marketing	300	5

Opening the wholesale market was an important first step in providing the benefits of competition to Texans. But only a limited number of customers will benefit from this action. The wholesale market represents only 13 percent of total Texas generation. In that relatively small market, the level of activity will remain restricted for a number

of years because of the large quantity of power committed to long-term wholesale contracts, many of which do not expire for almost 20 years. Figure 1 shows the dates when existing contracts are scheduled to expire. In 1996, over 7,000 MW of capacity were under contract in Texas. Only a tiny portion of the contracts expire by the year 2000, and fully half of the wholesale contracts in Texas are scheduled to remain in place through 2015. These long-term commitments keep potential buyers out of the competitive wholesale market unless they are willing to abrogate or renegotiate their existing supply contracts.

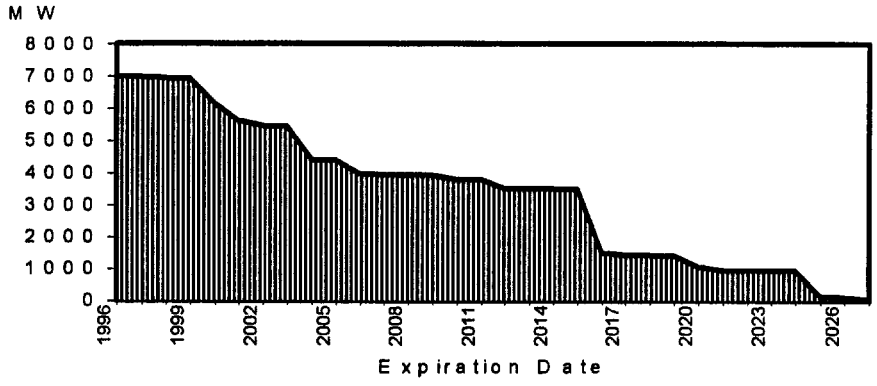


Figure 1: Expiration of Wholesale Power Contracts in Texas (in MW)

Just how tightly the wholesale market will be restricted also depends on anticipated growth. If growth in demand rapidly exhausts the current excess capacity in Texas, the expiration cycle of these existing contracts may not be as severe a limitation on the wholesale market.[5]

In sum, the provisions of PURA95 and the Commission's actions have set in place the conditions for a robust wholesale competition in the State. But the relatively small wholesale market and the existence of long-term supply contracts make it unlikely that a dynamic wholesale market will develop to its full potential in the next few years. As long as the bulk of Texas generation moves directly from utility power plants to utility

[5] See Volume II, p. V–35 for an illustration of opportunities for increased wholesale market competition due to increased load as demand for electricity increases and wholesale contracts expire over time.

retail customers at cost-of-service prices, wholesale competition will have a fairly limited and marginal effect on the cost of electricity to Texas electricity users.

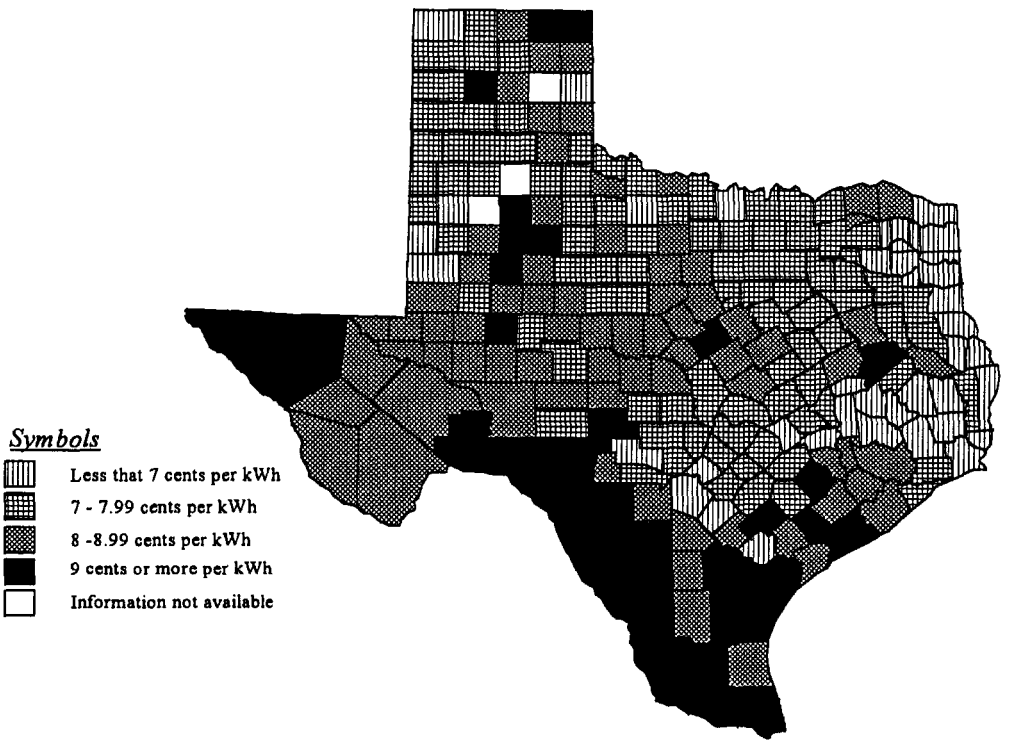
D. COMPETITION IN THE RETAIL ELECTRIC MARKET

In contrast to the wholesale market, there are very few opportunities for retail competition in the Texas electric industry. Retail electric service is now provided exclusively by IOUs, municipally owned utilities, and distribution cooperatives. Current law places limits on new entrants providing retail electric services. There are however, several exceptions to the restrictions on competition at the retail level:

- *Multiple certification:* Some multiply certificated areas offer a choice of more than one supplier, but at a potential cost of facilities duplication and switching fees.
- *Self- and co-generation:* Industrial and large commercial customers have competitive supply options because they may self- or co-generate. Electric consumers that are able to self- or co-generate consumed over 20 million MWh for their own use in 1995. At least 20 percent of electricity consumed for industrial use appears to be produced by self- and co-generators. Most self- and co-generators are located in a few areas of Texas—the Houston Ship Channel, Beaumont-Port Arthur, and Corpus Christi areas.
- *Discounted rates:* Utilities offer retail discounted rates to large customers—primarily industrial and large commercial customers—to prevent them from exercising their competitive alternatives (primarily self-generation or switching to another utility supplier) or to encourage new plant location in their service territory. In some circumstances, discounted tariffs may also be available to other customers who do not have competitive choices.
- *End-use alternatives:* Many customers can choose between electricity and natural gas for space heating and other applications. Recent gas/electric mergers may slow this trend.

Although electricity prices in Texas are below the national average, there is a significant range of prices charged in Texas. Also, Texas electricity prices are higher than the market prices expected to prevail in a competitive market. Figure 2 shows the distribution of retail residential prices for electric service averaged by county for 1995.

Figure 2: Distribution of Average Residential Prices in Texas (1995)



More lightly hatched areas in the figure indicate lower average prices in a particular county; darker areas indicate higher average prices.

In today's partially regulated market, large industrial and commercial customers have more opportunities for alternative energy supplies than the more captive residential and small commercial customers. Differences in electricity rates (and the lower rates expected in a competitive market) may create an incentive for these large electricity customers to seek lower rates by "bypassing" their traditional utility supplier by taking advantage of one of the alternatives listed above.

1. Bypassing and Cost-shifting

Although bypass is a rational response of retail customers to economic and financial circumstances, bypass increases the difficulty of maintaining the current regulatory system as the market grows more flexible and the customer base changes. As

individual customers bypass the existing system, the utilities' embedded fixed costs of serving those former customers do not disappear. Under current circumstances, the utility that loses a departing or bypassing customer may try to shift the bypassed embedded costs to the remaining captive customers, for if neither the bypasser nor the captive customers pay for those costs, they will be borne as a loss by the utility's shareholders (or other owners). In the future, unless rules for cost-shifting and stranded cost recovery are established, the ever-shrinking set of remaining customers could be required to shoulder a growing burden of the utility's embedded costs as more and more customers bypass utility service.

If a small proportion of non-residential customers opts to bypass under the current regulatory framework, the cost burden shifted to captive, mostly residential, customers could be quite significant. Table 2 suggests the relative vulnerability of residential customers to cost-shifting due to bypass. Although fewer than 1 percent of Texas' utility customers are industrial accounts, they pay 18 percent of the State's total retail electric bill. Commercial customers are 11.5 percent of total customers, paying 28 percent of revenues. In contrast, residential customers make up about 85 percent of retail accounts statewide, but pay only 28 percent of the total. The departure of industrial customers could shift a disproportionate amount of utility costs to remaining residential customers.

Table 2: Disproportionate Market Shares of Revenues and Sales

	Residential	Commercial	Industrial	Other	Total
Customers	85 %	12 %	1 %	2 %	100 %
Sales (MWh)	30	34	31	5	100
Revenues	28	28	18	26	100

Note: Other includes public lighting, irrigation, cotton gins, and sales to municipalities.

2. Innovative Bypass Attempts

In addition to the existing bypass options, the prospect of eventual retail access is encouraging retail customers to try innovative techniques to obtain lower cost electricity. In a recent case, Power Clearinghouse, Inc. (PCI), a power marketer, asked

the Commission to direct the City of Austin's electric department to wheel PCI's electricity to an apartment complex that is currently a City of Austin retail customer. PCI argued that because the apartment complex separately metered electricity to its tenants, the sale from PCI to the apartment complex was a wholesale transaction entitled to wholesale transmission by the City of Austin. The Commission denied PCI's request and found that this transaction was not a wholesale transaction. If it is ultimately determined that certain landlords can operate as resellers of electricity, many commercial customers (e.g., apartments, office buildings, trailer parks, shopping malls, and military bases) could qualify as wholesalers entitled to purchase from a wide array of independent producers, power marketers, and even non-host utilities. This would greatly exacerbate the cost-shifting problem.

In a slightly different context, an independent transmission company, Gulf Coast Power Connect, petitioned the Commission for authority to construct a transmission line from an Exxon co-generation facility to a nearby Exxon facility currently receiving electricity from Houston Lighting and Power (HL&P). The transaction would have allowed Exxon to sell its generation to another retail location, thereby bypassing HL&P. Similarly, in the Lyondell Petrochemical case, Lyondell built a transmission line in an attempt to bypass HL&P. The Commission has not issued a final ruling in either of these cases.

If a utility finds that the only way it can keep a potential bypasser is through a discounted rate, it may be unable to recover its full costs in the new discounted rate. Several utilities have proposed deeply discounted rates that fall below their embedded costs but above their marginal costs; such rates would leave a portion of the embedded costs unrecovered unless they can shift it to the remaining captive customers. To date, the Commission has observed the requirements of PURA95 §2.001(b) (rates must be equal to or greater than marginal cost), but prohibited the utility from passing the differential between marginal and full embedded cost to other ratepayers (which means that shareholders will effectively absorb the difference as a reduction in earnings). In

general, discounted retail rates can lead to the same cost-shifting problem as losing the customer entirely.

Bypass cases are particularly problematic for municipally owned utilities and cooperatives, because their customers and their owners are one and the same. If an investor-owned utility offers a discounted rate, its shareholders will receive a lower rate of return in exchange for reducing the risk of failing to recover their full investment, and in the case of an IOU, the shareholders and customers are two different sets of people or entities. But if a cooperative offers a discounted rate to a large customer, the remaining customers will have to absorb the difference through lower earnings. A municipal utility is owned by taxpayers, and its earnings are used to offset taxes; so earnings lost through discounting will mean either higher taxes or fewer municipal services. Recently a cooperative asked and was granted conditioned authority to give discounted rates to large industrial customers. Absent any shareholders to absorb the shifted costs, the Commission concluded that a customer's share of fixed costs must be included in the calculation of any discounted rates.

Selected customers of cooperatives have found another creative form of bypass, called the "pass-through rate." Like other utilities, cooperatives generally operate by combining all their power sources and costs together to come up with a "blended" rate for all customers. But when a large industrial customer threatened to stop buying power from a member of the Brazos Electric Power Cooperative, its affiliate, Brazos Power Marketing, found a low-cost source of wholesale power, and sold that power directly through its member cooperative to the customer at the wholesale price (the "pass-through" rate), plus a mark-up for its transmission destination and acquisition costs. The cooperative's rationale is that the rest of its customers benefit from this targeted wholesale to retail conversion because the cooperative keeps the customer and its contribution to overall fixed costs, even though they do not receive the price reduction that the additional low-cost power would bring to the "blended" cost of power. This pass-through transaction is tantamount to retail access for the affected cooperative customer.

3. Commission Oversight of Bypass Transactions

While the Commission has the authority to rule on transactions like these, the current statute does not offer clear guidance on how to handle these situations because they were not contemplated when PURA95 was drafted. Creative minds will continue to seek additional ways to exploit new loopholes to bypass traditional retail electricity providers and lower their energy costs. As electricity power generation becomes more competitive, some of these efforts will eventually be successful. Each time bypass occurs, costs will be shifted—either to other ratepayers, who have no bypass options, or to the utility's owners, who will bear a greater risk of not recovering assets that were once approved as prudent and recoverable by the Commission.

On issues where PURA95 is silent or ambiguous, the Commission must do its best to rule according to its reading of what law there is, and what appears best for the public interest of Texas. But where the Commission's decision is close or the parties are unhappy with the decision rendered, the issue will be taken to the courts, which may rule in ways unanticipated by, or contrary to, the intent of the Legislature. If the *status quo* is maintained, business and industrial customers will continue to search for innovative ways to bypass current regulatory and pricing mechanisms. In the end, residential customers are the most captive and have the most to lose.

E. EFFECT OF COMPETITION IN THE WHOLESALE AND RETAIL MARKETS

Competitive pressures are challenging the need for generation to be integrated with transmission, distribution, and customer services. In the past, electricity has been assumed to be a "natural monopoly," where a single firm can provide service at a lower cost and higher effectiveness than multiple firms competing with each other. Today it is clear that at minimum the generation function can be fully competitive, rather than monopolized by a single firm. And if the integration between utility generation and distribution is broken, it is no longer necessary that electricity delivery—the actual retail power delivery and customer service function, as distinct from the function of

building and operating the distribution wires network safely and reliably—be provided only by a single, monopoly firm.

Figure 3: Illustration of the Components of Utility Costs in Texas

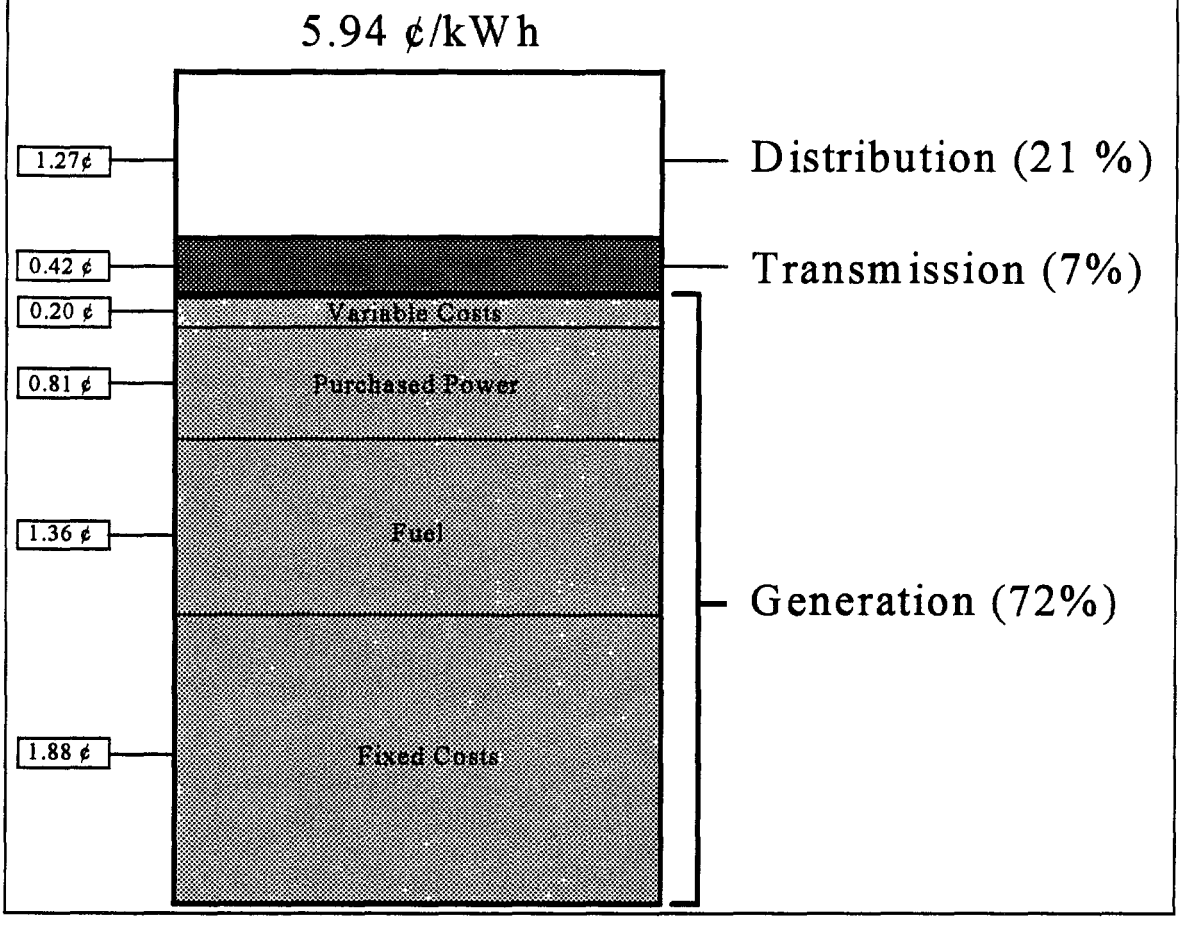


Figure 3 presents illustrative cost data for IOUs in ERCOT.[6] In the illustration, on average, it costs about 5.94 cents per kilowatt-hour (cents/kWh) to generate and deliver energy from a utility to a Texas customer. Electricity generation accounts for 4.25 cents/kWh, or about 72 percent of the total cost to the customer. What does this mean for the cost of electric service? Competition between power producers in an unregulated marketplace might improve operational efficiency by 10 percent or better, reduce fuel costs by 20 percent (by improving the efficiency of fuel use in the plants, using price and risk management tools and negotiating to reduce fuel purchase costs),

[6] Values in the figure are drawn from FERC Form 1 submissions of ERCOT utilities, but the values do not represent a specific utility or an average value for the State.

and reduce the cost of power purchases by 20 percent. All these efficiency improvements could reduce the cost of generation in a competitive market by 0.46 cents/kWh out of the current 4.25 cents cost, or almost 8 percent of the total 5.94 cents/kWh cost of electricity. This does not account for the additional savings to be obtained from continued depreciation of high-cost generation assets.

