Electricity's Future

A Special Report by the
Electricity Consumers Resource Council

July 1987

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THE EVOLVING ELECTRIC UTILITY INDUSTRY

Factors Forcing Change

The electric utility industry today is quite different from its past. It will become much more competitive in the future.

For much of this century, the electric utility industry was characterized by a very healthy business environment: stable prices, low interest rates, economical fuel and efficient construction programs. These factors, combined with increased engineering efficiencies and enhanced transmission and distribution networks, drove unit electricity costs downward.

Customers respond to price signals. For nearly three quarters of a century the price signal customers received was to get out of the generating business and purchase power from their host utility. And they did. Industrials became electrified. They reduced their generation from more than 50 percent to less than five percent of the total between 1900 and the early 1970s.

The environment changed about 1970 when interest rates, inflation, fuel costs, environmental concerns and anti-nuclear activism all began rising, some of them dramatically. Combined, these ominous developments led to rate shock caused by rapidly rising electricity costs. Additionally, industrial electricity rates rose far faster than utility costs or residential rates. This was because many regulators tried to shield residential consumers from rate shock using a variety of techniques. Some implemented lifeline rates. Others authorized the use of nontraditional cost allocation methodologies. Still others approved new, "innovative" rate designs and structures.

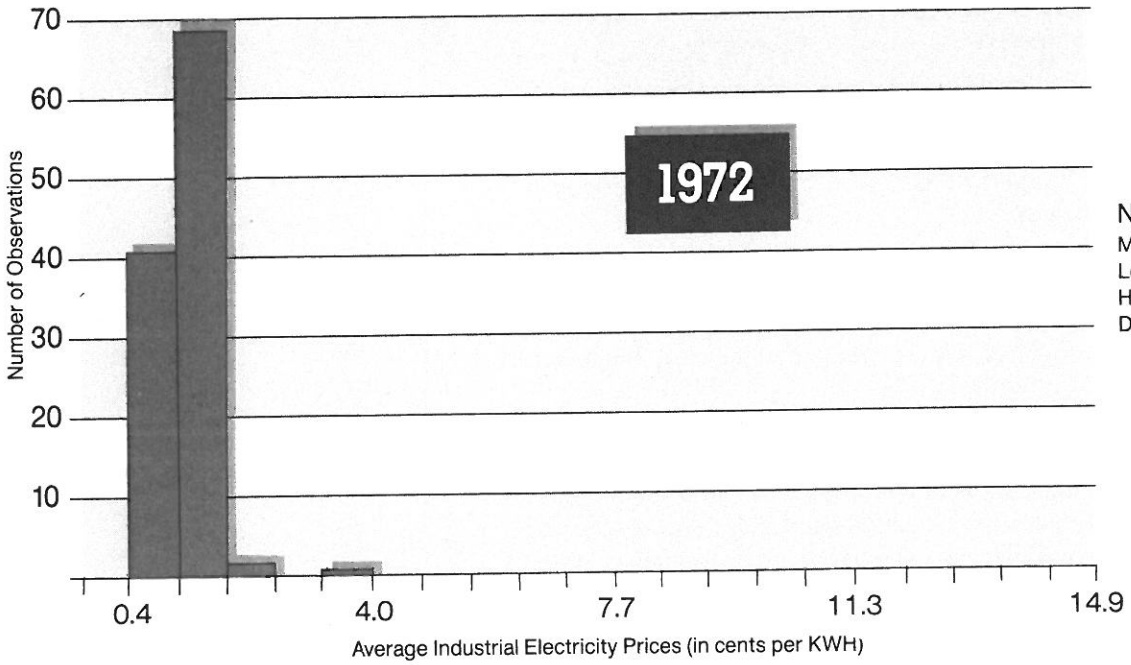
While the aggregate increase was substantial, it is important to note that the cost increases also differed substantially among utility systems. Indeed, the difference between the highest and lowest average industrial price in 1972 was approximately 3¢/KWH; in 1984 it was 12¢/KWH. Figure 1 illustrates these data.

Price increases reduce consumption. Electricity rate shock produced dramatic results. Demand growth rates fell every year from 1974 to the present. Falling demand projections and the completion of previously committed construction led to excess utility capacity. Indeed, today the U.S. literally is awash with capacity. It will be for quite some time.

