NRRI 97-21

EXEMPT TELECOMMUNICATIONS COMPANIES AND SOME STATE COMMISSION REGULATORY IMPLICATIONS OF ELECTRIC AND TELEPHONE CONVERGENCE

Robert E. Burns, Esq.
Senior Research Specialist

THE NATIONAL REGULATORY RESEARCH INSTITUTE
The Ohio State University
1080 Carmack Road
Columbus, Ohio 43221-1002
(614) 292-9404
www.nrri.ohio-state.edu

September 1997

This brief report was prepared by The National Regulatory Research Institute (NRRI) in partial fulfillment of a project on mergers and acquisitions, approved by the NRRI Board of Directors. The views and opinions expressed herein, however, do not necessarily state or reflect the views, opinion, or policies of the NRRI, the National Association of Regulatory Utility Commissioners (NARUC), or NARUC member commissions.

TABLE OF CONTENTS

PREFACE

This report is the third of a series of reports on utility mergers and acquisitions that has been published by The National Regulatory Research Institute this last year. The fourth and final report in the series will deal with FERC Order 592, FERC's Policy Statement on Its Merger Policy Under the Federal Power Act, as well as the issue of federal preemption.

Douglas N. Jones
Director, NRRI
Columbus, Ohio
September 23, 1997

INTRODUCTION

Section 103 of the Telecommunications Act of 1996, which was enacted on February 8, amends the Public Utility Holding Company Act (PUHCA) of 1935. It allows electric and/or gas utilities to form "exempt telecommunications companies," (ETCs) under the jurisdiction of the Federal Communications Commission (FCC), that can offer telecommunications and information services. More specifically, section 103 of the 1996 Act eliminates a federal barrier of entry by permitting both registered and exempt holding companies under the PUHCA to provide telecommunications and other information services to the public by means of wholly-owned subsidiaries, each organized exclusively for this purpose and designated an ETC by the FCC. Without section 103 of the 1996 Act, the provisions of the PUHCA would have prohibited the establishment of such wholly-owned subsidiaries, unless the electric utility holding company would have become a registered holding company with the United States Securities and Exchange Commission (SEC) or filed to be an exempt holding company with the SEC. The process of becoming a registered holding company is extraordinarily burdensome. On the other hand, the process of becoming an exempt holding company is relatively easy if one of the exempt holding company provisions applies. Prior to ETCs exemption under the 1996 Act, the exempt wholesale generators (EWGs) provisions under the Energy Policy Act of 1992, and qualifying facilities (QFs) provisions under the Public Utility Regulatory Policies Act of 1978), there were only five very narrow provisions under which one could qualify to be an exempt holding company.[1] The implication is that the ETC holding company exemption provides electric utilities with a major opportunity to diversify their activities into

[1] For more information on the Public Utilities Holding Company Act, see Robert E. Burns et al., *Regulating Electric Utilities with Subsidiaries* (Columbus, Ohio: The National Regulatory Research Institute, 1986), Chapter 1 and Appendix A.

telecommunications services.

Although setting up an ETC need not necessarily involve a merger or acquisition, in many instances existing telecommunications companies and electric and/or gas utilities will find that a merger, joint venture, or alliance is a quick way to establish a presence in an otherwise unfamiliar market. Also, such mergers, joint ventures, or alliances might tend to appeal to electric utilities because of the marketing experience that a telecommunications firm can offer. One might expect that typically an ETC would be set up as a subsidiary of an electric utility, although existing registered holding companies are likely to set up ETCs under their holding company structure. For the sake of simplifying the analysis in this brief report, it is presumed that the ETC is set up as a subsidiary with the electric utility itself as the holding company.

The purpose of this paper is to provide state regulators with a brief analysis about both electric utilities establishing ETCs (an activity that commonly involves a merger, joint venture, or a strategic alliance with a telecommunications company) and the regulatory implications of ETCs for state regulators.

WHY ETCs

When mergers, joint ventures, or strategic alliances between an electric utility and a telecommunications company take place they might at first seem to fall in the category of being a conglomerate merger; at first glance the products and services that the firms provide do not seem to be closely related in either production, distribution, or consumption. However, another way is to view these mergers as convergence mergers, where two previously unrelated markets for services or products are brought together through advances in technology. The synergies brought about by newly available technology can lead to new products and services as well as the availability of traditional services at a lower cost. The argument here is that there might be significant economies of scope to be realized; that is, two or more products or services can be produced more cheaply together than they can separately on a stand-alone basis. In

addition, new products and services could be developed that might be of value to the consumer.