F. ELECTRIC COMPETITION IN OTHER JURISDICTIONS

Since PURA95 was enacted, the reaction outside of Texas to competitive pressures has accelerated. The number of states actively considering industry restructuring has increased dramatically. Several bills to open the electric markets have also been filed at the federal level.

Four states have enacted electric restructuring legislation (California, Rhode Island, Pennsylvania, and New Hampshire). Legislation has been proposed in an additional 14 states. Regulatory authorities in 36 states are currently studying or implementing some level of retail competition.[7] At the federal level, several bills have been introduced. During the 104th Congress, six bills were introduced in the House or Senate.[8] It is expected that similar legislation and additional options will be introduced during the 105th Congress. Should federal legislation be enacted, it could foreclose the opportunity for the Texas legislature to design retail access for the State of Texas.

G. SUMMARY

A number of the key points identified in the Commission's investigation into the scope of competition in the electric industry in Texas can be summarized as follows:

- The end of the natural monopoly in generation is creating competitive pressure in the electric power industry.
- This pressure is causing the industry and regulatory system to change in Texas.

[7] See Volume II, pp. IX–47 through IX–71 for a discussion of restructuring activities in a number of other states.

[8] See, Volume II, pp. IX–71 through. IX–75 for a review of the provisions of federal bills introduced.

- PURA95 and Commission action have established a foundation for a robust wholesale market in Texas.
- Opportunities for retail bypass exist now and will increase.
- As retail bypass increases, cost-shifting pressures will also increase, threatening captive residential customers in particular.
- Both State and federal restructuring activity is increasing.
- Competitive and market pressure will continue and will increase the move to competition.

III. EXCESS OF COSTS OVER MARKET ("ECOM")

When the 74th Legislature opened the wholesale electric market to competition, it also required that the Commission prepare a report on stranded investment in the electric industry in Texas. In this report, stranded investment is defined as *the historic financial obligations of utilities incurred in the regulated market that become unrecoverable in a competitive market.* These financial obligations are unrecoverable because the market price is lower than the utility's cost-of-service rate being recovered under regulation. This excess of a utility's embedded or historic costs over what the utility would be able to recover in a competitive market is *not* stranded today and cannot be fully determined until competition comes. All of the utility's costs—including these over-market costs—are currently being paid by electric customers in their monthly bills. Referring to this excess as ECOM or potentially strandable investment is a way of emphasizing that these embedded costs are not stranded yet, but could become stranded if the market becomes more competitive.

Determining the magnitude of ECOM, how it should be recovered, and for what period of time are core issues in considering the on-going transition from the current regulated environment to a competitive market. Meaningful estimation of ECOM will inform policy decisions during this period of transition. It is worth emphasizing that the allocation and collection of ECOM is purely a transitional issue, and can be decided independently of decisions about the shape and structure of the future competitive market. However, most restructuring debates consider the issues of market structure and ECOM recovery simultaneously, because satisfactory resolution of the ECOM recovery issue appears to be a threshold condition for progress and closure on market structure changes.

A. SOURCES OF ECOM

Currently, utility investments in plant and equipment are recovered in the utility's regulated rates. If full retail competition were to occur in the next few years (before new power plants are needed), the prevailing price of electricity is expected to be

below the present regulated price. Thus, under competitive conditions, a utility could collect less revenue for every kWh of electricity sold than it would have collected under regulation. Because the market value of an asset (e.g., a power plant or a transmission line) is determined by the expected revenue from that asset, lower expected revenue will lower the value of the asset.

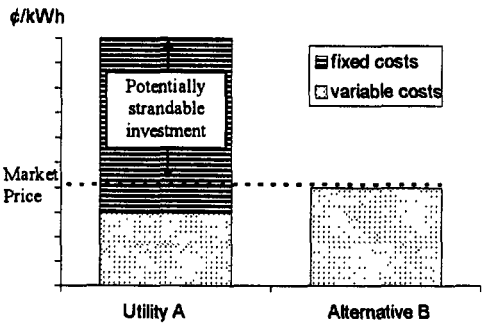


Figure 4: Simplified Depiction of the Source of Stranded Investment

Figure 4 illustrates the source of stranded investment. The height of the first vertical bar in the figure represents the *regulated* price of electricity, in cents per kWh, sold by Utility A to a large consumer. That price is composed of fixed costs (the embedded costs of providing utility plant and equipment) and variable costs (operating costs—including fuel—that depend upon the amount of power provided). The customer who has always bought power from Utility A now has a new source of supply available from Alternative B (which could be a co-generator or power marketer, for example), represented by the second bar. Alternative B offers electricity at the competitive market price, which is lower than the regulated price offered by Utility A. The rational customer will choose to switch to the less expensive source of supply offered by Alternative B.

A portion of Utility A's fixed costs are above the dotted line representing the competitive market price. That portion of the fixed costs will be stranded only when the

customer switches from Utility A to Alternative B. But note that *potentially strandable investment* does not depend upon the customer's behavior. Rather, the quantity of potentially strandable investment arises from conditions in the market. Whenever a utility's regulated price is above the market price, there exists investment that is potentially strandable. As long as the customer buys service from Utility A at the regulated price, the customer continues to pay the utility for its potentially strandable investment. Assets may also become stranded if Utility A discounts its price to the market price in an effort to stave off the competition. In so doing, Utility A may keep the original customer but no longer recovers its stranded investment.

B. METHODS FOR QUANTIFYING STRANDED INVESTMENT

The two main ways to estimate the magnitude of strandable investments are market valuation and administrative valuation. If the valuation is conducted in a market, the asset value is determined by the interaction between buyers and sellers in the marketplace, and stranded investment is the difference between the value of the asset on the utility's books and the market value. In contrast, administrative valuation methods simulate market outcomes by using financial and accounting models.

Examples of market valuation methods include: a spin-off of generation assets to unregulated affiliates or to third parties; open auctions; and all-source solicitations. The main advantage of market valuation methods is that they produce verifiable asset values grounded in market transactions (e.g., actual power plant sales). Transactions also reduce the market power of dominant utilities (by reducing the size of their overall generation holdings) and ease entry barriers for competitors (by giving them the option to buy an existing power plant at a price that may be less than its book value). The principal disadvantage of market valuation methods lies in the market itself—accurate valuation relies on a well-functioning market for generation assets. Market values could be inaccurate—after the fact—if transactions for generation assets are completed before the new markets are firmly established.

Administrative methods (such as the estimation technique used in this report) rely on financial and accounting models that can be used as substitutes for market transactions. Administrative methods are especially helpful when estimating potentially strandable investments for assets that may not have viable markets, such as nuclear plants. Administrative methods can also be used to value potential wholesale strandable investment separately, which can be distinguished from potential retail strandable investment.

The greatest disadvantage of administrative valuation is that values are based on estimates, not observations in working markets. The valuation incorporates many assumptions, and each assumption introduces an opportunity for error. For example, a critical variable is the projected future market price for electricity, which in turn depends on the future price of natural gas. While the process of selling assets to determine market value changes the structure of the underlying industry, administrative valuation does not in itself introduce change in the industry, nor does it solve marketplace issues like market power.

C. FINANCIAL CONSIDERATIONS SURROUNDING RESTRUCTURING

Each utility has a unique debt and equity structure that may influence its response to changing market and regulatory conditions. The strength of each utility's securities is dependent on its market position relative to its competitors. Through competition and deregulation, many utility stocks are likely to lose their previous status as "quasi fixed-income" securities because the companies will have the potential for additional growth and the risk of declining sales. If a utility is in a strong position relative to other generators in the market, and has low operating costs, then its stock prices may not be harmed by a single event. If, however, the utility is in a weak position relative to other generators in the market, and has high operating costs, its higher-risk profile should be reflected in lower stock prices.

An indenture is a type of contract through which utilities issue secured bonds; the bonds are secured by a utility's real assets. Utilities often use secured bonds to finance

construction and other projects. Industry restructuring could affect the value of the underlying assets, reduce revenue streams, and decrease bondholders' security. As market conditions change, a utility may have to retire secured bonds to avoid breaking debt covenants. Some utilities may be able to raise enough money through asset sales to retire secured bonds. Other possible solutions for a utility with insufficient cash to retire bonds are to reorganize its debt structure, substitute or swap bonded property with unbonded property, or retain the debt associated with the generation assets, all with the cooperation of the bondholders' trustee.

Restructuring, depending on the form it takes, could result in federal income tax consequences to both the utility and its shareholders. Examples of some of the ways that restructuring can take place include functional unbundling, spin-offs, and mergers. If industry restructuring were to take the form of divestiture or asset sales, the federal income taxes of both the utilities and their shareholders could be affected. Each variation in how the transition to competitive markets could occur has implications for the treatment of the federal income tax liabilities of the utility and its shareholders; however, the Internal Revenue Code has not yet been changed to address tax issues related to industry restructuring and stranded investment. Each utility's restructuring should be analyzed independently.

Local tax revenue may be affected by market prices of electricity or changing values of generation assets. Taxes that are based on a percentage of electricity price, such as gross receipts taxes or franchise fees, are particularly vulnerable because market prices should be lower than regulated prices. The increase in electricity sales for non-utility, non-regulated businesses could also result in lower tax revenues. Jurisdictions generally tax IOUs differently than other businesses. In the event that IOUs lose market share, and non-utility generators gain market share, jurisdictions will suffer with lower tax revenues. Another possible revenue loser for local jurisdictions is property taxes; lower market valuations due to competition and closings of uneconomic plants would have immediate impacts on local jurisdictions.

General purpose financial statements in the United States are usually prepared according to Generally Accepted Accounting Principles (GAAP), which are established by the Securities and Exchange Commission. Over the years, GAAP has been influenced by the Financial Accounting Standards Board (FASB), an independent private-sector organization. FASB has issued specific pronouncements, referred to as Statements of Financial Accounting Standards (SFAS), relevant to capturing issues related to regulation, emerging competition, and deregulation: SFAS No. 71, *Accounting for the Effects of Certain Types of Regulation;* SFAS No. 101, *Regulated Enterprises—Accounting for the Discontinuation of Application of FASB Statement No. 71;* and, SFAS No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of.*

SFAS No. 71 was intended to capture the effects on a company's balance sheet of items that non-regulated enterprises would not record, and can be applied to all or separable portions of a utility's operations. SFAS No. 101 is applied when all or part of the operations of a utility cease to qualify for treatment under SFAS No. 71. Instances in which utilities can apply SFAS No. 101 include: changes in the regulator's approach to ratemaking; increasing competition that limits the ability to sell utility services at rates that recover costs; regulatory actions resulting from resistance to rate increases that limit the utility's ability to sell services at rates that will recover costs; or deregulation.

SFAS No. 121 provides a vehicle for reporting impairment losses. An impairment loss occurs when a company determines that an asset has been impaired and has been written-down to a new carrying amount that is less than the remaining book cost. Examples of changes in circumstances that may require the asset be revalued include: a significant decrease in an asset's market value; a significant change in the extent or manner in which an asset is used or a significant physical change in an asset; a significant adverse change in legal factors or the business climate that could affect the value of an asset or an adverse action or assessment by a regulator; and an accumulation of costs significantly in excess of the amount originally expected to

acquire or construct an asset. It is unclear at this time how these accounting principles would be applied to electricity restructuring. Their application will depend on the type of restructuring that takes place.[9]

D. THE COMMISSION'S INVESTIGATION OF EXCESS COSTS OVER MARKET

In April 1996, the Commission ordered Texas investor-owned utilities, cooperatives, and river authorities (and requested municipally owned utilities) that own generation assets to estimate the ECOM of their assets using an administrative model developed after extensive input from interested parties. In June 1996, utilities filed their ECOM estimates using the Staff model. Although the Staff has reviewed the utilities' filings extensively, the filings have not been formally audited by the Commission, nor have outside interested parties been allowed to review the filings due to confidentiality concerns.

The purpose of quantifying the potential effect of deregulation is *not* to provide a final determination of the magnitude of stranded costs to be used in setting utility rates. Rather, the objective is to provide information that will be beneficial for decision makers as they weigh electric industry restructuring alternatives.

1. The ECOM Model

The ECOM Model is an electronic workbook in Microsoft Excel 5.0 software that calculates ECOM as the present value of the difference between a utility's existing fixed costs and projected contributions to capital of utility sales under competitive conditions (i.e., revenues in excess of on-going operating costs). ECOM is estimated for both Texas retail and wholesale jurisdictions.

Texas utilities that own generation plants were required to provide data on the capital and production costs associated with generation resources. In the ECOM Model, reporting utilities allocate these costs by resource type (natural gas, coal/lignite, nuclear, or other) and by customer class (Texas retail industrial, commercial,

[9] See Chapter V of Volume III for further discussion of these FASB statements and other financial considerations.

residential, and Texas jurisdictional wholesale) for each year for the projected life of the plants. The utilities also provided projections of their sales (in MWh) allocated by resource type and by customer class.

Using these utility cost and sales projections, the model calculates the regulated price of electricity for each customer class under continued cost-of-service regulation. Based upon a range of projected competitive market prices developed by Staff (low, base, and high), the model calculates a corresponding range of competitive market-based revenues for each utility by customer class. ECOM is then calculated as the present value of the difference between the regulated and the market-based revenue streams.

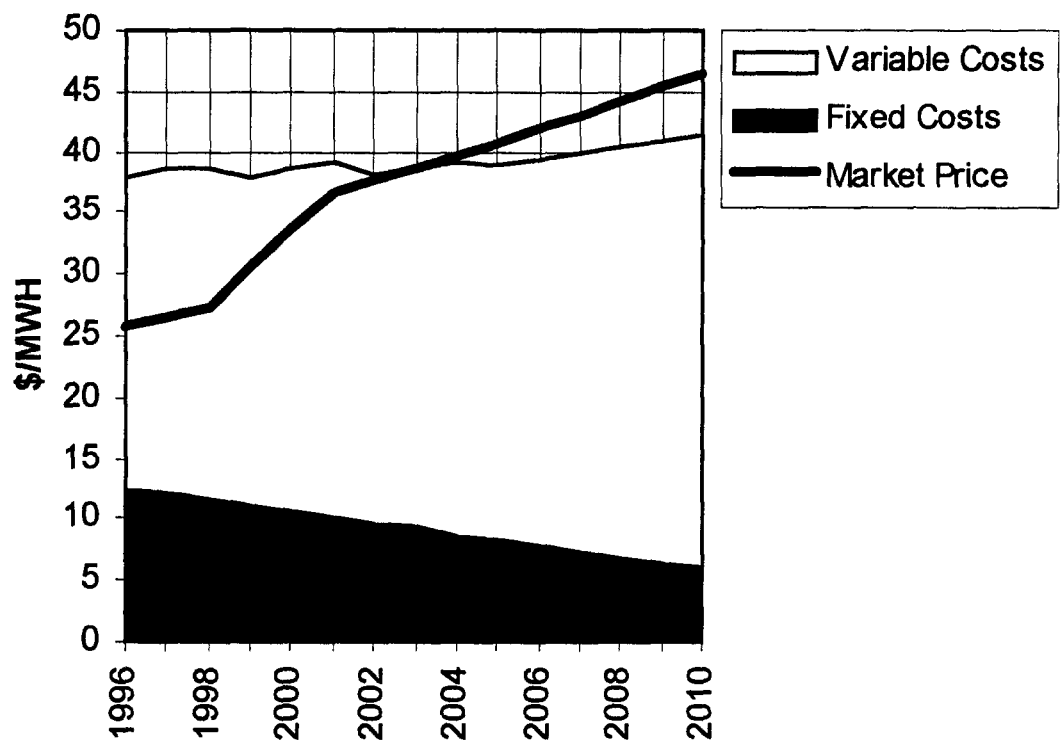


Figure 5: Illustration of the ECOM Methodology

Figure 5 and Figure 6 illustrate the ECOM Model methodology. In Figure 5, a generation utility's cost-of-service is represented by the sum of the variable costs and the fixed costs. In the illustration, the utility's generation cost-of-service is greater than the projected market price of electricity for the years 1996 to 2004, and lower than the

projected generation cost-of-service for the years 2005 to 2010. Figure 6 shows the ECOM calculation as the difference between the generation cost-of-service and the projected market price. From 1996 to 2004, ECOM is equal to the vertically shaded area, representing the difference between the market price and cost-of-service. For the years 2005 to 2010, when the cost-of-service is less than the market price, ECOM is negative (a net gain for the utility) and offsets the prior years' ECOM.