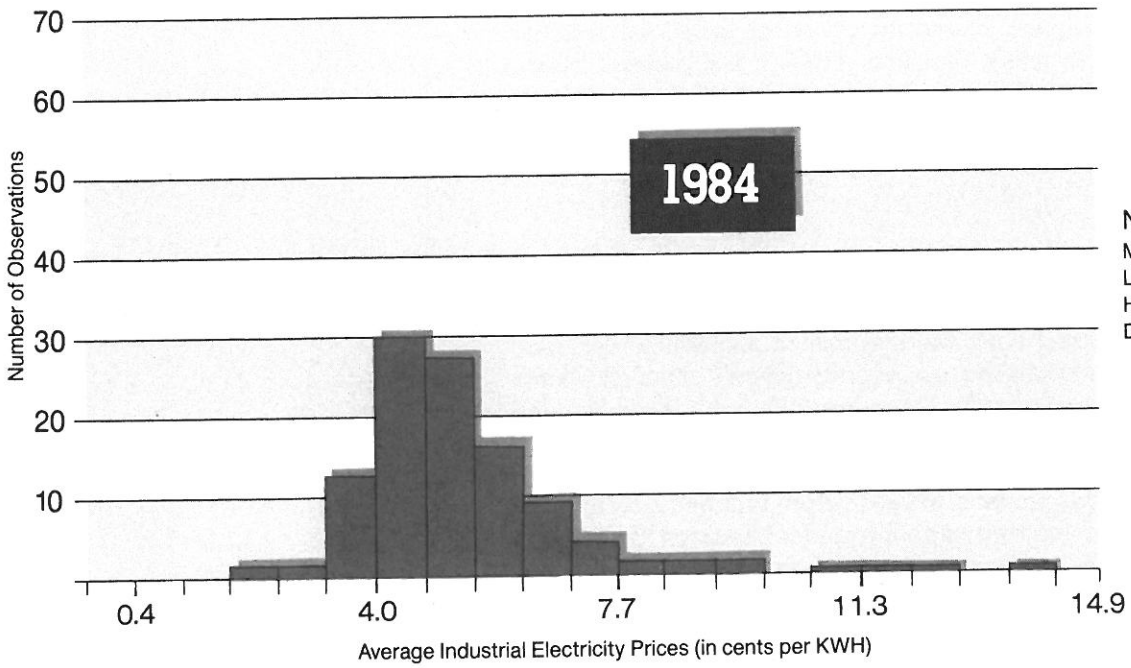
New Rate Designs and Regulatory Procedures

The regulatory response to rate shock caused by excess capacity was to use new rate designs and structures. Regulators began requiring phase-in of new generating units. Many commissions realized that traditional methodologies front-end-load capital cost recovery, thus exacerbating an already-difficult situation. Some increased their use of prudency reviews. They recognized that prudently incurred costs should be recovered from ratepayers. However, they also recognized that approving a construction program at an initial stage does not mean that all expenditures following the approval are prudent. Indeed, a prudent decision to build should in some instances be followed by an equally prudent decision to cancel — even if the utility does not decide to stop construction. Other commissions began reevaluating their used-and-useful rules and regulations. They recognized that excess capacity may be used, but not useful. Still other commissions reviewed the operating performance of utilities — or of individual generators of utilities — and decided that performance standards, and associated performance rewards, are

The Range and Distribution of Average Industrial Electricity Prices



Number of Utilities: 112
Mean Value . . . . . .1.3¢/KWH
Lowest Value . . . . . .0.5¢/KWH
Highest Value . . . . . .3.5¢/KWH
Difference (highest less lowest) . . . . . .3¢/KWH



Number of Utilities: 112
Mean Value . . . . . .5.3¢/KWH
Lowest Value . . . . . .2.1¢/KWH
Highest Value . . . . . .14.0¢/KWH
Difference (highest less lowest) . . . . . .11.9¢/KWH

NOTE: Average industrial electricity price is calculated by dividing the total revenue from industrial customers by the total KWH sales to industrial customers.

justified. And some commissions saw the negative impacts resulting from cross-class subsidies and took significant steps to remove them.