Even before the enactment of the 1996 Act, numerous electric utilities were experimenting with the use of information and communication services. Goldman et al.,[2] in 1995, identified about forty such projects based on a literature review of recent publications and the trade press, as well as interviews with vendors. Of these forty projects, at least twenty-one projects involved electric utility-sponsored projects that offered communications-enabled services to residential customers. These projects can be distinguished according to (1) the types of services provided, (2) the communications system used to deliver services (for example, cable, twisted pair telephone wires, fixed wireless radio, and mobile wireless radio) and (3) the utility's strategic approach to accessing telecommunications networks (for example, owning as opposed to leasing) and partnering with telecommunications providers and vendors.[3] The services offered range from broadband projects involving home-based information, entertainment, and communications to demand-side or customer-controlled load management and automatic meter reading.

---

[2] Charles Goldman et al., *Impact of Information and Communications Technologies on Residential Customer Energy Services*, LBNL-39015 (Berkeley, California: Lawrence Berkeley National Laboratory, 1996), xi-xiv.

[3] The electric utilities involved in 1995 in cable system telecommunications projects include Central & South West, Entergy, Glasglow Electric Board, Hydro Quebec, Pacific Gas & Electric, Public Service Electric & Gas (New Jersey), Southern Development Investment Group, and Virginia Power. Those involved in telephone service include American Electric Power, Wisconsin Energy, and Wright-Hennepin Cooperative. Those involved in fixed wireless radio involve Baltimore Gas & Electric, Boston Edison, Kansas City Power & Light, Pacific Corp, Pacific Gas & Electric, and TECO Energy. Those involved in mobile wireless radio include Baltimore Gas & Electric, Boston Edison, and Public Service of Colorado.

Electric utility services require the use of communications systems. For example, in order to improve system operations, electric utilities have communications systems that monitor and control the power system that is in turn coordinated by control area operations. According to a very recent study, there are already about eighty-five electric utilities that have established or are about to establish and offer telecommunications services, using their own private communications networks. Currently, electric and gas companies own a total of 600,000 miles of high-capacity fiber-optic cable. Today they mainly use this for their own control purposes.[4] Indeed, according to the Utility Telecommunications Association, electric utilities already account for 12 percent of all telecommunications networks in the United States.[5]

Electric utilities are interested in setting up and operating ETCs because, over the years, power companies have not only built up an extensive infrastructure to meet their own internal needs, but they have built up an extensive communications infrastructure with surplus capacity.[6] Electric utilities have extensive surplus (excess) capacity in their telecommunications networks. Indeed, AT&T currently leases over 30,000 miles of fiber optics cable from electric utilities for telecommunications purposes.[7] The surplus or excess capacity in fiber-optic cable could easily be used to provide telephone, internet, or video services to retail customers. In addition, ETCs could also provide similar power control and monitoring to independent power producers (IPPs) within its traditional service territory, to its own affiliated power producers outside

---

[4] Electric Power Research Institute, *Powering Progress: The Electricity Technology Roadmap Initiative — Background Report: A Preliminary Vision of Opportunities* (Palo Alto, California: Electric Power Research Institute, 1997), 2-6.

[5] Edward Caine, "Electric Utilities and the Telecommunications Act of 1996: Should They or Shouldn't They, and When They Do, How Should Regulators React to the Issues?," presented to the Mid-Atlantic Conference of Regulatory Utilities Commissioners, The Homstead, Hot Springs, Virginia, July 2, 1997, 4.

[6] An overview and discussion of electric utility use of communications systems is contained in ibid, 3-4.

[7] Ibid.

of its own service territories, to regional independent transmission system operators (ISOs), or to any broker or marketer interested in the wholesale market. ETCs are an opportunistic outgrowth of this surplus (some might contend excess) communications capacity.[8]

To increase administrative efficiencies, electric utilities engage in internal communications and message handling and data acquisition. As pointed out in an earlier NRRI report, *Utility Customer Information: Privacy and Competitive Implications*,[9] data acquired about the customer can be extremely valuable to firms, such as electric utilities, that are facing increased competition. Further, electric utilities might use its internal knowledge of its own system and its loads to produce a geographic information system that could allow it to price its services or to operate its system to gain an advantage in either or both wholesale and retail markets.[10] Here too, electric utilities might find it to their advantage to be able to exploit these competitive uses of their information and communications systems by setting up ETCs.