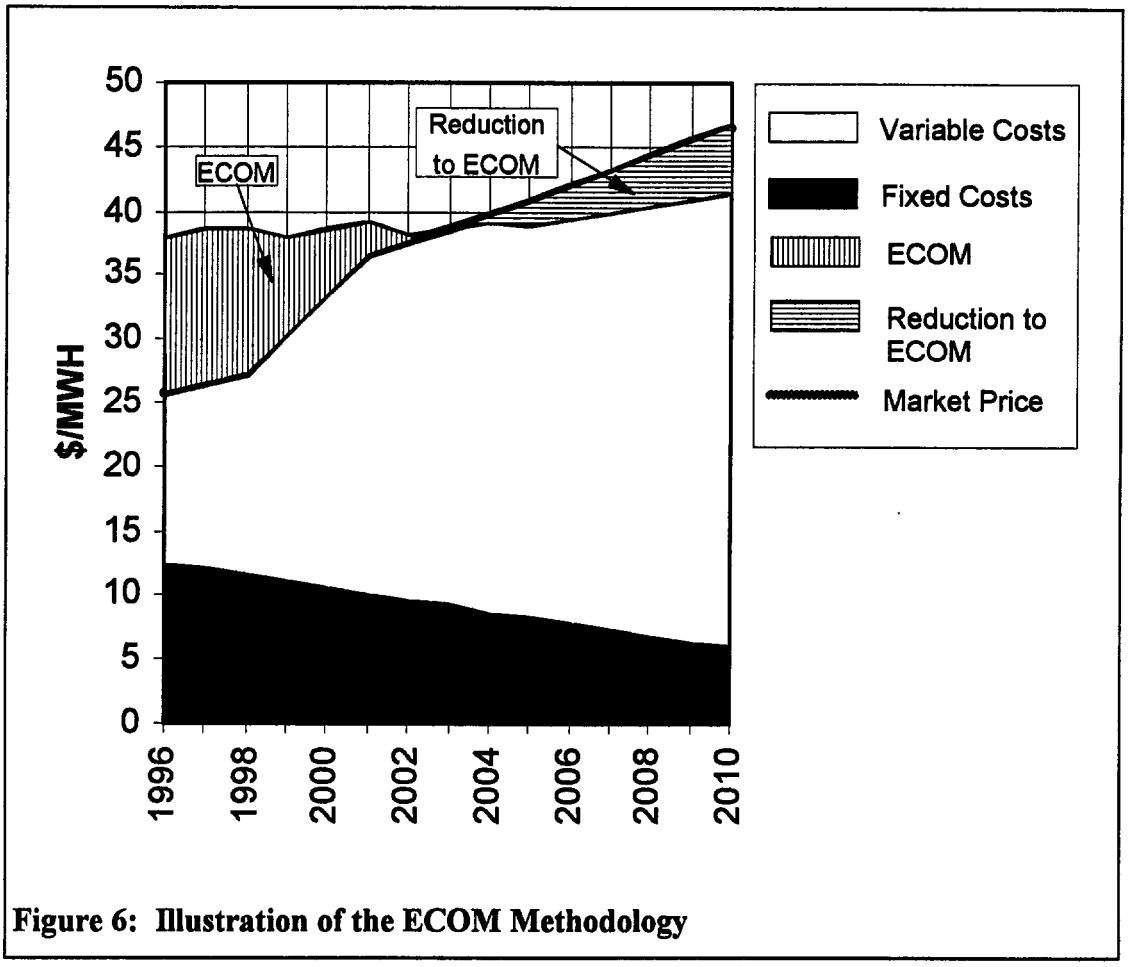


Figure 6: Illustration of the ECOM Methodology

Note in this example that, even if these two shaded areas were of identical size, ECOM would not net to zero. ECOM is computed as a present value over time; thus, the ECOM that results in the near years will have a greater present value than the reduction to ECOM realized in the later years. Present value representation recognizes that most people value a dollar today more than a dollar a year from now (or several years from now).

It is also worth noting that the relationship between market price and utility cost-of-service shown in the figures applies to the utility's existing generation assets now being depreciated on the company's books. If the utility adds new capital assets, those assets will increase its cost of service; it will add new generation only if those costs can be recovered at the market price.

ECOM can never be greater than the discounted present value of the utility's *fixed* costs as calculated in the model. If the model predicts that a plant will become uneconomic to operate in a competitive environment, it assumes that the utility will shut down the plant. In that case, ECOM will *equal* the utility's fixed costs alone. If the model predicts that a plant will continue to operate, then ECOM will be *less* than fixed costs because the firm will collect revenues greater than its operating expenses, offsetting some or all of its fixed costs.

A critical variable in any analysis of potentially strandable investment is the projected future market price of electricity. The ECOM Model includes a range of annual average market price estimates—low, base, and high. A key input variable in projecting the market price of electricity is the future price of natural gas. Because of the high degree of uncertainty associated with future natural gas prices, inputs to the ECOM Model use a probability-weighted range of projected natural gas prices to account for the uncertainty associated with this variable. However, if natural gas prices are higher or lower than those predicted, the magnitude of potentially strandable investment could differ from the results of the model. For example, a significant and sustained upward movement in natural gas prices will result in relatively lower ECOM levels than those predicted using the ECOM Model, and vice versa.

In projecting the market price of electricity, the goal was to calculate a reasonable range for the annual average equilibrium price that would exist in a truly competitive generation market, i.e., a market in which no company possesses market power. If one or more companies were able to exercise market power in a deregulated market, the prevailing price of electricity would be higher than the price that would prevail in a truly competitive market. In that case, higher market prices would yield reduced utility

ECOM levels relative to that of a truly competitive generation market. Other factors that may affect the actual magnitude of potentially strandable investment include tax implications of potential recovery options and mitigation efforts by utilities.

In the this ECOM analysis, *positive ECOM values* indicate that, on a net present value basis, the utility's fixed cost of generation is greater than the revenues the utility may receive in a competitive market (i.e., some costs will be stranded if the rules for generation cost recovery change from cost of service to market pricing). In contrast, *negative ECOM values* indicate that in net present value (NPV) terms, the utility will earn more under competition than under traditional ratemaking because the net book value of its assets is lower than the market price.

2. Summary of Wholesale ECOM Estimates in Texas

The Commission Staff calculated wholesale ECOM estimates for Texas jurisdictional utilities using the data provided by utilities in the ECOM Model. Estimates of potentially strandable wholesale investment are presented under two scenarios:

1. *Contract expiration scenario:* assumes that a utility's current wholesale contracts will be renegotiated at the market price of power upon the contract expiration date (i.e., at the gradual pace indicated in Section II); and
2. *Contract abrogation scenario:* assumes all then-existing wholesale contracts (for about 13 percent of total Texas generation) are canceled in 1998 and new contracts for an equal amount of power are signed for the market price immediately in that year.

In both scenarios, only the portion of the market currently under wholesale contracts—about 13 percent of total generation—becomes subject to competition (though the speed with which competition arrives differs). A fully competitive wholesale market (in which 100 percent of the wholesale market becomes competitive through structural unbundling or an alternative dissolution of existing supply linkages and contracts) was not modeled. If there were an *immediate* conversion to a fully competitive wholesale market, the potentially strandable investment (ECOM) would be equivalent to that under an *immediate* retail access scenario (discussed in the next section).

a) Contract Expiration Scenario

Table 3 summarizes the range of potentially stranded wholesale costs in ERCOT as calculated using the ECOM Model. The expected value in the *contract expiration* scenario shows an ERCOT-wide *benefit* of reselling power at the market price after wholesale contract expiration of $57 million (NPV) for ERCOT's utilities. This net benefit is largely driven by West Texas Utilities Company's (WTU's) low-cost wholesale power producing a benefit of $96 million, offset by net ECOM of Texas Utilities Electric Company (TU Electric) and Houston Lighting & Power Company (HL&P). Central Power and Light Company (CPL) has an expected value of ECOM near zero; Brazos Electric Power Cooperative (BEPC), the Lower Colorado River Authority (LCRA), and South Texas Electric Cooperative (STEC) are not at risk in the *contract expiration* scenario because their long-term wholesale contracts lock in existing prices (that include ECOM) long enough to recover all their potentially strandable costs.

Table 3: Total ERCOT Wholesale ECOM Model Results ($1996 millions)

	Extreme High	5th percentile	Expected Value	95th percentile	Extreme Low
Contract Expiration Scenario	$ 115	$ 5	$ (57)	$ (115)	$ (258)
1998 Contract Abrogation Scenario	279	(558)	(1,007)	(1,457)	(2,325)

Note: See Volume III, Appendix B for individual utility ECOM Model results.

b) Contract Abrogation Scenario

In the *contract abrogation* scenario,[10] the total expected value of Texas wholesale ECOM is *negative* $1,007 million, consisting of $1,148 million in potential benefits to LCRA, BEPC, STEC and WTU combined with $141 million in potentially strandable costs for TU Electric, CPL, and HL&P. Under the *contract abrogation* scenario, TU Electric has the largest share of potentially strandable wholesale costs at approximately $87 million, with HL&P and CPL having expected values for ECOM of $31 and $23

[10] The Commission neither advocates nor supports contract abrogation. This option is to illustrate wholesale ECOM if the entire market became competitive at once.

million, respectively. WTU, LCRA, Brazos, and STEC have *negative* expected net present values (i.e., net benefits) for ECOM of $87, $849, $195, and $17 million, respectively.

3. Summary of Retail ECOM Estimates in Texas

Thirty-six retail ECOM estimates were calculated for each utility using combinations of six different competitive scenarios, three market price assumptions (high, medium and low, in probabilistic terms) and two operations and maintenance efficiency improvement factors (0 and 10 percent). The broad competitive scenarios are described in Table 4.

Table 4: Competitive Retail Scenarios Modeled

Scenario Name	Scenario Description	Residential Access Year(s)	Commercial Access Year(s)	Industrial Access Year(s)
1998Full	1998 Full Access	1998	1998	1998
2000Full	2000 Full Access	2000	2000	2000
I98/C00/R02	Industrial 1998			1998
	Commercial 2000		2000	
	Residential 2002	2002		
I98/C02/R06	Industrial 1998			1998
	Commercial 2002		2002	
	Residential 2006	2006		
I98/C00/R02 Phase-in	50/50 Class Phase-in:			
	Industrial 1998/1999			50% in 1998, 50% in 1999
	Commercial 2000/2001		50% in 2000, 50% in 2001	
	Residential 2002/2003	50% in 2002, 50% in 2003		
R98/C00/I00	Residential 1998	1998		
	Commercial 2000		2000	
	Industrial 2000			2000

Note: The ECOM Model can accommodate additional competitive access scenarios with varying customer class access percentages.

Estimates of Texas retail ECOM assume that the shift to full retail competition occurs instantaneously in the modeled start year—that if full retail access is assumed to occur in 1998, that in the start of 1998:

- All customers are educated and motivated to switch retail electric providers and do so, finding new ones overnight;
- Many new retail providers will enter the marketplace able to serve a non-trivial share of the market without any start-up delays;
- All buyers and sellers will have the capability and the will to reach new agreements with new partners overnight;
- The technology and systems for metering and accounting these myriad new transactions is installed overnight;
- Regulators will develop the rules to implement full competition overnight; and
- The market price will fall below the regulated cost-of-service price instantaneously.

Because none of these things will occur this quickly, but more likely over several years, these estimates significantly overstate the level of investment that is likely to be stranded.

Table 5: Total Texas Retail ECOM Model Results ($1996 millions)

Scenario Name	Extreme High	95th percentile	Expected Value	5th percentile	Extreme Low
1998Full	$ 21,126	$ 16,396	$ 12,816	$ 9,188	$ 3,475
2000Full	14,628	9,945	7,243	4,487	(832)
I98/C00/R02	13,959	9,172	6,661	4,120	(1,327)
I98/C02/R06	10,088	6,411	4,065	1,715	(2,635)
I98/C00/R02 Phase-in	12,840	8,400	5,862	3,293	(1,800)
R98/C00/I00	17,767	12,961	9,913	6,834	1,368

Note: Results assume a 10 percent reduction in the O&M expense values projected by the utilities due to efficiency gains; this effectively decreases the amount of ECOM by about 10 percent, reflecting the fact that competitive pressure forces the utilities to lower their costs through efficiency and productivity improvements. Fixed costs include asset net book values, projected federal income tax and property tax payments. Thus, net ECOM for specific assets may exceed asset book values by the net present value of federal income tax and property tax payments in the projected generation cost-of-service.

Table 5 summarizes the range of estimated ECOM for the Texas retail jurisdiction. In the *1998Full* scenario, the expected value of total Texas retail ECOM is estimated at approximately $12.8 billion, with the 90 percent confidence interval of ECOM outcomes ranging from approximately $9.2 to $16.4 billion.[11] In the *2000Full*

[11] The 90 percent confidence interval includes the range of values that are most likely to occur (i.e., given the uncertainty ranges of the input data, the ECOM estimate will fall within this range in 90 out of 100 estimates).

scenario, the estimate of the expected net present value of total Texas retail ECOM is approximately $7.2 billion, with the 90 percent confidence interval of ECOM outcomes ranging from approximately $4.5 to $9.9 billion.

There is a 90 percent likelihood that under the assumptions modeled, the actual level of ECOM will fall within the 5th and 95th percentile ECOM estimates for any given scenario. Thus, for general discussion purposes, readers should use either the expected value or the 90 percent confidence interval values set by the 5th and 95th percentile results as the likely ECOM results. So when considering the *2000Full* scenario, the most likely ECOM level would be $7.2 billion (in $1996 NPV terms), and there is a 90 percent likelihood that the true ECOM consistent with these assumptions will fall somewhere between $4.5 and $9.9 billion (in $1996 NPV terms).

E. INTERPRETING THE ECOM RESULTS

Figure 7 compares projected market prices and the cost-of-service rate for two different utilities in real time (i.e., nominal dollars) for the *1998Full* scenario, to illustrate how ECOM is calculated over time. As the graph shows, TU Electric's cost of generating electricity consistently exceeds the market price over all forecast years, explaining why TU Electric's total ECOM figure is so high in net present value terms. In contrast, SPS has low-cost power plants (and no high-cost nuclear unit), so its generation cost-of-service quickly falls below the market price to produce negative ECOM (net benefits to ratepayers). When the total stream of SPS' ECOM is collapsed into net present value terms, the high benefits in the later years outweigh the early positive ECOM to yield a net negative ECOM in net present value terms.

The most fundamental point is that *these ECOM estimates will greatly overstate the level of utility assets actually stranded by competition*, because actual competition will being in the retail marketplace as a trickle rather than a flood. Additionally, it must also be recognized that *ECOM is self-liquidating*. The results clearly show that the passage of time reduces ECOM because a utility further depreciates its potentially strandable assets, recovers more of its costs in rates, and implements ways to mitigate the total

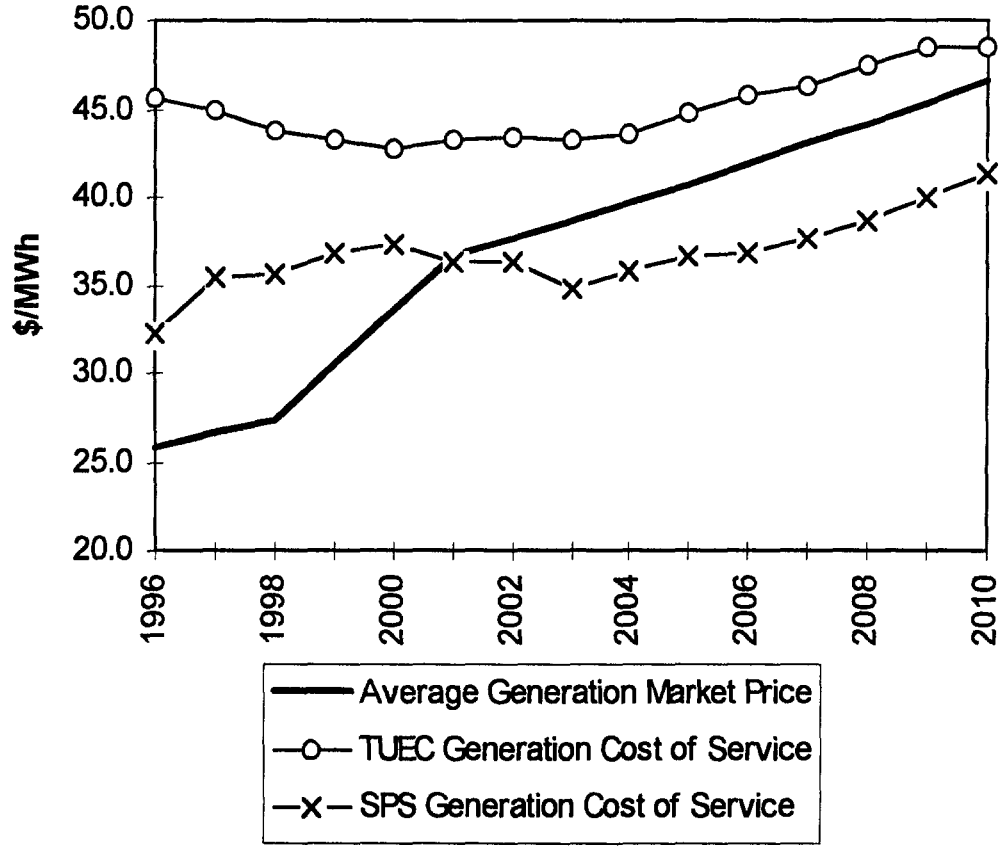


Figure 7: Illustration of ECOM Calculation for Two Companies

impact of asset stranding (as through accelerated depreciation). Although the utilities are already looking for ways to mitigate potential ECOM non-recovery, the ECOM model assumes that no mitigation occurs. So the model estimates the maximum ECOM that could be stranded.

Because that overnight change is impossible, it is likely that the path of actual retail service shifting and ECOM stranding resulting from retail access in 1998 instead follows a path that looks more like the results of the I98/C00/R02 (gradual, class-specific access between 1998 and 2002)—this scenario has an expected value of $6.7 billion and a 90 percent confidence interval of $4.1 to $9.2 billion ($1996 NPV).

1. Calculation Caveats

In reviewing this analysis, be aware that all the estimates are presented in 1996 dollars ($1996). Thus, the analysis implicitly assumes that ECOM is "settled" in 1996 (i.e., that the level of ECOM is determined and a mechanism is implemented to recover the share of ECOM that is allotted to the utility's customers in that and succeeding years) and that regulated rates continue from 1996 through the year when retail competition actually starts. For example, the statewide Texas retail ECOM estimate of $7.2 billion ($1996) for the *2000Full* scenario assumes that ECOM is "settled" in 1996, and that regulated rates continue until retail access is implemented beginning in the year 2000 (when market prices instantaneously replace cost-of-service prices).

But ECOM levels will not be "settled" in 1996, so the dollar amounts presented here for ECOM will change due to the time value of money. For example, it may be more appropriate to assume that ECOM is "settled" in the year when retail access begins, rather than in 1996. If the estimate of statewide Texas Retail ECOM for the *2000Full* scenario of $7.2 billion ($1996) is "settled" in 2000 rather than in 1996, the value in $2000 increases to $10.0 billion solely because of the time value of money. But although the number is larger, the real underlying value of the stranded assets does *not* change—only the *nominal* value of the ECOM estimate changes as a function of the base year for the NPV calculations. To illustrate this phenomenon, Table 6 shows ECOM estimates for the *1998Full* and *2000Full* scenarios under varying ECOM "settlement" dates.

Table 6: Statewide Texas Retail ECOM Estimates with Varying ECOM "Settlement" Dates (billions)

Settlement Date:	$1996	$1997	$1998	$1999	$2000
Statewide Texas Retail ECOM Estimate for the *1998Full* Scenario	$ 12.8	$ 13.9	$ 15.1	n/a	n/a
Statewide Texas Retail ECOM Estimate for the *2000Full* Scenario	$7.2	$7.8	$8.5	$ 9.2	$ 10.0

Note: The results in Table 6 incorporate a 10 percent O&M efficiency improvement.