Regulators also began to grapple with basic structural changes in the electric utility industry. They recognized that no longer was there a single provider of electric energy and power. Rather, distant utilities now competed with many nonutility entities, as well as with each other.

Some regulators cautiously encouraged increased competition with experiments and limited orders. For example, the Federal Energy Regulatory Commission conducted a two-year, bulk power experiment in the Southwest. The purpose was to see if relaxed rate and regulatory oversight would encourage increased bulk power sales among interconnected utilities. The FERC recently approved a second experiment, the Western Systems Power Pool, again purportedly to observe first-hand the results of competitive interactions.

Additionally, individual state commissions are providing strong encouragement to utilities to test in new ways what used to be considered a monopolistic market. Some are approving flexible pricing arrangements to sustain or attract customer loads. Others seek to price power based on an estimated "value" to the customer rather than costs of the utility. Some are encouraging (or even requiring) bidding for purchases of nonutility-generated power. Others are asking, in essence, why power purchases among some utilities are sole-sourced rather than competitively bid.

Even stronger state commission actions are being taken. Both Pennsylvania and Iowa disallowed from rate base portions of capacity deemed excess and thus prohibited cost recovery for those portions from ratepayers. However, they allowed the owners of the capacity to keep the revenues they derived from the sale of energy from the units.

Utilities Experiment With Competition, Restructuring

Individual utilities reassessed the financial and regulatory environment and began advocating departures — some radical — from traditional regulation. For example, many utilities increased their bulk power purchases both to lower energy costs and avoid new construction. Some sought contracts with nonutility generators as long-term sources of power. Others expressed a strong interest in adding new capacity only as unregulated qualified cogeneration facilities, rather than as regulated generation included in rate base. Still others recognized that small scale, short lead-time generators could be added to the generation base in more easily digestible increments and produce power at reasonable costs.

Recent developments highlight the fact that the trend toward an increased competitive structure is continuing. For several years, utilities have created generating company subsidiaries to construct or acquire capacity for resale to their sister local distribution companies (LDCs). New England Electric System and Middle South Utilities are examples of this approach. Independent generating companies have been created to sell power at wholesale to unaffiliated utilities. The Alamito generating company is an example. Joint venture companies (such as the Yankee Atomic) or tenancy in common ventures (such as Four Corners) also have been established to provide power for the owners.

Even more recently, utilities have proposed major restructuring. Some are merging into larger, vertically integrated, regulated utilities, while others, primarily in response to pressures stemming from excess capacity, are proposing divestiture of assets. For example, Commonwealth Edison has proposed holding three new nuclear units out of rate base for at least five years. These units would be placed in

an unregulated subsidiary that could sell power either to Commonwealth or to other prospective buyers. Public Service of New Mexico went even further. Faced with reserve margins in excess of 50 percent, Public Service proposed dividing the utility into pieces — a generating company (GENCO) and a distribution company (DISCO). The DISCO initially would obtain its necessary power from the sister GENCO, but over time the required purchases would be reduced and the DISCO could shop for power from other available sources.

Consumers Begin Exercising Options

Customers also are exercising options that increase the competitiveness of the industry. Some are reevaluating their self-generation and cogeneration potential. What they are finding is truly amazing. Improvements in technology make small-scale generators efficient both from an engineering and an economic standpoint. These technological advances, coupled with substantially reduced oil and gas prices and high electric retail rates, make the economics of industrial and commercial generation increasingly attractive. The same factors also make governmental entities — from military bases to hospitals — seriously explore cogeneration and other cost-reduction options. When solid waste disposal problems are layered on top of these factors, municipalities find that garbage burners look better and better.

Economic forces are driving both retail and wholesale customers to seek purchased power supplies beyond their host utility. Some are successful. Others are not — yet. The city of Geneva, Illinois, recently negotiated a contract that allows it to purchase power from Wisconsin Electric Power. The military tried to implement competitive bidding for power supplies when options are available on the basis that current law, not to mention common sense, requires it to do so when bases geographically front more than one utility. And industrial customers increasingly question why they can't purchase available, lower-cost power from distant sources when their host utility refuses to do so. Industrial customers also find that they can "economically dispatch" their production at multiple locations, thus capturing the benefits of low-cost electricity when available. On a longer-term basis they can shut down plants and open new ones at other locations — either in different utility service areas or in foreign countries.