Electric utilities have expanded their communications infrastructure to take advantage of wholesale markets that are of the result of the enactment of the Energy Policy Act of 1992 and the promulgation of FERC Orders 888 and 889; that is, in order

---

[8] There is a distinction between surplus and excess capacity. Surplus capacity can occur in industries when optimal capacity investment is lumpy, that is, it is efficient only to invest in capacity in large lumps. For example, until the innovation of the combined-cycle gas turbine, electric generation was considered lumpy and surplus capacity was sometimes a result of adding the next efficient generator. Surplus capacity is also common in gas utilities, because the cost of investing in surplus capacity in gas distribution or pipeline is less than the cost of digging a second pipeline trench. Excess capacity, on the other hand, is capacity that is not used and useful in providing service and is typically excluded from utility rates or is phased-in over time as demand grows. Given the economies of scale in providing fiber optics, many would argue that, if fiber optics is used and useful in providing communications necessary for the reliable operation of the electric transmission system, much the electric utility's investment in fiber optics represents *surplus* capacity. Others, however, would contend the investment in fiber optics is unnecessary "gold-plating" and hence *excess* capacity.

[9] Robert E. Burns, Rohan Samarajiva, and Roopali Mukherjee, *Utility Customer Information: Privacy and Competitive Implications* (Columbus, Ohio: The National Regulatory Research Institute, 1992).

[10] David W. Wirick, *The Use of Information Systems to Transform Utilities and Regulatory Commissions: Applications of Geographic Information Systems* (Columbus, Ohio: The National Regulatory Research Institute, 1995).

to take advantage of the opportunities made possible by a robust wholesale power market with open transmission access, electric utilities require real time communications to conduct reliability exchanges and bulk power transfers, to engage in power brokering and spot market transactions, and to take advantage of swings in the price of wholesale power. Electric utilities might decide that they wish to set up ETCs to fully take advantage of these competitive opportunities.

Fundamental changes in how electricity is provided to retail markets require use of advanced communications systems. Such advanced communications systems could reduce the utility cost of serving the customer or could increase the value of electric service to the customer. An electric utility can reduce the utility cost of serving customers by making available automated meter billing, automated billing, remote connection or disconnection programs, theft and tampering detection programs, and outage detection and handling programs. Some electric utilities already have such programs and services in place, and they could install similar programs at other utilities if they saw a profit in doing so; such a profit opportunity might be possible through an ETC. Alternatively, if direct retail competition were possible, which involved unbundling of services, then an electric utility might wish to set up an ETC to go into competition with the host utility by providing its own metering and billing, remote monitoring, or other similar services.

When direct electric retail access is allowed within a state, then both the incumbent host electric utility and other competitive electric service providers will find it to their advantage to use communications and information technology to increase the value of electric service to the ultimate customer. Advanced communications systems technologies can be used to provide real-time pricing, as well as energy information and education, bill feedback, energy and demand management programs, energy and customer monitoring programs, and power quality monitoring. ETCs here might permit an electric utility to provide these services in a manner that would be unbundled from its traditional regulated functions of providing electric service at the retail level, perhaps allowing them to price their products as the market allows. Alternatively, if retail access

can be provided on an unbundled basis, an ETC owned by a rival utility might compete with the host, incumbent utility to provide these services.

Finally, some would argue that electric utilities could use their communications systems to improve their financial performance, by taking advantage of the alleged synergies available through diversification of their communications systems into nonenergy related retail activities. For example, the excess capacity on the electric utility's communications system might be used by an ETC to provide telephone service, data and information service (including internet access), educational programming, and/or entertainment service, as well as provide home and business security and fire protection. However, the past record of electric utility diversification into nonenergy related activities gives regulators ample grounds to be skeptical of these claims.[11] Only time will tell if actual synergies in these new areas exist. A useful regulatory strategy in the meantime might be for regulators to encourage establishment of ETCs as a structural corporate separation that is short of full divestiture, in order both to isolate the electric utility ratepayer from direct and indirect losses of the ETC and to better regulate affiliated transactions and prevent cross-subsidies between the ETC and the regulated utility.

[11] In the past, many of the alleged synergies available through electric utility diversification into nonenergy related areas have failed to materialize. Indeed, such utility diversification has resulted in some notable disasters, such as Pinnacle Bank.

HOW ETCs CAN CREATE NEW PRODUCTS AND SERVICES

As mentioned, electric utilities already have extensive private communications networks, often with surplus or excess capacity. Indeed, utilities typically use only about 3 percent of their communications capacity for their own purpose.[12] Moreover, available technology now offers electric utilities a number of media to choose from in communicating with their customers. There are not uniformly accepted definitions of the break points between narrowband, wideband, and broadband. And, indeed, sophisticated compression and delivery technologies are beginning to blur the categories. For our purposes here, we will use Electric Power Research Institute definitions: narrowband systems operate at rates of up to 64,000 bits of data transmission per second; wideband systems operate at rates of between 64,000 and several million bits per second; and broadband systems operate at still higher rates. Narrowband systems tend to include standard twisted-pair analog telephone lines, radio, and utility distribution power line. Wideband systems include digital telephone lines, and sometimes customer premise power lines. Broadband systems include coaxial cable, fiber optic cable, and hybrid fiber-coaxial cable systems. Typically, major electric utilities use most or all of these communications systems.