2. Comparing ECOM Across Utilities

The potential ECOM exposure for utilities of differing sizes and structures can be compared by *normalizing* the ECOM results—that is, comparing the absolute dollar amount of estimated ECOM according to the utility's total generation capacity. Each utility's estimated total ECOM is divided by the utility's installed generating capacity to arrive at a normalized ECOM value in terms of dollars per kilowatt ($/kW). Figure 8 shows the normalized utility ECOM results for the *1998Full* scenario in terms of ECOM $/kW of installed generating capacity. The figure shows that TU Electric's normalized ECOM is in the middle of the range of utilities, although it has the greatest total ECOM in terms of absolute dollars. The graph also illustrates the high exposure to potentially strandable costs faced by the municipalities that comprise the Texas Municipal Power Authority, with Bryan, Garland, Denton, and Greenville showing relatively high normalized ECOM estimates.

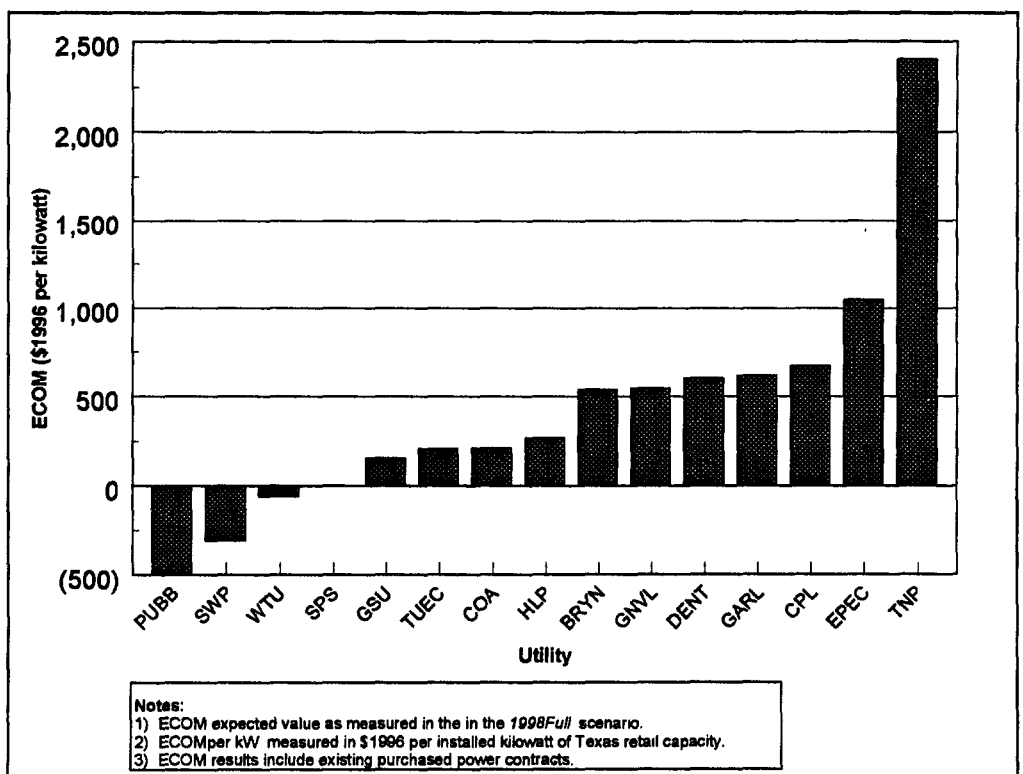


Figure 8: Normalized Texas Retail ECOM Model Results for the *1998Full* Scenario

Table 7 examines total Texas retail ECOM for the *1998Full* scenario by resource type (natural gas, coal/lignite, nuclear, and other). Nuclear assets comprise a large majority of potentially strandable costs, with an expected value of nuclear-related ECOM in excess of $15 billion. Excluding nuclear assets, the expected value of total Texas retail ECOM in the *1998Full* scenario is reduced to *negative* $2.3 billion. Overall, most of Texas' non-nuclear generation plants have low operating costs, and started life as moderate capital investments that have had time to depreciate. This brings their current total cost per kWh down below expected market prices. But nuclear plants are more expensive on a per-kW basis and have had less time to depreciate, so their costs well exceed expected market prices.

Table 7: Total Texas Retail ECOM Summary by Resource Type (*1998Full* scenario)

Generation Resource Type	Expected Value of Texas Retail ECOM ($1996 million)
Natural Gas	$ 2,020
Coal/Lignite	(4,630)
Nuclear	15,085
Purchased Power/Other	341
Total	**$ 12,816**
Total Excluding Nuclear	**($ 2,269)**

Note: See Appendix B of Volume III for individual utility ECOM results.

ECOM estimates are also sensitive to the projected market price. Generally, for every 1 percent deviation from the projected base case market price, the estimated total Texas retail ECOM results will change by approximately $450 million on a net present value basis. Also, the ECOM Model specifies the rate of return for investor-owned utilities at 10 percent (and 7.5 percent for municipals, river authorities, and cooperatives, although it is assumed that these entities adjust the return to reflect their individual debt service requirements). The 10 percent rate of return reflects the various risks to which a utility is currently exposed, and does not reflect the reduced risk associated with *guaranteed* recovery of investments.

The ECOM Model uses a probability-weighted distribution of natural gas prices, centered around a projected annual average price. If, in any given year, actual average natural gas prices are higher than the underlying forecast, then the market price will be higher and ECOM will be lower in that year.

F. ECOM ALLOCATION AND RECOVERY IN TRANSITION TO COMPETITION

In today's regulated environment, utilities collect all of ECOM from customers as a part of rates. Today, recovery of ECOM is only an issue for those wholesale customers and large retail customers who have some competitive choice. But if the market is restructured, utilities will be forced to accept market prices for some or all of their generated power. The issue then becomes, who will bear the costs of ECOM in the transition from regulation to the competitive market. Unless some provision is made to continue collecting ECOM in customers' rates, an immediate move to competition would shift all the burden of ECOM from utility customers, who pay for it today, to utility companies that would be unable to collect it in market rates.

Allocation is the process of assigning responsibility for all or a portion of ECOM during any transition. When and if competition is formally implemented, the initial tasks would be to assess the magnitude of ECOM and establish a policy on how ECOM should be allocated between customers and utility owners, and for how long. Next, the ECOM to be collected in rates would have to be assigned to customer classes and among types of service such as firm, interruptible, or standby service. The allocation issue is highly contentious, and is likely to be the single most difficult transitional issue if the Legislature determines that additional industry restructuring is in the public interest.

Note that if no formal decision to undertake competition is made, ECOM is nonetheless being allocated (and reallocated) through rates. As additional competition occurs, ECOM is being shifted *today* from some customers to other customers and/or utility owners. This is happening through the individual decisions of a utility customer to

leave (thus allocating itself zero additional ECOM after departure) or to stay with a utility at a discounted rate (and bear some portion of future ECOM, although not likely the full amount allocated under existing utility non-discounted rates), and by each utility's decisions about how much to discount its rates to keep the customer (since the Legislature has established that the difference between the discount and the fully allocated rate must be borne by the utility's owners).

1. Rights and Expectations of Utilities, Customers, and Other Parties

The utilities claim a statutory right to full recovery of ECOM from customers, quoting PURA95 §2.203(a), which permits a "reasonable opportunity to earn a reasonable return on invested capital." The utilities argue that shareholders did not assume the risk that the State or federal government would someday change the rules and put these investments at risk.

Some customers and other parties do not believe that IOU shareholders have a clear right to full ECOM recovery or that IOUs could reasonably expect that in transition, all ECOM should be allocated to the ratepayers. Some of the key arguments are described below.

a) Wholesale ECOM Rights

Some argue that there is no right for utilities to recover wholesale ECOM because Texas utilities are not subject to a statutory obligation to serve wholesale customers. Wholesale transactions are governed only by an express written wholesale contract that determines the legal rights and expectations of the parties and not by any "implied" contract. Because the wholesale transaction is governed by a written agreement, the utility: (1) does not have a definitive legal right, based on contract law, to demand continued purchases after the lawful termination of the wholesale contract; and (2) cannot reasonably claim that it must stand ready to serve a wholesale customer that lawfully terminated (or never began) service in accordance with its wholesale service contract. The Federal Energy Regulatory Commission has held that if the written contract is silent as to ECOM or continuing cost allocation and recovery issues, and is

otherwise unambiguous, the wholesaler does not have a valid legal right or expectation to ECOM recovery from the purchaser beyond the term of the contract.

b) Retail Transactions

Unlike the written contracts in wholesale transactions, the State (through the Commission) regulates public utility *retail* (or final use) rates and services. Except for a few large customers, there are no written contracts between utilities and their retail customers. Instead, the current arrangement in Texas between consumers and their municipality, cooperative, river authority, or IOU suppliers is predicated on a form of regulation that requires the consumer to pay for service taken from the utility at the established rate. Utilities claim that a *regulatory compact* exists between the State and each utility. This compact requires the utility to provide adequate and reliable service at fair rates to all consumers within the utility's certificated service area. In return for this *public* service, rates are set to provide a reasonable opportunity to earn a reasonable return on its invested capital as well as reasonable and necessary operating expenses. In this system of regulation, it is more difficult to determine the legally protected expectations arising from retail transactions, as compared to wholesale transactions.

c) Competitive Issues Particular to Cooperatives and Municipally Owned Utilities

Cooperatives and municipally owned utilities face significantly different competitive issues not only in the context of allocating retail ECOM but also in making competitive bids. Municipal utilities and certain cooperatives are subject to the requirements of the Texas Open Meetings Act and Open Information Act (formerly the Open Records Act). When the utility is acquiring resources in the competitive wholesale marketplace, however, it should be able to keep bids and related solicitation information confidential. This would require an exception to the Open Information Act. In addition, where governing bodies are required to decide matters in public, there are exceptions to the Open Meeting Act that allow the body to meet in closed session to discuss certain

matters. Competitively sensitive data relating to bids and solicitations cannot be protected unless it can be discussed in closed session.

With respect to allocating ECOM, a cooperative's or municipally owned utility's owners and ratepayers are generally one and the same. Their bond indentures or loans may require them to recover sufficient revenues to repay these obligations. Further, the Commission may not have jurisdiction to require them to implement a specific ECOM allocation plan. Because of these particular concerns, the cooperatives and municipal utilities argue that an allocation of ECOM is meaningless since the members/citizens/ratepayers must foot the entire bill.

d) Summary of Customer/Utility Allocation Issues

Given the magnitude of the dollars involved, any explicit ECOM allocation method adopted by the Legislature will face a court challenge. Utilities claim full ECOM recovery as a legal right, while some customers argue equally vigorously for full ECOM absorption by the utilities' shareholders. In the middle are parties who do not believe that IOU shareholders have a clear right to ECOM recovery but support some allocation to ratepayers as a necessary transitional concession to hasten or ease the arrival of their ultimate goal—a competitive and efficient retail market. In this light, the allocation of ECOM to ratepayers would seem less an issue of legal rights and more a *quid pro quo* for the utilities' agreement to move to full retail competition. Thus, there may be clear benefit to resolving both ECOM and industry restructuring together to smooth the transition and increase the likelihood that most stakeholders attain an acceptable position in the grand bargain.

2. Ways to Recover ECOM from Ratepayers

If ratepayers are responsible for some portion of ECOM, how should allocated ECOM be recovered from them? Five criteria should be considered when selecting ECOM recovery mechanisms:

- Impact on rates;
- Incentives of firms to reduce costs;

- Impact on the competitive market;
- The time horizon over which ECOM will be recovered; and
- Ease of administration of the recovery mechanism.

Table 8 summarizes five types of recovery mechanisms being widely discussed in the restructuring debate. These mechanisms have varying advantages and disadvantages, and may be used alone or in various combinations.

a) Access Charges

An access charge would be applied to *all* transmission and distribution customers of the utility regardless of whether they continue to purchase generation from the current provider or from a new one. Because all of ECOM is already being collected in rates, the access charge is not a rate increase but merely the separate identification of a component of the current bundled rates (e.g., a line item within the total that would be separately listed in the customer's bill). For competitive neutrality, it must be clear that the access charge is inescapable and uniform. The customer then can determine whether to exercise competitive choice by comparing the unbundled generation component of the utility's bill with the price and service options offered by alternate suppliers—for the customer will pay the same access charge for utility ECOM recovery each month, regardless of which company the customer chooses as a retail electricity provider.

Since ECOM is already embedded in the utility's current rates, the decision to unbundle ECOM as an access charge will not require a net increase in rates over time if recovery of the excess costs is not accelerated into too short a time frame. If generation of electricity continues to be a declining cost industry, it is possible to combine the institution of the access charge with a rate decrease, or in the alternative, to accelerate ECOM recovery without any increase in rates.

Table 8: ECOM Recovery Mechanisms

Recovery Mechanism	Definition	Advantages	Disadvantages
Access charges	Charges imposed on customers that are tied to continued transmission and distribution service.	Nonbypassable charge is competitively neutral.	Must design the access charge in a manner that will not distort customer behavior.
Exit fees	Fees charged to departing customers that are scaled to recover specific costs attributable to that customer.	Clearly identifies customers' ECOM responsibility and allows customers to structure their own payment plan.	Assignment to departing customer may imply a penalty for leaving incumbent (even though the value should be equivalent to the remaining customer's access charge).
Revaluing assets	Writing down the book value of generation assets while writing up the book value of transmission and distribution assets.	Does not require identification of specific charges.	Transmission and distribution are not competitive, will continue to be regulated, and should not be valued at market.
Adjusting depreciation	Accelerating the depreciation of generation assets while decelerating the depreciation of transmission and distribution.	Does not require identification of specific charges.	May not comply with generally accepted accounting principles.
Rate freeze	Rates are frozen at current levels and additional earnings from efficiency gains and decreases in fuel prices are applied against ECOM.	Does not require identification of specific charges.	Primarily used to pay off ECOM *in advance* of competition.

To be an effective means of recovering ECOM, the access charges must be "non-bypassable." Customers who remain on the transmission and distribution system should not be able to avoid the access charge by changing their generation supplier. Few residential or commercial customers will be able to disconnect from the electric grid solely to avoid the access charge. Even industrial customers who self-generate today still purchase some power and backup services from their local utility. If a

customer is able to bypass the grid completely by self-generation, then an exit fee may be the appropriate recovery mechanism.

b) Exit Fees

Like an access fee, the exit fee mechanism will clearly identify the customer's allocation of ECOM responsibility. But an exit fee only identifies ECOM as an unbundled charge for the *departing* customer. When a customer considers an alternate supplier, the maximum potential exit fee would theoretically be the net present value of the ECOM that would have been collected if the customer had continued as a customer for the remaining life of the generation assets. Once the appropriate exit fee is identified, it can be charged as a lump sum or amortized over a period of time. Because the issue of an exit fee arises only when a customer is considering a change in suppliers, a customer may see a fee as an *additional* cost that could inhibit the exercise of competitive choice.

Because an exit fee is considered on a case-by-case basis it is more appropriate for large wholesale and industrial customers. It would be unwieldy to use exit fees to recover ECOM from residential and smaller commercial customers because they have limited chances to leave the utility, and if they did, the transactions costs of calculating and charging every departing customer for the appropriate exit fee would become problematic. If exit fees are implemented, they must be set in a way that establishes a clear and common assignment and calculation methodology that will be used for every utility and exiting customer. This will avoid the procedural nightmare of having to litigate the ECOM exit fee for every departing wholesale and large industrial customer (each of which will want to lessen its share of ECOM relative to that assigned to the remaining residential and commercial customers). If individual communities or groups of customers want to choose another *distribution* provider, their appropriate aggregate share of the utility's ECOM could be collected as an access fee added to the rates of the group's new retail electricity provider.

c) Structural Recovery Mechanisms—Revaluing Assets and Adjusting Depreciation

Two structural methods of ECOM recovery are widely discussed: writing down over-valued generation assets and writing up under-market transmission and distribution assets; and accelerating depreciation of generation assets while decelerating depreciation of transmission and distribution assets. Both of these methods effectively reduce the amount of generation costs to be recovered from competitive rates, and increase the level of costs to be recovered through rates for transmission and distribution. It is expected that transmission and distribution will remain monopolistic rather than competitive services under most foreseeable technologies and conditions, so their costs will continue to recovered under cost-of-service regulation for some time.

d) Rate Freeze/Cap

The final recovery method commonly discussed involves freezing rates at current levels and applying any additional earnings from efficiency gains, decreases in fuel prices, or service area growth against the ECOM allocated to customers. This method does not require identification of specific access charges or the total magnitude of ECOM. Such a rate freeze could be combined with a rate decrease for customers. One difficulty with the rate freeze method is that it is only effective if it is implemented before retail access occurs (as was proposed by Texas-New Mexico Power in the rate case now withdrawn, and by Entergy-Texas in a rate case submitted in November 1996). Once a customer has retail choice, no additional ECOM is collectible under this method. However, use of a freeze or cap with a cutoff date for ECOM recovery would increase incentives to recover ECOM during the freeze period.

e) Performance-based ECOM Recovery Mechanisms

One possibility for providing utilities an incentive to reduce costs and confer benefits on customers is to link ECOM recovery to performance (performance-based ECOM or PB ECOM). PB ECOM would require firms to achieve specified levels of operating performance, with rewards for additional performance improvements. PB ECOM is consistent with the concept of allowing utilities a reasonable opportunity to recover

ECOM, but there is some risk that utilities would not recover 100 percent of ECOM under a PB ECOM recovery mechanism.

G. IN SUMMARY

ECOM only exists if the embedded (book) costs of generation currently being collected in rates today are not fully collectible if rates are at market-based levels. ECOM from current wholesale contracts is of a relatively small magnitude. When greater competition is permitted, the question remains of how ECOM will continue to be collected and for how long. The mechanism for ECOM collection can be designed to facilitate the transition from a regulated to a more competitive market.

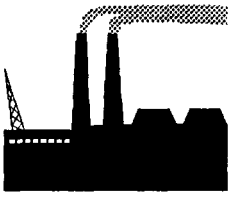
IV. RECOMMENDATIONS TO THE LEGISLATURE

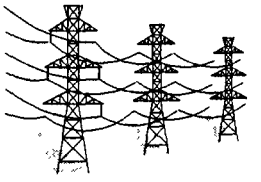
The nature and speed of changes in the electric industry outlined in the rest of this report place the Commission in the situation of regulating in a rapidly changing environment without a great deal of Legislative direction on how to respond. Although PURA was amended last session, additional Legislative guidance would allow the Commission to address marketplace changes in Texas so that the benefits of present and future competition reach all Texans. Accelerating changes in the marketplace have moved beyond the 1995 amendments to PURA; for that reason, the Commission respectfully requests new tools, authority, and approaches to ensure that the *public* interest is promoted and protected during this period of industry transition. These recommendations represent the Commission's best advice as to what changes in PURA are needed to ensure that the electric power industry's restructuring will benefit all Texans.