STRATEGIC GOALS

The changes described above clearly indicate that the electric utility industry is evolving into one with a more competitive atmosphere. The direction of the evolution, however, is unclear. ELCON urges consideration of the following strategic goals to help focus both the direction and the magnitude of the evolutionary process.

Competition Should Be Promoted Wherever Possible

Our country's capitalistic economy is based on the assumption that competitive markets set prices and allocate resources optimally. Competition between customers drives the price of the most wanted goods up. Higher prices (1) motivate manufacturers to produce more and (2) provide them the ability to purchase the resources necessary to increase production. Competition drives efficiency. Inefficient producers are driven out of the market by more efficient ones.

A utility's exclusive service territory grants it both monopoly (single seller) and monopsony (single buyer) powers. Economic regulation was instituted to protect utility customers from possible monopoly and monopsony exploitation.

Economic regulation of natural monopolies is based on the premise that competition cannot protect customers. This premise is correct for certain utility operations — certainly the transmission and distribution networks where costs do not allow duplicative facilities. Where competition cannot work, effective regulation is required.

However, certain areas of utility operations today can be (and have been) subjected to healthy doses of competition. This is particularly true in generation, where large numbers of relatively small-scale generators owned by many utility and nonutility entities can compete.

This does not mean that we can, or should, deregulate the industry. ELCON does not advocate total deregulation of the electric utility industry. In fact, we believe that we should avoid the use of the term "deregulate" for it triggers emotional responses and hinders constructive dialogue.

ELCON does advocate increased competition. The degree of regulation should reflect and respond to the degree of competition.

Utilities Should Operate Efficiently and with Good Business Practices

Utilities should provide electric service at "least cost." We define "least cost" as the minimization of the revenue requirement over the long run consistent with an adequate and reliable electricity supply.

Supply decisions should not be driven by preconceived opinions about technology, fuel type or ownership characteristics. Electricity prices should be based on cost of service and should not unduly discriminate between customers or customer classes. Utilities should be given the opportunity to earn an overall return commensurate with the risk to which they are exposed.

Utilities should not be penalized for prudent decisions regarding either construction or cancellation of power supply or transmission options.

Rates Should Be Unbundled, Nondiscriminatory and Based on the Cost of Providing Service

Utilities should offer unbundled electricity supply and transmission service. Various qualities of service should be available to customers, with rates for each service reflecting the costs incurred. Generally, lower-quality service should be priced less than higher-quality service. No customer should be required to subsidize other customers, customer groups or classes of service.

Transmission should be offered as a separate service on a nondiscriminatory basis. It should be priced according to costs. Utilities should be motivated to offer — and they should be compensated appropriately when they provide — transmission service.

Federal and State Electric Policies Should Be Coordinated Rational and Consistent

Electricity customers need an adequate, reliable and efficient electricity supply. Industrial customers must be able to predict the availability and cost of electricity supplies within each state that they operate. Inconsistent state or federal regulatory policies make it difficult for utilities, regulators and customers to satisfy these needs.

Regulatory Oversight Should Be Able To Cope with a More Competitive Environment

Regulators should assess the competitiveness of the industry from various aspects and identify those areas where competition cannot protect customers. Regulation should be relaxed where competition offers appropriate protection. Regulation should be directed towards areas where exploitation may prevail.

Regulation should take a long-term view of the industry. Regulators should strive for consistency and predictability. Regulatory policies should be clearly articulated and uniformly applied.

Regulatory decisions should appropriately reflect input from all interested parties. They should not discriminate between customers or customer classes. They should provide adequate legal review.

IMPLEMENTING STRATEGIC GOALS: ELCON POSITIONS AND RECOMMENDATIONS

Generation

1. Regulated utilities should competitively bid for capacity purchases from unregulated generators. Extreme care must be taken to develop a nondiscriminatory competitive bidding process. Due consideration should be given to reliability. The utility's avoided costs, approved by its regulatory authority, should be the ceiling *either* for purchases of electricity or for cost recovery from customers if the utility decides to build.
2. New generating facilities should have no fuel, efficiency, technology or ownership limitations as long as there is guaranteed access to multiple markets for nonutility-owned generators.
3. Divestiture of existing regulated generators into utility- or nonutility-owned entities may create considerable financial and equity problems. Hence, any such restructuring must be carefully evaluated by regulatory commissions with adequate input from consumers. Approval of proposed divestiture must be accompanied by a finding that benefits exceed costs.