First, it may be helpful to look at how economic regulation of the electric power industry has changed in recent years and compare the level of economic regulation with options discussed later in this section. The electric power industry today—as illustrated in Table 9—is actually three main businesses: power generation, power delivery (transmission and distribution), and customer/retail service. In Texas there are companies that perform all three businesses; there are also companies that do just one or two of them.

The changes in regulation reflect two realities: (1) power generation and customer/retail service no longer need be deemed exclusive monopoly services, and (2) under proper circumstances, structured market competition can achieve socially optimal policy goals—including economic efficiency—at less cost and more effectively than can traditional command-and-control regulation.

Table 9: Overview of Economic Regulation and Alternatives





	GENERATION	DELIVERY	CUSTOMER SERVICE
Relative costs:	4.5 cents	1.0 cents	0.5 cents
Pre-1995	Utility plant: regulated IPP/QF: not rate regulated	Regulated	Regulated
Post-1995	Utility existing plant regulated; Utility new plant not regulated IPPs: not regulated	Regulated; open access on transmission grid for wholesale customers	Regulated
Electric service reseller (ESR)	No change	No change	Utility: regulated ESR: semi-regulated
Complete wholesale competition	All utility generation removed from rate base; no rate-regulation	No change	No change
Retail competition	All utility generation removed from rate base; no rate regulation	No change; open access to entire grid for all customers	Rate regulation is removed; no barriers to entry by competitors

Restructuring is already happening in the electric industry in Texas. Legislators and regulators are being pressed to decide whether, how, and when the electric industry should be restructured—but it should be recognized that with or without a formal policy direction or mandate, changes are already occurring in the industry that represent an evolution toward significant restructuring. Consider the events included in Table 10 that have occurred since the close of the 1995 Texas Legislative Session:

Table 10: The "Status Quo" is Changing Rapidly

Mergers and Acquisitions	Utility Restructuring Proposals	Federal Legislative Initiatives	Pricing and Rate Discounts	Utility Bypass Attempts and Vertical Market Power
Southwestern Public Service announces its merger with Public Service Company of Colorado.	Texas-New Mexico Power files its "Community Choice Transition Plan" proposing to move to community aggregation and retail choice by 2002 in exchange for rate freeze and depreciation shifting (Plan withdrawn in late 1996).	US Senate Bill 1318 would authorize Amtrak to become a power broker and sell power from any source to any end user.	HL&P, TU Electric, and CP&L file separate cases for real-time pricing rates that would charge customers for electricity at hourly prices that track the utility's actual cost of production.	Gulf Coast Power Connect seeks a Certificate of Convenience and Necessity to build a transmission line from an Exxon co-generator to a near-by Exxon refinery in Houston, bypassing HL&P service.
Houston Industries buys NorAm Energy Company (the gas company formerly known as Arkla) for $3.8 billion.	Entergy–Gulf States Utilities files rate case seeking performance-based pricing for many operations; apply over-earnings to mitigate potential stranded investment; and move all customers to full retail competition at the end of seven years.	US Senate Bill 1562 would restructure wholesale and retail electric markets; require competitive bidding for all new power supplies; provide retail competition for all customers by 2002.	TU Electric seeks approval for a wholesale power rate that would offer deep discounts to two of its ten wholesale electric power customers.	Cogen Lyondell builds a one-mile transmission line between Destec and Lyondell Petrochemical plant in Houston, after buying 12 percent of the Destec facility, claiming that the transaction qualified as self-generation.
Texas Utilities announces its merger with Enserch (gas exploration, production, and pipeline company, parent of Lone Star Gas); Texas Utilities buys Australian electric distribution company Eastern Energy for $671 million.		US House Bill 3790 would establish open-access, non-discriminatory wholesale and retail markets by December 15, 2000; if state does not act by that date, FERC will implement competition in such state.	Southwestern Electric Power Co. seeks approval of deeply discounted rate for its largest customer, including a clause that would allow SWEPCO a right to match any competing bid.	Texas-New Mexico Power alleges that TU Electric coerced it into a contract for power and transmission wheeling, and that the contract should be altered to match the current open transmission market.
Enron buys Portland General Corp. (parent of Portland General Electric) for $3.23 billion.		US House Bill 4297 would open retail competition by 1998 and not allow recovery of any stranded costs.	Northeast Texas, Tex-La, and Sam Rayburn Electric Cooperative seek approval of discounted wholesale and retail rates.	Power Clearinghouse proposed to establish an Austin apartment complex as a "wholesale" rather than retail customer, so the complex could bypass the City of Austin Electric Utility and buy at lower wholesale rates.
Central and Southwest buy the British electric utility Seabord PLC for 2.52 billion.			City of Austin considers deep discounts for its six largest industrial customers.	

Each of these examples illustrates a different aspect of how the electric industry is becoming more competitive and changing at the retail and wholesale levels.

The remainder of this section of the Commission's report lays out a variety of options, from the minimum set of regulatory tools needed today to a comprehensive retail access program. The Commission's *primary recommendation* is that the Legislature continue the process of expanding competition in the Texas electric market, leading to expanded retail competition, provided that a number of safeguards are included. The Commission's recommendations contemplate a careful and deliberate approach that will open the Texas marketplace in a controlled manner.

The movement to retail competition should lead to a more efficient, more customer-responsive, and more innovative industry than exists today. In addition, restructuring cannot be allowed in any way to jeopardize the safety and reliability of the system, to threaten universal service, cause environmental harm, or reverse the State's commitment to renewable energy and energy efficiency. So that these goals are realized, the Commission would recommend that there be a transition period before broad changes are implemented to ensure that all classes of customers have an opportunity to become educated about the pending changes, that the power delivery system (which will continue to be regulated) is prepared to handle the increased complexity of transactions, that all providers know what the rules of engagement will be for the future, and that all transition issues are fully and fairly dealt with. This will require some time. In that regard, the Commission would recommend against any legislation that would introduce broad-based retail-level competition before 2000.

A. WHETHER OR NOT ANY LONGER-TERM GOAL IS ADOPTED, EXPAND THE COMMISSION'S ABILITY TO PROTECT CONSUMERS AND THE MARKETPLACE IN A CHANGING ENVIRONMENT

The current regulatory structure is characterized by monopoly provision of electricity in the retail market and emerging competition in the wholesale market. The Commission recommends the following statutory changes to improve regulation under the current PURA95 regime.

The Commission's recommendations fall into three major categories: (1) major new tools necessary for customer protections and protection of the marketplace during a period of rapid change; (2) clarification and expansion of existing Commission powers to address questions that have arisen since the passage of PURA95; and (3) new administrative tools to enable the Commission to be more efficient and effective. The Legislature should note that the administrative tools have also been recommended in the Commission's *Report to the Seventy-Fifth Texas Legislature on the Scope of Competition in Telecommunications Markets.*

1. Provide the Commission New Regulatory Tools

a) Adopt Provisions Ensuring Reliability, Consumer Protections, and Universal Service

As the electric power industry works through a period of transition, the Commission remains vigilant about continuing and improving basic aspects of the present system: reliable power delivery, customer protections, and universal access to affordable power. The Commission believes the following list constitutes the minimum set of consumer "rights" that the Legislature should explicitly mandate:

1. Consumers are entitled to safe and reliable electricity.
2. Consumers are entitled to have their utility billing and payment records treated as confidential.
3. Retail consumers in Texas are entitled to their choice of generation providers (once permitted by the Legislature).
4. Consumers are entitled to accurate and understandable bills.
5. Consumers are entitled to be informed and involved during the transition to a competitive electric industry.
6. Consumers are entitled to assume that their chosen providers will not be changed without the consumer's informed consent.
7. Consumers are entitled to uniform and non-discriminatory treatment with regard to billing and collection practices.
8. Consumers are entitled to fair and reasonable marketing and sales practices.
9. Consumers are entitled to have their disputes with providers resolved by a neutral third party.

Attachment 1 to this document demonstrates how these concepts could be fleshed out into specific statutory language.

b) Allow Alternative Forms of Regulation

The Commission requires clearer authority to institute alternative forms of regulation, including performance-based regulation ("PBR") and price/revenue caps. Traditional cost-of-service regulation is sufficient for protecting consumers from monopoly abuse, but it may limit the incentives of a firm to operate efficiently. Several utilities have proposed alternative regulatory plans to the Commission that appear to offer advantages for both the utility and the ratepayers. The Commission's legal ability to adopt such options has been questioned, indicating a need for more direction from the Legislature. The Commission requests explicit authority to implement incentive regulation as appropriate.

c) Allow Flexible Regulation of Unbundled Utility Functions

Unbundling competitive and non-competitive utility functions should make regulation of the remaining monopoly functions (for example, the power delivery system—high voltage transmission and lower-voltage distribution) more efficient by pushing competitive functions into an unregulated environment outside the regulators' purview. It would allow for more focused rate reviews and establishment of competitive safeguards between competitive utility functions, unregulated providers of those functions (e.g., independent power producers), and the remaining monopoly services. In its rulemaking pursuant to PURA95 §2.057 in 1996, the Commission unbundled the transmission systems of all transmitting utilities in ERCOT from the remaining utility operations. In further rulemakings to implement PURA95 §2.051, the Commission is working with parties to further unbundle the current utility distribution operation into competitive (customer/retail service) and non-competitive (lower-voltage distribution power delivery system) functions. The Commission recommends that the goal of unbundling be included in the Legislature's policy statement (PURA95 §2.001) and that the Commission be given explicit authority to handle rate cases on an individual

function basis, so that periodic rate reviews do not necessarily need to involve all operations of a utility.

d) Authorize the Commission to Determine and Assess ECOM on all Customers

PURA95 currently authorizes the Commission to report on potentially strandable costs (which the Commission calls "Excess Costs Over Market" (ECOM)). Concern over ECOM responsibility is driving utility opposition to restructuring and prompting large customers' efforts to bypass these costs. Much unconstructive behavior could be averted if ECOM issues are resolved now with certainty, finality, and speed. It is particularly important to prevent further cost-shifting that may harm captive customers, particularly residential users.

The statute reserves to the Legislature the ability to determine how responsibility for ECOM is to be allocated. The Commission requests guidance on that subject and recommends that the Legislature delegate to the Commission the task of handling the matter as discussed below. The Commission could then unbundle current rates to explicitly identify the ECOM component that all utility ratepayers would continue paying in their bills as competition is introduced. Once identified, *no individual customer's responsibility for the sunk costs of the utility should be allowed to increase*. Furthermore, whether the customer leaves because of increased wholesale competition, self-generation, or future retail competition, any departing customer should be required to continue to pay its assessed ECOM share so that ECOM will not be shifted to other ratepayers. If the Legislature then establishes that a utility may discount a customer's ECOM responsibility at its discretion, up to but not exceeding the full amount of that customer's share of ECOM, it will ameliorate the on-going concern about cost-shifting due to rate discounting.

The Commission specifically requests guidance on how to deal with cost-shifting related to discounting by cooperative utilities. PURA95 §2.001(d) prohibits allocable costs of discounts from being imposed on other ratepayers. This prohibition limits the ability of cooperatives to offer discounts. Unlike IOUs, the owners of cooperatives

cannot absorb the allocable cost of the discount because the owners are one and the same as the *"other ratepayers"* the language in the statute protects. As the Commission has interpreted the statute, a cooperative cannot discount below the fixed costs of its rate-based facilities; a cooperative can, however, offer "pass-through" rates, as discussed above in Volume II of this report.[12]

i) ECOM Should be Defined

Most of the debate about stranded costs relates to "generation" assets, arising primarily from plants in rate base whose book costs presently exceed their market values. But other strandable costs exist, primarily nuclear plant decommissioning costs, regulatory assets, rate case expenses, and deferred taxes, which in some cases amount to hundreds of millions of dollars. Rather than saddle contemporary ratepayers with the immediate recovery of those costs, the Commission previously authorized them to be spread over many years. This was done under the presumption that utility service would remain an area of limited competition and that such costs would always be recoverable. The Commission recommends that each of these costs be considered as ECOM.[13]

ii) Provide Guidance, but Delegate to the Commission the Authority to Calculate ECOM

The Commission has defined ECOM as the amount by which the value of an asset differs under regulation compared to its value under competition. Determining the regulatory value of generation assets is fairly easy—the Commission uses the "original cost, less depreciation" required by PURA95 §2.206. Determining market price is harder, at least during the early years of competition. The Commission recommends that the Legislature delegate authority to the Commission for determining the market price, along with guidance as to the types of information that should be used in determining that price. For example, actual asset sales in other jurisdictions that have introduced competition could serve as one potential measure of the market value of a

[12] For more detailed discussion, see Volume II, pp. V–35 through V–42 and XII–42 through XII–44.

[13] Throughout this report, the terms "potentially strandable investment" and "ECOM" are intended to include all categories of strandable investment, unless otherwise noted (e.g., the term "generation assets" would refer to just the generation-related ECOM).

generation asset in Texas. In addition, the Commission should be directed to "net out" ECOM values for a utility, so that the benefits of any below-market assets are netted against the costs of any above-market assets.

The initial evaluations of ECOM may come before much market data exists. Thus, there is the distinct possibility that the predicted value of ECOM and the eventual, actual values would not agree. If the Commission estimate is too high, the development of the marketplace may be impaired; if the estimate is too low, the financial integrity of the utilities could be threatened. Chapter X of the detailed Report on Potentially Strandable Investment (Volume II) contains a discussion of options for solving this problem, including "simple" true-ups, "stabilization" true-ups, performance-based ECOM recovery mechanisms, and adjustments that might be appropriate for administrative determinations. The Commission recommends that it be instructed to determine the appropriate adjustment mechanisms to be implemented either on an industry-wide basis or with variations for different utilities.

iii) Require Utilities to Mitigate ECOM; Permit the Commission to Adopt Mitigation Measures

There appears to be widespread consensus that if utilities are given the opportunity to recover generation ECOM, they should also have the obligation to mitigate the level of that ECOM. This duty should be made explicit, and the Commission should be empowered to approve any reasonable measures to fulfill that duty if PURA is not clear. Mitigation measures include, but are not be limited to:

- Acceleration of depreciation and amortization of generation assets;
- Minimization of new capital spending for existing rate base generation assets;
- Reallocation of depreciation reserves to existing rate base generation assets;
- Sales of excess capacity;
- Allocation of any reductions in fuel costs; and
- Any increase in revenues due to new market opportunities.

Of course, utilities and intervenors should be free to propose other mitigation mechanisms.

iv) Assign ECOM to Customers to Avoid Cost-shifting; Allow the Limited Use of Negotiated Exit Fees

ECOM is being collected in current rates. Unbundling that amount simply makes it clearer. In any competitive scenario where customers might be able to select different suppliers, there is a risk that a utility may seek to recover displaced costs from customers who do not seek alternative supplies. To prevent this shifting, the proportion of ECOM that is to continue to be recovered from customers should be clearly identified as a separate element of rates today. This will lessen future attempts to bypass the obligation to pay by placing it as close to the customer as possible.

The Commission also recommends the Legislature prohibit cost-shifting between customer classes or within a class. The amount of ECOM and the period of recovery are related transitional issues that need to be determined jointly.

As a general rule, the Commission does not recommend the use of "exit fees" for retail customers. Conceptually, exit fees can be used to recover ECOM, but they are determined and imposed only when a customer departs the system; thus, the use of exit fees could impair competition by lessening consumers' interest and ability to leave the host utility. However, once ECOM is determined for all customers, there is no reason why a particular customer could not negotiate an exit fee with the utility to pay its ECOM and then find a new power supplier. In light of the special circumstances that apply to municipally owned utilities and cooperatives, exit fees may be an acceptable method to recover ECOM costs. Municipalities and cooperatives have a direct opportunity for customers to control their choices and their rates. They may also have unique bond covenants and other obligations that need to be considered during their transition to competition.

The Commission notes that the FERC approach for *wholesale* exit fees gives the departing customer a great deal of latitude in structuring the payment of the fee. As with local telephone interconnection, the Commission believes that the first

responsibility for establishing the fee should be with the parties. In the event that they are unable to resolve a dispute, the Commission should be authorized to resolve it, either through traditional contested case approaches or alternative dispute resolution methodologies.

e) Create a New Electric Service Reseller Certificate to Promote Competitive Provision of Innovative Customer Services

The Electric Service Reseller (ESR) would be patterned after the Legislature's creation of alternative telecommunications service providers in H.B. 2128. Until any broad deregulation of the retail/customer service market occurs, the ESR would buy all electric power needs from the incumbent utility and not on the wholesale market. The ESR should be allowed to purchase from the incumbent provider at a rate that is equivalent to the costs the utility would be avoiding by not having to do the marketing, metering, and customer service related to the customer of the ESR. In addition, the ESR should be given the ability to aggregate all of the individual accounts that it serves into one account and qualify for any discounts currently given by the utility for larger loads. The ESR could get a single bill from the utility, and would have the responsibility of correctly billing each of its customers.

As an alternative service provider, the ESR could offer unique pricing and service options and may choose to market its services to special markets. As the Commission has found in its regulation of the telecommunications industry, many customers prefer to receive "one bill" for certain utility services. The ESR could bundle electric power with energy conservation programs, alternative fuels such as natural gas or propane, power generated by renewable sources, telephone services, Internet access, wireless telecommunications services, alarm/security systems, and other desired services.

As with H.B. 2128's alternative telephone providers, ESRs should be subject to financial and technical certification requirements and customer safeguards. Creation of ESRs would not trigger the ECOM/stranded investment question, because the only costs being displaced would be those avoidable costs of the incumbent utility's own

customer/retail service operation. The ESR would ease the transition to a more competitive industry by making the public more aware of competitive options; it will also stimulate greater customer responsiveness and operational efficiency on the part of existing utility providers. To stimulate the development of a healthy market in ESRs, the Commission recommends that in its home service area neither an incumbent utility nor its affiliates be allowed to provide this service.

2. Clarify Commission Authority

a) Define "Wholesale" and "Retail"

Now that S.B. 373 has been implemented, the wholesale market in Texas is more competitive, while the retail market remains under strict rate regulation. This creates the potential for discriminatory pricing as some retail customers attempt to obtain better rates by becoming wholesale customers. Wholesale has usually been thought of as sales for resale. The Commission has already had an apartment complex attempt to claim "wholesale" customer status because it purchased electricity from the local municipal utility and resold that electricity to its tenants. It is easy to imagine military bases, shopping malls, college dormitories, and government offices seeking to be reclassified as wholesale purchasers, much as happened during the earlier days of telephone competition. The Commission requests guidance on how to define more clearly any distinction between "wholesale" and "retail."

b) Authorize Coordination with Other States and Other Agencies

In light of the proposed mergers of Texas Utilities with Enserch and Houston Lighting & Power with NorAm,[14] the Commission and the Railroad Commission should be authorized to work together to establish accounting rules, cost allocation procedures, and joint audit and affiliate abuse complaint procedures for combined electric and natural gas distribution companies.