Transmission

1. Utility transmission service must remain under strict control of regulation.
2. Users, including cogenerators, that meet specified characteristics should be allowed to apply for wheeling orders. Nonutility applicants should be treated the same as utility applicants for similar service. Evaluation procedures should be simplified and expedited.
3. State regulatory commissions should have the authority both to order and set rates for *intra*state wheeling. Wheeling is deemed to be intrastate if both the delivery and receiving points are in the same state.
4. FERC should have the authority both to order and to set rates for interstate wheeling. State PUCs should be able to request an expedited hearing at FERC if they choose to intervene.

5. Utilities should bear the burden of showing lack of capacity, degradation of reliability or other factors relating to the inability to provide requested services. Rules should establish a rebuttable presumption that the capability to wheel exists.
6. Users who cease firm purchases, undertake wheeling and then desire to re-establish firm service should be viewed as new customers by the utility with no superior or inferior standing unless other arrangements (e.g., standby rates, contracts, etc.) have been negotiated.
7. Commissions should have the authority to order the construction of both new transmission lines and appropriate modifications to existing facilities to facilitate wheeling if the net costs attributable to a wheeling applicant are borne by that wheeling applicant and the utility is unable to demonstrate significant adverse impact on the system.
8. Upon request, utilities should be required to establish both wheeling tariffs and terms and conditions on a nondiscriminatory basis. Wheeling orders, tariffs, arrangements, etc., should be public information and should be available in a clear and easily retrievable format.
9. Wheeling rates should be based on cost-of-service. Methods used for calculating the cost of wheeling services should recognize that generally it costs more to wheel over long distances than over short distances. They should take into account the:
   - degree of firmness of the service,
   - timing and length of the service,
   - pattern of loading on the transmission system, and
   - facilities used to provide the service. Specifically,
     * all transmission plant is not used in all wheeling arrangements, and
     * subtransmission and distribution facilities usually are not part of the wheeling rate base.

   Regulatory commissions should carefully study alternatives to the specific costing method(s) to be implemented by the wheeling utility.
10. Except in unusual circumstances, decisions should be rendered on a fixed time schedule. Commissions should have the authority and the responsibility to resolve disputes expeditiously and order interim wheeling.

Responsibility for Utility Costs

1. Prudently incurred costs of regulated utility assets should be borne by ratepayers. These assets should be placed in rate base.
2. Utilities that have capacity not in rate base should be encouraged to sell the output from that capacity. They should be allowed to keep the revenues from that sale.

Regulation

1. To the extent public utility regulation requires the continuous application and understanding of legal, economic and engineering principles, due consideration should be given to the selection of commissioners with education and/or life experience in one or more of the areas of law, economics or engineering. Commissioners should be compensated at or near the highest level of non-

elected state officials or cabinet officers. Terms of commissioners should be of significant length to ensure that long-range policy as determined by the commission be implemented consistently and predictably. Provisions should allow removal for cause.

2. In the evolving public utility regulatory environment where competitive elements are emerging, commissioners should use existing legal authority to its maximum extent as a vehicle for proactive rather than reactive change. Commission budgets should be established at levels sufficient to ensure that commissions have available necessary personnel and resources to be effective.
3. Attempts should be made to improve forecasting. Commissions should implement a "minimum filing requirement" (MFR) similar to the recently approved NARUC MFR.
4. Commissions should study ways to avoid/reduce rate shock. Phase-in plans should be implemented where warranted.
5. Concepts such as statewide oversight (preferably through the commission) of generation and transmission line siting should be encouraged through either regulation or, where necessary, legislation. Consistent with developing trends in least-cost planning, commissions should determine whether federal legislation or regulation may facilitate and enlarge the transfer of less-expensive bulk power across state lines.
6. In the evolving regulatory environment, all ratepayers must be afforded the maximum legal opportunity to be notified, comment, and be heard on any regulatory change that may affect the price or quality of service provided. Commission procedures regarding notice and hearing must provide a timely and fair forum for the resolution of all disputes which may arise.