[14] The Texas Legislature should be aware that the Texas Commission has no jurisdiction to review these mergers. By contrast, states as far away as Minnesota are reviewing the HL&P/NorAm merger.

Some of the utilities that operate in Texas serve more than one state. The regulatory bodies and legislatures of our neighboring states are also reviewing the advantages and disadvantages of utility restructuring. Regional ISOs are being contemplated, and it may be possible for one or more power pools to be created outside of ERCOT. The Commission should be authorized to coordinate with the regulatory bodies of other states and participate in any regional regulatory bodies that may be created to study or implement electric restructuring.

c) Expand Merger and Acquisition Authority

The Commission should have authority to review and approve mergers and acquisitions concerning Texas' electric utilities. Section 1.251 of PURA95 gives the Commission the authority to examine some mergers and acquisitions now, and instructs the Commission to examine a number of factors (such as health and safety, job transfers out of Texas, and whether the transaction is in the public interest). However, utilities can structure transactions to prevent even this level of Commission review, if the ownership of the Texas utility is not affected. Furthermore, unlike many other states, the Commission cannot stop a merger that it finds to be contrary to the public interest; all we can do is "disallow the effect of such transaction if it will unreasonably affect rates or service." Merger guidelines used by federal regulators (e.g., the guidelines followed by the U.S. Department of Justice) may be inappropriate for examining *vertical* mergers, as in the recent consolidation of Texas electric and gas utilities. It is likely that more Texas utilities will be involved in merger and acquisition activity in the future—between Texas companies, with out-of-state (or even foreign) companies, and with the Texas company as either the acquirer or acquired entity. The Commission recommends at a minimum, that the Commission be given the authority to address the merits of those mergers and acquisitions to ensure the protection of Texas interests.

d) Provide Flexibility to Respond to Federal Legislation and Rules

Several federal bills to restructure the electric industry were introduced in the last Congress, and additional bills are expected in 1997. Federal authorities often attempt

to promote state activity by including provisions in legislation or administrative rules that allow states a period of time to act in accordance with the federal guidelines. After that period, federal agencies may exert jurisdiction if states fail to act. Today, the Commission's unique position in the United States as a regulator of both wholesale and retail electric activity is widely envied. It is important that the State of Texas maintain its jurisdiction over this vital area of commerce. Under our telephone regulatory authority, the Commission already has the ability to "establish rules that are responsive to changes in federal law" (PURA95 §3.458(f)). The Commission recommends that it be given similar authority for all electric issues.

e) Provide Further, Limited Oversight of Non-utility Generation

In September of 1996, CSW and Phillips Petroleum Company broke ground on a 325 megawatt co-generation power plant. Other "merchant" plants are being constructed inside ERCOT. The Commission needs to have authority over non-regulated generators in Texas in two specific regards: to enforce safety and reliability standards for interconnection to the delivery system (transmission and distribution systems), and to require information (including costs and revenues, with appropriate confidentiality provisions) from all suppliers of electricity operating in Texas, to monitor the effectiveness of competition in the electric market.

f) Protect Marketplace Against Anti-competitive Behavior

Under the current regulatory structure, some of Texas' utilities may have the ability to exercise market power in a manner that impairs competition or imposes higher prices on ratepayers. This market power can be due to *vertical* market power (owning the means of production, transmission and distribution, fuel supply, and customer services) or *horizontal* market power (controlling a significant amount of generation within the State). Traditional antitrust measures are slow and ineffective for an industry undergoing rapid change. As the electric industry evolves, there may be affiliate abuses or marketing ploys that cannot even be imagined today. Therefore the Commission

needs broad authority to recognize and correct market power abuse as it occurs. This authority should include investigatory and remedial powers.

As the new market for energy services evolves, new anti-competitive opportunities may arise as well. The United States Department of Justice recently began an investigation of a small town in Oklahoma that was trying to force a potential customer to use its electrical service (as opposed to that of the surrounding power authority) by denying that customer water and wastewater services. The Department of Justice was concerned that this practice might constitute an illegal "tying." The Commission recently had a case brought before it in which an electrical contractor claimed that his city had acted in an anti-competitive manner. The Commission has not yet ruled on that case, and is examining its jurisdiction to govern municipal activities that might impact upon competition. If the Commission does regulate the municipality, it may be possible for the Commission to give it federal antitrust immunity through a legal doctrine known as "state action." The Commission recommends that the Legislature clarify that no utility—including municipal utilities—may engage in actions that impair or tend to impair competition for electricity and related markets such as energy services, and that the Commission has the authority to take such actions as may be necessary to correct the problem.

g) Grant Additional Regulatory Flexibility for Exempt Electric Cooperatives

In the last session, the Legislature gave the members of electric cooperatives the opportunity to exempt the cooperative from rate regulation by the Commission. This provision has been popular (47 cooperatives have filed for exemption). An exempt utility still must file its tariffs with the Commission and give notice to its customers. If an exempt cooperative wishes to change any of its rates, it is required to file a cost of service study that is not more than five years old (PURA95, §2.2011(c)(3)). Such a cost study would allow a customer to review the cost of serving all customers as a sort of self-policing tool.

The Commission recently considered the case of an exempt cooperative that wanted to change its rates for only one customer. The cost-based rate was not opposed by anyone. The cooperative filed the appropriate papers with the Commission, except for a cost study. Ironically, a cooperative that was subject to full rate regulation *could* have made the change without the need of such a study. The Commission determined that it could not waive the statutory requirement, but allowed the rate to go into effect by delaying the requirement to file the study until June 1997. In recognition of this type of case, in which the letter of the law thwarts its spirit, the Commission recommends that it be given authority to waive a cost study for good cause.

h) Confirm the Commission's Role with Regard to the ERCOT Independent System Operator (ISO)

One of the major regulatory highlights of the Commission's 1995/96 biennium has been the collaborative effort of ERCOT wholesale market participants to create the ERCOT ISO, which has the dual responsibility of ensuring reliable delivery of power and protecting the competitive wholesale market. Texas' ISO is the nation's first and has established ERCOT as a leader in moving to competitive markets. Although no problems are anticipated with the industry-administered organization, the enforcement mechanism of ISO decisions, particularly where they involve non-regulated parties, is unclear. The Commission recommends that the ERCOT ISO (and the future Southwest Power Pool and Western Systems Coordinating Council ISOs) be formally recognized in PURA and that the Commission be given clear authority to supervise the operations of the ISO as a forum of appeal, including clear enforcement powers to back up the ISO Director and Board.

i) Permit Alternative Approaches for Fuel Recovery

Under current regulation, all fuel costs (generally about one-third of the delivered cost of power) are flowed directly through to the end-use customer. A utility's incentive to hedge against price risk, procure a balanced portfolio of supplies, and adopt other competitive market behavior is minimal under the current regulatory structure. A

system that places all risk on the end-use customer is not consistent with the movement toward a market-based industry.

The results of the Commission Staff's review of fuel recovery are contained in Chapter XII of Volume II.[15] The Staff looked at five different types of fuel recovery mechanisms and judged them against six goals. The Commission recommends that it be given explicit guidance to reorient regulation of fuel procurement and use by existing utilities to more effectively balance the risk between providers and customers.

j) Allow Exemption of Certain Minor Facilities from the Certificate of Convenience and Necessity Requirement

Currently, the Commission's substantive rules exempt certain minor transmission, distribution, and generation facilities from the requirement to obtain a certificate of convenience and necessity (CCN). Some Commission practitioners have questioned the authority of the Commission to exempt minor facilities from the CCN requirement. To ratify the Commission's current practice and clarify the Commission's authority, PURA95 §2.252(a) should be amended to expressly provide that the Commission may by rule specify facilities that do not require a certificate of convenience and necessity, considering: the nature and size of the facility; the likelihood that the facility will not significantly impact the factors listed in Subsections 2.255(c) and 2.051(s) of PURA95; and whether the likely public benefit of the utility not having to incur the delay and cost of obtaining a certificate is greater than the public benefit of having the facility reviewed through the certification process.

3. Clarify Existing Administrative Tools

a) Streamline Administrative Procedures by Allowing Alternative Dispute Resolution, Including "Customer Option Arbitration"

As telecommunications and electric markets become more competitive, it is important that the procedures used by the Commission to resolve disputes be streamlined wherever possible. This is the case for two reasons.

[15] See the discussion in Volume II, Chapter XII, beginning at p. XII–44.

First, the Commission must be prepared for new types of customer problems that arise in competitive markets (e.g., the "slamming" problem is one that emerged only after the long distance market was opened to competition). When agreed-upon solutions cannot be reached between a customer and its electric or telecommunications provider, the customer deserves a dispute resolution process that responds not only fairly, but quickly. Second, an increasing number of disputes before the Commission are between competitors in rapidly changing markets. In this context, the parties need regulatory actions to be completed more quickly than in the traditional "rate case" setting in monopoly markets. If improper activities are not prevented quickly, the competitive damage to a utility or a competitor may be severe.

The Commission would be in a better position to respond to the growing need for dispute resolution alternatives if it were given explicit legal authorization to mediate or arbitrate disputes. In particular, the Commission recommends that it be permitted to conduct "customer option arbitration" in disputes between consumers and utilities. In this forum, a customer could opt for pursuing its complaint against a utility through mediation or binding arbitration.

Customer option arbitration would provide customers the opportunity to determine the type of procedure that will be used to resolve their disputes. It would give customers the choice to bypass formal contested case processes so that their complaints can be handled with minimum legal and administrative expense. In cases that cannot be resolved through negotiation, this option gives customers and utilities a more informal, less expensive way to resolve disputes.

In cases involving competitive disputes between companies, the Commission recommends that mediation or arbitration be available as a dispute resolution tool if both parties consent to it. Disputes between competitors are more likely to give rise to important precedents regarding the development of competition than most customer complaint cases. In addition, a competitive utility typically has more resources available to pursue a complaint than a typical customer. Therefore, both companies

involved should be required to consent to alternative dispute resolution before it is used in place of traditional procedures.

b) Clarify the Process for Implementation of Electronic Access to Commission Records

In 1995, the Legislature authorized the Commission to develop and implement a system for electronic access to Commission records of rulemakings and contested case proceedings (Electronic Access). Under the present system, all Commission filings are made in paper form, and a copy of each is available for public inspection and copying through the Commission's Central Records Division. If an individual cannot visit Central Records in person, the information can be obtained through an open records request. The individual then may have to wait as much as ten days while the information is compiled and copied. Depending on the number of pages in the request and the nature of the request, the charge for the request may include personnel, overhead, and postage costs in addition to the cost per page. Additionally, the quality of the paper files diminishes over time, as pages are lost or damaged from public handling.

Electronic Access will offer an entirely different method of requesting and receiving copies of Commission filings. When a filing is made, Central Records staff will scan or load the filings into a database, depending on the format in which the documents are filed. After the initial input, the filings will be available almost immediately upon request through Electronic Access, either in the Commission's Central Records Division or remotely from any computer with Internet access. Individuals who visit Central Records in person may continue to inspect and copy the paper copy if they wish, but the process of requesting and receiving files from the Central Records staff will be more cumbersome than using a Central Records computer terminal to access the documents directly. Individuals who wish to review documents away from the Commission will not need to request the documents and wait for them to be copied and mailed, if they have Internet access.

The Commission has invested substantial time and resources to develop Electronic Access in an effort to make Commission information more readily available to individuals. The equipment will be purchased through the lease purchase program administered by the Texas Public Finance Authority. This financing has been approved by the Bond Review Board, except for a modification to the term. Implementation of Electronic Access is scheduled for March 1, 1997.

One problem remains. The 1995 General Appropriations Act authorizes the Commission to implement Electronic Access, but it specifies that the equipment purchased for Electronic Access is to be paid for only from appropriated fee receipts from Electronic Access users. (H.B. 1, art. VIII, 74th Leg., R.S. 1995 (Public Utility Commission of Texas budget, Riders 1 and 2)). It is unclear whether the Act allows the Commission to develop a fee system independent of the fee guidelines promulgated by the General Services Commission (GSC) pursuant to the Open Records Act. The Bond Review Board and the Comptroller's Office have expressed the view that it does not. On an interim basis, the Commission has obtained a fee waiver from GSC, because none of the existing guidelines directly address the Commission system. The GSC rules presently provide a schedule of charges for information available through computer resources. However, the standard charges appear to account only for the incremental cost of providing information in an electronic medium, and they do not appear to contemplate the specific access method to be used by the Commission.

A clearer solution is a modification to PURA that expressly authorizes the Commission to develop a fee schedule for the Electronic Access system. The Secretary of State has similar authority pursuant to Government Code §405.018. Such statutory authority would allow the Commission to recover the costs of the system, as it is required to under the Appropriations Act. It would also eliminate the need for the Commission to seek a waiver from GSC each fiscal year, as the agency will otherwise have to do. This solution is supported by the Comptroller's Office and the Bond Review Board.

c) Revise the Administrative Procedure Act to Permit an Agency to Extend the Time for Adoption of a Rule

Under §2001.027 of the Administrative Procedure Act (APA), a rule proposed by an agency expires if it is not adopted within six months of publication in the Texas Register. This limit is appropriate for many rules; it serves as a check on delayed implementation of necessary regulations. In the context of a complex, controversial rule, however, the six month limit has negative consequences for interested parties and agency staff.

The publication of a proposed rule often provides the starting point for public input and discussion of a controversial rule. The Commission has developed several useful forums for interested parties to consider and debate the content of proposed rules and to seek common ground between opposing interests. In complex rulemakings, six months has proved to be an inadequate amount of time for the Commission to provide a full opportunity for public participation, to summarize and respond to the often voluminous comments received, and to reflect on the necessary changes needed in the rule.

The large, complicated rulemakings necessitated by the transition to competition are becoming an increasingly large part of the Commission's workload. These rules often involve devoting one or two staff members exclusively to preparing the rule for a period of a month before the rule is adopted. The six month time limit makes it more difficult to bring diverse staff views into consideration, and makes it difficult to review revisions to the rule adequately.

If an extension of the six month limit were allowed for complex rulemakings, these problems would be alleviated. An agency should be permitted to extend the time for adoption of a rule by publishing a notice of the extension and a brief statement of the reasons for it in the Texas Register. Such an extension should be adopted by the agency before the six month period lapses, and should be for a defined period of time. The additional time will result in more efficient use of agency staff resources and higher quality rules on the complex topics where careful and precise drafting matter most.

d) Clarify Commission Post-employment Restrictions

PURA95 contains a number of provisions that place restrictions on the future employment of Commission personnel. Commission personnel, like all State employees, should be held to high ethical standards. It is important for the Commission to maintain its objectivity and independence as it makes decisions that affect the people of Texas. When PURA was first adopted, the Legislature recognized the importance of this issue and included provisions to prevent immediate employment of Commission employees by public utilities. Since that time, two things have occurred. First, revolving door provisions in Government Code 572 now apply to most State employees. Second, the nature of the industry has changed so that the concept of a regulated public utility has been broadened and blurred. There are many entities over which the Commission now has limited regulatory authority that is far less than the full rate authority it still exercises over some companies.

There is substantial confusion among employees and new applicants about the scope of post-employment restrictions. Additionally, there is an obvious contrast with the restrictions faced by other State employees, including those of other economic regulatory agencies such as the Texas Natural Resource Conservation Commission and the Texas Railroad Commission. At the time the industries being regulated are becoming more competitive, and thus more like industries regulated by other agencies, this contrast becomes more noticeable. The Commission believes it is time to revisit the post-employment provisions to make them more rational, equitable, and clear in light of the changed industry environment. In particular, PURA95 §§ 1.024(d) and 1.025(a) may hinder the ability of the Commission to attract skilled regulatory analysts. One appropriate solution is to make the Commission's post-employment restrictions consistent with those of other State agencies.

B. BEGIN THE PROCESS TOWARD EXPANDED RETAIL COMPETITION

In addition to the minimum steps outlined above, the Commission also recommends that the Legislature formally adopt expanded retail competition as the direction of

Texas regulation. There are several alternatives in this regard: (1) adopt the broad goal but take no further action this session; (2) allow voluntary restructuring on an individual utility basis; (3) expand present wholesale competition efforts, or (4) adopt broad-based retail competition. Each of these actions has advantages and consequences.

1. Option 1: Adopt the Goal But Take No Action This Session

Most parties agree that direct retail customer choice is the ultimate direction of electric power regulation, but some parties have suggested deferring any major changes in PURA and waiting until the 1999 Session before examining any issues relating to electric utility restructuring. The Legislature has the option of simply adopting the ultimate goal of retail competition this session and working on all of the details in coming sessions. From the Commission's perspective, this choice has the following arguments in its favor and arguments against this choice.

a) Arguments in Favor of No Action this Session

- *Allows Texas to Learn From Other States and Countries:* Restructuring the electric industry is a complicated task, and the consequences of mistakes could be significant. While some states have adopted comprehensive restructuring plans and still others are conducting pilot projects, no state has yet gone through the process of having all of the customers in that state choose between retail electric providers. Allowing other states to take the lead would give Texas the benefit of learning from their example. In addition, England is initiating its retail access program in 1997. Texas could see what provisions worked well, what provisions had adverse outcomes, and what other consequences arose as a result of these early restructuring efforts.
- *Allows Texas to Evaluate Costs and Benefits of Restructuring:* All of the states that have adopted retail competition statutes or rules have retail rates higher than those prevailing in Texas. If significantly lower rates from competition result, the costs and difficulties of restructuring may be worth the effort. Since Texas has lower rates to begin with, the same benefits may not be available here. More time would allow Texas an opportunity to evaluate whether the benefits in Texas would truly outweigh the costs.
- *Current Benefits Will Be Preserved:* Even those who want to introduce full retail competition admit that the current system does some things very

well. The current system assures reliable service to all customers, and invests in renewable energy and energy efficiency. While significant restructuring could preserve these benefits, it does introduce an element of uncertainty that might compromise them.

- *Efforts Could Be Focused on Wholesale Competition:* PURA95 directed the Commission to encourage wholesale competition, and a great deal has been accomplished in the last 18 months. However, more needs to be done before vigorous wholesale competition is a reality. The Commission needs to finish setting statewide transmission rates and adopt tariffs for each utility. The ERCOT ISO and Electric Transmission Information Network (electronic real-time bulletin board) need to become fully operational. Once the FERC finishes its process of implementing wholesale transmission open access in the rest of the country, PURA95 requires that the Commission ensure its rules are in conformance with those of the FERC. Inevitably, there will be disputes between the parties in the wholesale market that the Commission will need to resolve. Further changes could be deferred until all the benefits of wholesale competition are realized and evaluated.

- *Decreases the Amount of Stranded Investment:* As the detailed Report (Volume III) makes clear, the longer Texans continue to pay for ECOM in their rates, the smaller the stranded investment will become. Some of the most difficult problems associated with restructuring are associated with the question of how stranded investment should be allocated between ratepayers and shareholders. Waiting a few years will mean that ECOM will continue to be paid by consumers, and some future legislature may have a smaller problem to address.

b) Arguments in Favor of Action this Session

- *Restructuring Will Occur Without Legislative Guidance:* A number of mergers and deals are going on in the electric industry today, including five major ones involving Texas-based companies. Every electric utility in Texas is actively finding ways to make itself more viable in a competitive environment. For the most part, they are structuring these mergers and internal reorganizations without necessarily being concerned about any benefits for the *public.* If the Legislature does not act this session, future sessions may face much more difficult problems in ascertaining and imposing the public interest into the marketplace.

- *Some Customers May Avoid Responsibility for Their Fair Share of Costs:* Some large customers have the resources and the incentive to obtain special rates from their incumbent utilities, if not to actually leave the utility's systems altogether. In addition, these customers may succeed in finding ways to obtain electricity from independent power producers. Without additional authority, the ability of the Commission to assess these

customers their fair share of embedded costs is unclear. If these customers succeed in avoiding their share of costs, utilities may try to shift those costs to other customers who have fewer options.

- *Thoughtful Restructuring Will Take Time:* If as a matter of policy Texas embraces retail competition, the Commission will need sufficient time to implement the will of the Legislature. Experience in the telephone industry and in introducing wholesale electric competition indicate that getting effective ground rules for competition in place takes several years of hard work. Therefore, even if the Legislature determines that retail competition should not be introduced until, for example, the year 2000, direction should be given well in advance to ensure that a well-designed plan of transition is implemented.

- *Inaction Preserves "Command and Control" Regulation:* Absent any changes, PURA95 compels the Commission to regulate in essentially the same way it has for years. Traditional regulation has a number of disadvantages—it can be slow, burdensome, inefficient, and send the wrong signals to utilities. Failure to act on restructuring could be interpreted by some parties as an indication that continued traditional regulation is desired. Furthermore, it means that the Commission will continue to regulate the part of the industry—generation—that is competitive. Regulation is supposed to be a *substitute* for competition; when competition arrives, regulation should withdraw.

- *Willing Buyers Are Being Prevented From Purchasing From Willing Sellers:* There are independent power providers in Texas who are willing to sell electricity to buyers. Texas has a long tradition of favoring competition. Inaction this year could be construed as a vote in favor of monopolies over competition. Parties who argue that Texas has comparatively low rates miss the point that there could be still lower prices under retail competition, particularly in light of Texas' access to large reserves of natural gas.

- *Competition Improves Responsiveness To Customers:* In pilot programs, customers have been offered inducements beyond lower prices. In New Hampshire, for example, potential customers were offered ice cream, birdfeeders, showerheads, and trees in order to persuade them to pick a particular provider. These kinds of incentives might seem trivial to some, but they do indicate a new sort of customer-responsiveness not often found in the electric utility industry. Competition will force all providers—incumbents and newcomers alike—to pay more attention to their customers.

- *Uncertainty Impairs Long-term Planning for Reliability:* Utilities have told the Commission that they cannot reliably estimate their load needs into the future because of the impact on future competition (i.e., they do not know how much load they could lose to other providers or whether

they will retain provider-of-last-resort responsibilities under retail access). They are deferring the decision to build more power plants or enter into long-term power contracts until there is more certainty in the marketplace. Action this session would create certainty, and would allow everyone an opportunity to resume long-term planning, which is healthy for the electric power industry and the natural gas industry as well.

- *State Inaction May Encourage Federal Action:* As noted above, several bills were introduced in the last session of Congress that would impose national standards on electric restructuring. The sponsors of such legislation believe federal preemption is necessary so that uniform rules will apply across the nation. The National Association of Regulatory Utility Commissioners (NARUC) has opposed any legislation that mandates a "one-size-fits-all" solution to electric restructuring. NARUC and others have informed Congress that the states should be allowed to take the lead in investigating and deciding when and how to introduce consumer choice in electricity. If the Texas Legislature does not join other states in providing leadership on this issue, then parties favoring a national solution could point to that inaction as a refusal to investigate or, incorrectly, as Texas deferring to a federal mandate.
- *Texas Leadership Will Provide More Opportunities for Texans:* Some of the largest electricity producers in the nation are headquartered in Texas. These companies stand poised to benefit if competition is introduced in other states or foreign countries. It is safe to predict that Texas entrepreneurs will dominate the national energy market. If the Texas Legislature opens the Texas retail marketplace in an effective manner, other states will follow, and jobs and opportunities will come to Texas.

2. Option 2: Allow Voluntary Restructuring

Not all incumbent utilities oppose giving their customers a choice of providers. In 1996, two electric utilities proposed restructuring plans that would include at least some variations of retail competition. The Commission would recommend that those sections of PURA that appear to authorize only wholesale open-access transmission be amended specifically to authorize retail open-access transmission where proposed by the incumbent utility. PURA should also be modified in other places to permit the necessary aspects of retail open transmission access to operate, consistent with a utility's final plan. The Commission has similar authority for telecommunications utilities in PURA95 §3.051(e)(1). Any voluntary restructuring plan should meet the 13

goals developed by the Commission from the Project No. 15000 workshops presented in Table 11.

Table 11: Goals and Principles to Guide Industry Restructuring

1. **Reliability and Safety:** The current high level of reliability and safety shall be maintained or improved.
2. **Obligation to Serve / Universal Service:** Electric service is essential for the health, safety, and economic prosperity of all Texans. High quality, reasonably priced electric services shall be available to all.
3. **All Customers Benefit:** All classes of customers shall benefit from improvements in economic efficiencies and the development of service choices. Restructuring shall not benefit one customer class to the detriment of another.
4. **Consumer Protection:** Consumers shall be protected from abuses from pricing, cross-subsidies, market power, and anti-competitive behavior. The public shall have the opportunity for extensive input into the restructuring process.
5. **Consumer Choice:** Expanding the number of choices available to consumers is a fundamental element of a competitive electric industry. Consumers have the right to clear, accurate, and comprehensive information concerning service choices and pricing options.
6. **Environment:** The current level of environmental protection shall be maintained or improved.
7. **Role of Competition:** The implementation of competitive markets should produce lower prices for all consumers relative to the existing system. Competition should result in additional consumer choices and improved economic efficiencies while ensuring the availability of high quality electric services to all Texans.
8. **Appropriate Regulation and Timing of Transition:** A comprehensive timeline shall be developed to identify explicit milestones and deadlines for actions. Consistent with the public interest, Texas shall proceed in a deliberate, orderly, and expeditious manner. The appropriate level of regulation should be determined after a deliberate analysis of the market sectors.
9. **Economic Efficiency:** A competitively structured electric industry should result in enhanced economic efficiencies.
10. **Market Framework:** Market sectors should be analyzed to determine the extent of competitiveness in each sector. Markets considered to be insufficiently competitive should continue to be regulated. Where market sectors are determined to be sufficiently competitive, regulation should encourage efficient competition.
11. **Economic Development:** A competitively structured electric industry should create new markets, reduce inefficiencies, and lower costs and prices allowing opportunities for economic development.
12. **Excess Cost Over Market:** The recovery of costs associated with facilities that are not competitive should be borne in a manner that balances the needs of all parties.
13. **Resource Mix:** A diverse resource mix in Texas is important both economically and strategically. Regulatory measures may be required to ensure a balanced generation mix during the transition.

3. Option 3: Expand Wholesale Competition

In PURA95, the Legislature declared that a competitive wholesale market is in the public interest. The Commission has implemented a number of measures over the last 15 months to encourage competition. It has adopted the concept of "comparability" to apply the same rates, terms, and conditions to a utility's competitor as it does to its native load. This "golden rule" of pricing helps to ensure that a utility does not utilize its market power in a way that would harm its competitors. Similarly, the Commission has ordered the "unbundling" of utility costs so that the costs of generation, transmission, and distribution can be separately determined.

The steps the Commission has taken to date open competition for wholesale transactions only on the margin—as old wholesale contracts expire or as new load growth occurs. Except for a utility rate case, nothing in the present system captures the savings achieved from increased generating plant operating efficiencies, improvements in fuel procurement, or from innovative service offerings. To capture these wholesale benefits for a broader range of customers, further opening of the wholesale market is called for. The Commission recommends the following changes in that regard:

a) Require Utility Functions to be Unbundled

The Commission recommends that utility functions be unbundled into four functional areas—generation, transmission, distribution, customer/retail service (or three, for utilities wishing to combine transmission and distribution into a single delivery function). The generation assets should be exempted from rate regulation. The remaining functions should continue to be regulated. The Commission should be required to set strict standards to ensure that cross-subsidization between regulated and non-regulated functions does not occur if any non-regulated functions remain with the utility holding company. A discussion of the roles of unbundled utility functions is found in Attachment 2.

b) Mandate the Removal of Generation Assets from Rate Base

Since generation assets are competitive in the wholesale market, they should be removed from rate base. It is possible that the market value of these assets does not equal their book value; this difference is called ECOM (Excess Costs Over Market), and may be a positive number where, for example, undepreciated nuclear plant balances are high, but it may be a negative number for low-cost utilities. If the Legislature does not adopt the structural outcome recommended in Option 4(f) of these recommendations, the Commission recommends two different methods of determining the ECOM that would result from this removal: (1) If generation assets are *sold off* to a third party in an arms-length transaction or series of transactions (the preferred outcome), the sale price will be the market value. To avoid "fire sale" prices, the Commission recommends that this process be done over a four-year period. (2) If assets are not sold off, they may be "*spun down*" to an affiliated company in the same corporate family. ECOM treatment will be different, due to the difficulty of ascertaining the true market value of the assets, but it can be done. For example, if the generation affiliate is a separately listed publicly held stock, the value awarded by the stock market after two to four years may be used to compute the market value of the assets. Once ECOM is determined, the portion to be recovered from customers would be transferred to the remaining regulated company.

Under this option, nuclear generating plants may require a specific Legislative provision. Nuclear assets may not be marketable, in which case they should remain with the utility holding company as a generating affiliate (i.e., removed from rate base). Proceeds (net of book value) from sale of non-nuclear assets should be fully credited against nuclear asset book value, then the Commission could structure a "contract" between the nuclear affiliate and the retail service company to replace the present cost recovery mechanism. This contractual arrangement may include efficiency-sharing clauses to balance risk/upside from future generation operations. A market-based equivalent of performance-based regulation could thus be structured.

c) Provide for the Recovery of Wholesale ECOM

In the event that the Legislature or Commission determine that there is a right to stranded cost recovery in the wholesale market, a non-bypassable access fee should be placed on transmission/distribution to recover the allocated value of the ECOM over a specified period of time. The Commission also recommends examination of the FERC methodology for recovery of wholesale ECOM.[16] To ensure no cost-shifting occurs, the pricing structure of the Commission's 1996 transmission access and pricing rule may need to be revisited. The time period for collection of wholesale ECOM can be variable, and should be structured so that rates never exceed their present levels.

d) Specify the Responsibilities of the Retail Service Company

Once unbundling is accomplished, the retail service company will require some regulation. The Commission recommends that the present obligation to serve end-use customers remain with the retail service company. The integrated resource planning rule responsibilities should be amended to apply solely to the retail service company. Those responsibilities include obligations to: ascertain customer preferences for future power needs; solicit for power needs in the wholesale market; and provide low-income programs, conservation options, renewable resources, a broader array of customer service and pricing options, etc. Nuclear decommissioning costs should be required to be recovered at present levels by the retail service company.

e) Adopt Other Details Related to the Expanded Wholesale Option

The expansion of wholesale competition would also require other details to be determined by the legislature. While these details are important, they should be less controversial than the items outlined above.

- *Treatment of Current Power Requirements:* All power requirements should be treated as contractual purchase arrangements between retail service companies and non-rate regulated generators. These contractual

[16] See Volume III, Chapter VII for a discussion of the approach adopted by the FERC in its Order No. 888.

arrangements may include efficiency-sharing clauses to balance risk/upside from future generation operations.

- *Regulation of the Electric Delivery System:* The electric delivery system (transmission and distribution) should continue to be rate-regulated on a utility-by-utility basis with rate cases every five years (staggered).
- *Regulation of Public Power:* Generating public power entities (municipals and cooperatives) will be required to unbundle only if they choose to sell power on the wholesale market.
- *Competitive Safeguards:* Affiliate standards/codes of conduct should be required to ensure fair competition among all generators is maintained.
- *Impact on Existing Contracts:* No existing contracts will be affected by this law.

4. Option 4: Expand Retail Competition to All Customers

As noted previously in this report, there is limited retail competition in Texas already. The Commission's primary recommendation is that the Legislature continue the process of expanding competition in the Texas electric market, leading to expanded retail competition. The options outlined below involve *expanding* retail competition.

Even parties who agree on the idea of retail access may have conflicting visions concerning its practical *implementation*. While statutes enacted by other states have unique provisions that apply to state-specific situations, they also demonstrate a number of common provisions and safeguards that have been adopted. Furthermore, "model" proposed legislation has been adopted by groups like the American Legislative Exchange Council (ALEC) and the Regulatory Assistance Project. In outlining the options below, the Commission draws on those sources, on the extensive workshops held in P.U.C. Docket No. 15000 over the past 15 months, and legislation adopted last year by the Legislature for the introduction of competition in the local telephone marketplace (H.B. 2128).

The Commission begins with the proposition that reliability, consumer protection, and universal service are *givens*—that is, they must be incorporated into any restructuring proposal. Furthermore, any restructuring legislation must recognize the *distinctions* between investor-owned utilities, cooperatives and municipalities. Once these issues

are resolved, then the critical decisions remain: the *timing and general structure* of retail competition and the issues related to *potentially stranded costs.* Once those key decisions are made, there are a number of details that need to be addressed to make competition a reality. Finally, there are *remaining issues* that have been raised in other states, but for which the Commission does not currently have legislative recommendations.

a) Adopt the 13 Goals of Restructuring as Guiding Principles

See Table 11 (presented under Option 2) for a listing of the 13 goals adopted by the Commission.

b) Determine the Timing and General Structure of Retail Competition

An initial question is whether additional retail competition should begin by a date certain, or whether there should be some flexibility for the introduction of competition into each utility's service area. California established a "date certain," January 1, 1998. Pennsylvania on the other hand, sets an "end date" of January 1, 2001 (which its commission can extend by one year), but also introduces competition in accordance with restructuring plans introduced by each utility.

There are advantages and consequences to a date certain approach. The primary advantage is that all parties—utilities, competitors, and customers—can better plan for the future. However, such an approach imposes a "one-size-fits-all" approach on all utilities. States have opposed such a "cookie cutter" approach on the federal level. However, a consequence of regulatory flexibility is that utilities will have a natural inclination to delay the advent of competition into their area. One alternative available to the Legislature is to set a "final date certain" for mandatory retail competition, but allow utilities the flexibility to opt for competition (pending Commission approval) in the interim period.

How can a utility be given incentives to introduce consumer choice into its area? One option is for the Legislature to set a "default" schedule but give the Commission the

flexibility to set a different schedule for companies that "elect" to introduce competition. For example, the Legislature could mandate a small percentage of customers—say 15 percent—be given retail customer choice each year, leading to full retail choice in seven years. Under this option, the utility would be prohibited from collecting any potentially strandable costs during the period, until it filed a restructuring plan of its own. As an alternative, the Legislature could condition the recovery of potentially strandable costs on the date of the filing of the restructuring plan. Under this concept, the utility could be given greater ECOM recovery if it filed a restructuring plan in 1998, but lower amounts of ECOM for plans filed in later years.

The full "command and control" jurisdiction of the Commission would continue until the restructuring plan is filed and approved. It might be appropriate to grant the utility a temporary exemption from rate investigations once it files a restructuring plan with the Commission.

Of these options, the Commission recommends adoption of the "regulatory flexibility" approach with appropriate incentives for swift utility action. Either the "phased-in competition" or the "conditioned recovery" incentive should provide the recommended flexibility to the utility, while also motivating swift action; however, the Legislature may nonetheless choose to set a "final date certain." For cooperatives and municipalities, the incentives could be crafted so that the beginning date for the phase-in of competition was later, or the percentages of recovery were higher. If the Legislature does not want to adopt such incentives, a "date certain" approach would be recommended.

c) Authorize Commission to Establish Regulations for Retail Supplier-of-Last-Resort

In the earlier years of any restructured environment, the historic retail service provider will remain the choice of many customers. So long as this provider has sufficient market power to control the provision of services to a community, there should remain some amount of economic regulation of that provider—to ensure services and prices are reasonable. The Commission should be directed to establish a mechanism under

which the supplier-of-last-resort obligation can be transferred or abolished under a showing of sufficient competition in a local area. It should be made clear that for those retail customers who want no changes, they can stay where they are, and they will continue to be protected. This is similar to what happened with long distance telephone customers following the breakup of AT&T; over two-thirds of the customers stayed with AT&T. Since that time, the regulatory burden on AT&T has been reduced as market forces began to mature.

d) Authorize the Commission to Provide for the Collection of ECOM

In preparing this report, the Commission has conducted a lengthy dialogue with utilities, non-utilities, and other members of the public. With respect to the issue of ECOM recovery, the Commission offers the following observations:

- Under restructuring, utilities should not have any greater opportunity to recover these costs than they do under the current regulatory regime.
- Under the Constitution, the maximum recovery that a utility is entitled to is that amount necessary for the financial integrity of the utility.
- If utilities are granted recovery for their ECOM, their risk is reduced, which should be reflected in lower rates of return for generation.
- Investor-owned utilities will consider themselves bound by their fiduciary responsibility to fight for the maximum recovery of their ECOM.
- It will literally take an act of the Legislature to reduce the amount of ECOM paid for by ratepayers.

As detailed above in Section A(1)(d) of these recommendations, the "stranded investment" issue can be handled independent of any decision regarding retail choice. The only additional regulatory steps, in addition to those outlined in Section A(1)(d), would be the actual responsibility of ECOM payment. Most agree that the on-going ECOM collection should be linked to the "poles and wires" charge. The Commission would recommend that this collection mechanism be made explicit in PURA to avoid bypassing responsibility for its payment.

e) Authorize Revised Regulation During the "Mitigation Period"

Under any retail competition expansion scenario suggested in this discussion, Texas would have a period of time during which the utilities accelerate their transition from a monopoly paradigm to a competitive marketplace. That time should be used by the Commission to prepare the necessary framework for competition and by utilities to mitigate their ECOM. *All* parties could use the time to make the necessary structural changes to be prepared for the advent of competition. The Commission would recommend the following steps be authorized for the "Mitigation Period." It should be noted that some of these are included in Section A, since they should be done independent of a Legislative commitment to act on retail competition.

- *Address All Reliability Issues:* The Commission, incumbent utilities, and new entrants should all work together to have the network completely ready for the implementation of competition. This would require working with the ERCOT ISO and any future ISOs established in the Southwest Power Pool and the Western Systems Coordinating Council. The Commission and parties would develop uniform guidelines and operations so that each party knows each step necessary to make the transition to competition painless for consumers. Commission regulation would shift to strong enforcement of transmission and distribution quality of service standards so that utilities are not tempted to prepare for competition by cutting costs in this area.
- *Adopt All Necessary Rules:* The Commission will need to "flesh out" the statute with rules relating to consumer protection, quality of service, market power, certification requirements, etc. Virtually all of this work should be done during the Mitigation Period so that all parties know the "rules of the road" of the "new" world and can make business plans accordingly.
- *Mandate Mitigation Efforts:* Incumbent utilities must be required to use the Mitigation Period to reduce their potentially strandable investment. In addition to the mitigation efforts outlined above, the Commission would recommend that utilities be subject to a rate freeze during the period between the passage of legislation and the implementation of competition. As costs are declining and usage is growing, a rate freeze should give utilities an opportunity to recover some of their ECOM even before the implementation of other ECOM recovery methods. A rate increase should only be allowed for extraordinary events outside of the utility's control,

similar to the freeze the Legislature adopted for telephone utilities in Section 3.353 of PURA95.

- *Require New Services:* Experience in other states demonstrates that customers will have more options under a competitive environment. Utilities should start offering innovative rate schedules during the mitigation period. The Legislature should require utilities to offer "green" pricing programs that provide special prices and options for renewable energy sources like wind or solar power. To prevent discrimination, any discounts given under these and other rate schedules would have to be made available to all similarly situated customers.
- *Authorize a Selected Category of Customers to be the First Offered Retail Choice:* To ensure that all the systems for competition are functional and that the ISO can accommodate a greater number of transactions, the Commission recommends allowing a selected category of retail customers to choose between competitive providers in advance of other customer classes. For example, public schools might be selected. If schools were adopted for the first case, the Commission would recommend that this program begin prior to the beginning of the school year in 1998. This program should have the benefit of lowering the costs of energy to those receiving retail choice and giving the participants an opportunity to find any areas that need further attention before competition is expanded. If a public entity like schools were chosen, any ECOM could fairly be reallocated across all customer rate schedules in light of the significant overlap between ratepayers and taxpayers. To ensure that there is sufficient load to attract new entrants to the marketplace, the Commission recommends that the current incumbent providers be prohibited from discounting rates to compete for that load.
- *Allow Customers Who Make ECOM Payment Arrangements to Exit When They Wish:* If the Mitigation Period lasts more than three years, a customer should be allowed to migrate to new providers after three years, if it pays an exit fee based on the level of remaining ECOM allocable to that customer.

f) Adopt other Details of Restructuring Legislation

Numerous details would have to be resolved in any restructuring legislation. While each of these details could impact an individual business plan, they are comparatively less controversial than the issues discussed above.

- *Structural Outcome:* The "preferred outcome" should be that incumbent utilities are divided into separate generation companies ("Gencos") and transmission and distribution companies ("Transcos" and "Discos") and

retail service companies ("Retailcos").[17] The rates for the "Genco" should be deregulated after the plan is approved. The "Retailco" should be required to remain the regulated provider of last resort for those customers who have no interest in participating in the new structure.

Utilities should be given the option to propose other structural alternatives, so long as the benefits of the preferred outcome are met or exceeded. The "preferred outcome" has the advantage of giving clear direction to the industry as to the ultimate vision of the legislature. It would be comparatively quick to administer. However, in certain limited circumstances, the divestiture of the utility might not be the best outcome for the public. Utilities should be given the option of seeking an outcome that differs from the preferred outcome, if they can demonstrate that their plan meets or exceeds legislative goals. This option will take more regulatory time to approve.

- *Regulation of Power Delivery System ("Transcos" and "Discos"):* Allow the utility to propose alternative forms of regulation in its restructuring plan, and authorize the Commission to approve the plans if in accordance with legislative policy and the public interest. Transcos and Discos will continue to be monopolies for the foreseeable future. In addition to traditional regulation, it is appropriate for the Commission to have the ability to explore other types of regulation, such as performance-based regulation.
- *Regulation of New Entrants:* Require certification similar to that required for competitive telephone providers in H.B. 2128, including compliance with industry safety, reliability and technical standards, and compliance with customer service standards and reporting requirements. All participants must also pay their fair share of taxes.
- *Competitive Safeguards:* Adopt competitive safeguards for electricity that are similar to those adopted for the telephone industry in "Subtitle J" of PURA95.

g) Other Provisions that Should be Considered

In reviewing the legislation adopted or proposed across the nation, the Commission has identified some concepts that may be relevant to Texas and therefore merit further discussion among interested parties.

[17] See Attachment 2 for a discussion of the identification and roles of each component.

i) Revenue and Taxation

The Commission's detailed ECOM report (Volume III) estimates that school districts and other taxing entities could initially lose up to $100 million per year (declining over time) if full retail competition were introduced in 1998 and the value of generating plants were reduced.[18] This may not be a concern if ECOM transition charge revenues were considered to be a taxable item. Pennsylvania has extensive provisions detailing how the tax burden is to be reassessed; its recent statute may provide guidance to Texas on this issue. It should be noted that reductions in the cost of electricity to the taxing district should be counted in determining the net loss to the district. If no solution is developed by Legislative Staff, the Legislature may want to consider delegating this problem to an advisory committee composed of some affected taxing districts, incumbent electric utilities, and new entrants. The advisory committee would be given the objective of determining a solution that is revenue-neutral to the taxing districts and competitively neutral to the industry.

ii) Regionalism and Reciprocity

Pennsylvania also has a provision in its Act that encourages the Pennsylvania Commission to participate in regional and national regulatory activities to encourage competition. It also restricts the use of the Pennsylvania grid to utilities that offer a reciprocal level of access on their own grid, to prevent a utility that maintains a monopoly status within its own territory from taking advantage of the open competition in Pennsylvania. This appears to be a reasonable provision that the Legislature may wish to consider for Texas.

iii) Competitive Transition Bonds/Rate Cuts

Both California and Pennsylvania have adopted funding mechanisms for the utilities in their states, by which utilities finance a portion of their ECOM as well as an up-front rate reduction for all customers through bonds. Bond repayment is essentially guaranteed by the competitive transition charge. While neither state backs their bonds

[18] See Chapter VI of Volume III, at p. VI–4.

with the full faith and credit of the state, they apparently have lower interest payments than the utilities could obtain on their own. This immediately gives the utilities a lower cost of debt, and allows them to reduce their rates earlier in the transition process. The Commission has some concern about the competitive consequences of the bonding mechanism, especially as it has been crafted in California. However, the Commission Staff has not studied this issue in depth, and the Commission would recommend that if there is Legislative interest in such a proposal, the Commission be directed to research the issue and return to the Legislature with a recommendation.

iv) Portfolio Standards for Generation

PURA95 has provisions encouraging the development of portfolios that use renewable resources and conservation measures (PURA95 §2.051(a)(3)). California has gone farther and required all generators in its marketplace to have a minimum amount of generation purchased from renewables. Representative Schaefer's bill in Congress also has provisions that would encourage the utilization of renewable resources. The Commission commends these concepts for further study.

v) Retirement of Generating Plants

Public Citizen has been tireless in its efforts to close several Texas coal plants that it describes as the "dirtiest in America." Many of those plants will be subject to more stringent federal air emission requirements in the very near future, which may cause them to become uneconomic if the price of those controls drives their costs above market. The Commission makes no judgment as to the environmental compliance of Texas' electric utilities; that is the responsibility of the Texas Natural Resource Conservation Commission. However, the Commission recommends that such plants be given special consideration in ECOM recovery in the event that they are shut down. It would be possible to include the costs related to the shutdown in a competitive transition charge, and potentially extend the term of that charge for the recovery of those specific costs.

vi) Universal Service and System Benefits

The American Legislative Exchange Council recommends in its model legislation that legislatures declare as policy the following statement:

> The energy marketplace should not be used as a vehicle for accomplishing government mandated, government sponsored, consumer or taxpayer subsidized, social or environmental programs. These programs should not be incorporated in electric utility rate structures, but instead be unbundled from rates. The costs of these social programs, such as maintenance of minimum living standards or environmental programs, should be financed by legislatively enacted separate charges.

It would be possible to determine what level of rates is currently being utilized for universal service and translate that implicit charge into an explicit item on consumers' bills. Other programs that are also benefits of the current system—like demand-side management programs and research and development costs—could also be identified and made explicit as line items in the utility bill. It would also be possible to remove these important programs from the control of privately owned utilities and have them administered by existing community-based organizations. The Commission requests Legislative guidance on how to continue these programs in a restructured marketplace.

C. CONCLUSION: COMMISSION'S FINAL RECOMMENDATION

The Commission believes that it is important to continue the work necessary to restructure the regulation of Texas' electric power industry. Participating in further industry restructuring *as* it occurs, rather than *after* it occurs, will ensure that the public interest is represented. The consequences of inaction outweigh the potential advantages. The Commission, therefore, recommends that the Legislature direct the Commission to protect the public interest during this period of transition by performing the steps outlined under Section A of these legislative recommendations. The Commission further recommends that it be directed to prepare for implementation of a program along the lines laid out in Option 4 on a timetable determined by the Legislature, but the Commission does not advocate an immediate, rushed move forward. As outlined above, the Commission contemplates a careful and deliberate

approach to open the Texas electric marketplace. With quantification and allocation of ECOM, the risks of cost-shifting among customers and the cloud overhanging Texas electric utilities' financial situation will be eliminated. In the interim, the continued growth of the wholesale market will permit ERCOT's ISO to gain experience with transactions, ensuring reliable service and fair competition. The use of a customer class such as public schools or some other public group as the test group for retail competition would allow the technical aspects of handling a greater number of transactions to be mastered, while benefiting a major state-funded enterprise through lower power costs. When the time arrives for full expansion of retail competition, it will be a natural next step in the process, not a major shift.

The Commission believes that this phased approach will allow Texas to learn from other states, to give careful evaluations of benefits and costs, and to have a natural reduction of the level of potentially stranded costs.

A decision by the Legislature to give structure to the marketplace will produce a more rational outcome than simply allowing it to unfold. Crafting the transition will present challenges to the Legislature, the Commission and all interested parties, but the result of the process will be a marketplace that offers protections for all consumers, and gives Texans more choices, more innovations, lower prices and a less intrusive role for government.

As individual members of the Commission, we know all too well the shortcomings of regulation. Regulation at its best is merely a substitute for the discipline of a competitive marketplace. The electric market is rapidly becoming more competitive throughout the nation. We recommend that the Legislature use this opportunity to determine when and how competition should be allowed to replace regulation in Texas. The result should be a more rational market where all competitors receive fair treatment, and all Texans benefit.

Attachment 1: Consumers' Bill of Rights

SAFETY AND RELIABILITY

Consumers are entitled to safe and reliable electricity.
All generation providers should be required to ensure adequate reserve margins as determined by ISO guidelines.
All Transcos/Discos should be responsible for maintaining and expanding facilities in accordance with industry standards.

PRIVACY

Consumers are entitled to have their utility billing and payment records treated as confidential.
All participants shall protect consumer information from disclosure.
An incumbent utility may disclose consumer information to other certified providers, if the new provider pledges to maintain confidentiality and has sufficient security procedures to ensure the pledge will be kept.
Generic information aggregated so as to mask the usage, billing, and payment history of individual consumers may be released.
Participants may coordinate sharing of information regarding consumers who appear to have a pattern of fraudulent use or abuse of the system.
The Commission may adopt nondiscriminatory rules that protect residential consumer privacy from telemarketing calls from any participant in the market.

CHOICE OF PROVIDERS

Retail consumers in Texas are entitled to their choice of generation providers as provided by the Legislature.
Consumers have a right to change providers (if they have paid that provider for services rendered) and return to their previous provider at no charge; providers may require reasonable and non-discriminatory deposits in accordance with Commission rules.

ACCURATE AND UNDERSTANDABLE BILLING

Consumers are entitled to accurate and understandable bills.
The Commission shall adopt rules for minimum disclosure to be included in all bills.
The Commission shall adopt uniform method of disclosing price so that customers can compare prices and shop for electricity.
Commission rules shall require price elements to be unbundled into generation, transmission, distribution, and other services.

CONSUMER INFORMATION AND EDUCATION

Consumers are entitled to be informed and involved during the transition to a competitive electric industry.
The Commission shall be responsible for overseeing a comprehensive public education program.
All incumbent utilities, power merchants, and other providers are required to participate in educational programs.

The Commission shall seek to involve community-based organizations in developing messages and devising and implementing education strategies.
The Commission shall require targeted efforts to reach rural, low-income, elderly, non-English speaking, disabled, minority, and other traditionally under-served populations.
The Commission shall require all participants to provide adequate and accurate consumer information.
The Commission may require standardization of promotional materials aimed at consumers to enable consumers to compare prices and services on a uniform basis.

PROTECTION OF CONSUMER CHOICE

Consumers are entitled to assume that their chosen providers will not be changed without their consent.
The Commission shall adopt rules that require either written consent for a change of providers or independent verification of the consent.
If a consumer complains that the provider was changed without consent, the consumer shall be switched back to the preferred provider without charge to the consumer.
If there is any difference in charges between the preferred provider and the switching provider, the consumer shall be entitled to pay the lower of the charges.
The Commission shall have the ability to enforce consumer choice to the extent necessary, including suspension or revocation of the certification of repeat violators.

CREDIT AND COLLECTION PRACTICES

Consumers are entitled to uniform and non-discriminatory treatment with regard to billing and collection practices.
Commission rules on deposits, collections, and disconnections shall apply to all companies that bill consumers.
The Commission may adopt additional rules to protect consumer interests.

DECEPTIVE TRADE PRACTICES

Consumers are entitled to fair and reasonable marketing and sales practices.
The Commission is authorized to enforce DTPA if the good or service is related to electricity.
If a consumer brings a DTPA case against an electric provider in district court, the provider is required to notify the Commission promptly.

DISPUTE RESOLUTION

Consumers are entitled to have their disputes with providers resolved by a neutral third party.
All providers shall inform consumers of the right to complain to the Commission.
No provider may discontinue service while a complaint is pending.
The Commission may utilize mediation, arbitration, or full contested case procedures as necessary to resolve complaints.
The Commission shall monitor complaint levels by company, and shall publish quarterly statistics regarding the number of complaints.

Attachment 2: Players in the Unbundled Electric Market

As noted in Option 4, an electric utility system performs four major functions: generation, transmission, distribution and customer service. Thus, if utilities were unbundled (functionally or structurally), they would be split into four segments that can be called the "Genco," "Transco," "Disco," and "Retailco."

A *Genco* (generating company) is a regulated or non-regulated entity that operates and maintains generating plants, or markets power for other Gencos, but does not transmit or distribute electricity. A large utility's plants could be split into more than one Genco—for instance, they could be split along fuel or technology type to exploit operational expertise and efficiencies (coal-fired plants in one company, gas-fired in a second, and nuclear in a third), or among geographic regions. Gencos in a competitive market would not have to be regulated. Power marketers, independent power producers, QFs, and utility power plants could all be Gencos.

A *Transco* (transmission company) would be a regulated entity that owns, builds and maintains transmission lines used to transmit wholesale power. Although there are local instances where transmission could be economically offered by more than one provider, it appears that for the next decade or more, electric transmission will remain a natural monopoly that should remain regulated through either traditional cost-of-service regulation or performance-based regulation to provide market-like incentives to improve operational productivity. If utilities were structurally unbundled, it would be likely that large Transcos would consolidate transmission ownership within the State by buying up smaller Transcos; this should not cause a market power problem because there would be no vertical affiliate linkage with producers or distributors and because the Transco would remain regulated.

A *Disco* (distribution company) would be the regulated utility that builds and maintains the distribution wires connecting the generation and transmission grid to the final customer. The Disco would be a common carrier of electricity, serving any and all producers and end-users or intermediaries in a fair, non-discriminatory fashion. A

Disco may or may not serve as a retail electric provider (i.e., having a direct sales, service and marketing link with end-users), but could operate in conjunction with a Transco, since both would be regulated monopolies.

A *Retailco* (retail energy service company) would be a competitive, unregulated entity that performs many of the sales, service, and marketing functions now performed by utility distribution segments. These customer service functions include:

- Aggregating customers to buy power;
- Finding and evaluating power supply options and negotiating specific purchases;
- Arranging for connection of customers to the distribution grid;
- Acting on customers' behalf to handle problems with distribution, transmission, or generation;
- Providing alternate energy services, such as demand-side management;
- Metering and billing customers and paying the Discos, Transcos, and Gencos for their services.

Within today's electric industry, municipal utilities and distribution cooperatives combine the functions of Discos and Retailcos, aggregating customers on the basis of geographic location. Customers could also be aggregated on the basis of membership (e.g., credit unions or associations like the AARP could become electric aggregators) or by values and affinity (e.g., "green" aggregators could sell renewable power to environmentally supportive energy consumers).

Many Retailco services could themselves be disaggregated and performed by competitive suppliers—for example, metering and billing can be out-sourced, other firms can provide energy efficiency services, and power marketers can secure power for a Retailco. Retailcos would proliferate under full retail access, but each would be geographically dependent on a Disco within a specific territorial scope. Although competition between Retailcos would help to keep prices down and service quality up, some degree of regulatory oversight would remain necessary to ensure adequate customer protections and prevent marketplace abuses.

Attachment 3: List of Commission Contacts

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