In the past, except for communication necessary for power control and reliability purposes, much of the communications used by electric utilities was one-way. It tended to flow from the utility to the customer, or from the customer to the utility without two-way interaction. For example, with direct load control devices, a utility would, as a part of its demand-side management program, directly control by radio or other means an electric water heater or air conditioner of a customer. What we are discussing with ETCs is different. In the future (and in the present for some electric utilities and their

[12] Electric Power Research Institute, *Powering Progress*, 8. As one utility executive puts it, "we're sitting on a gold mine."

ETCs), communications between the customer and the utility will be two-way and interactive.

As shown in Table 1, the medium (or media) that an electric utility chooses also influences which applications can be made available to customers. Further, the different media each have different relative costs of implementation. While, for example, an electric utility, through the use of fiber-optics as a media, can make data intensive, high value services available, the relative cost of installing new fiber-optics is high. However, as previously noted, many electric utilities have already invested in fiber optics for the operation of their transmission system. For these electric utilities the cost of existing fiber optics is already embedded, with a marginal capital cost of zero. Consequently, the incremental cost of expanding their fiber optics system from its existing backbone along the transmission system to potential customers who might be willing to pay for a premium for its high value services might be justified.[13]

On the other hand, other electric utilities are choosing to pursue narrowband or wideband technologies because of the relatively low cost of implementing applications. Whichever choice of medium is made by the electric utility, what holds most of these potential applications together is their use of two-way, interactive communications. Economies of scale, in the long run, favor the installation of fiber optics. However, fiber optic technology can only be put in place by an electric utility under either one of two conditions. First, sufficient demand must exist to justify the cost of installation. When this condition exists, state regulators will probably view the investment in additional fiber optics favorably. Second, an electric utility might invest in additional fiber optics is if it can subsidize the cost of such installation by charging the cost of the fiber optics to its

[13] The reason for this is that, for these customers, the expected marginal revenues will exceed the marginal cost of the additional investment.

TABLE 1
A SAMPLE OF ETC MEDIA, APPLICATIONS, AND RELATIVE COST

Medium	Traditional Classification	Data Transmission Speed (bits/second)	Relative Cost	Sample Applications (with no compression)
Power Line	Narrowband	30 to 20,000 (utility distribution)	Low	Remote meter reading Outage detection Real-time pricing
		100 to 1 million (customer premise wiring)	Low	Load control
Radio	Narrowband	1,200 to 40,000	Low	Security monitoring
Phone Line	Wideband	Up to 56,000 (analog)	Low	Internet access Electronic mail
		64,000 to 6 million (digital)	Medium	Electronic billing Electronic payment
Coaxial Cable	Broadband	1 million to 15 million	Medium to High	Videoconferencing Telemedicine
Fiber-Optic Cable	Broadband	50 million to 1 billion	High	Interactive Television Distance Learning

Source: Electric Power Research Institute, “At Home with Telecommunications,” *EPRI Journal* (January/February 1997), 9.

regulated or core customer base.[14] Since a major, if not primary, mission of state regulators is to prevent electric utilities from subsidizing competitive services with revenues from regulated services, the second condition might only take place if the electric utility were to hide or disguise some or all the cost of fiber optics so that it appears to be a cost of the regulated service. State public utility commissions are likely to view the latter with disfavor and must guard against its occurrence. Indeed, state commissions should carefully review the inclusion of the cost of fiber optics as a part of regulated services to be certain that excess capacity costs needed to provide competitive services are not being foisted onto the backs of the ratepayers of regulated services.

The combined use of telecommunications and electric utility services creates new services for the customer. These new services use the two-way interactive communications system to make possible interactive energy management services that allow customers to monitor and control their energy use. It makes time-of-use and even real-time pricing an immediate possibility. In addition, the electric communications system can be used for high value services such as videoconferencing, telemedicine, interactive television, distance learning, and a wide variety of other services. Allowing an electric utility or ETC to make these services available, *without cross-subsidies from core customers*, serves the public interest by expanding the range of consumer goods available, thus increasing consumer welfare.

[14] The author uses the term "regulated or core" customer base, because in order for such a utility strategy to be successful, the utility would need to be able to shift costs to customers who would not have choices or available substitutes to which they could shift to avoid these additional costs. There are basically two groups of such customers. The first is the regulated customer base. These are the retail customers who have not been given retail choice. It is expected that in many states current or future restructuring legislation will allow this group to become smaller. The core customer base are the customers, who with or without restructuring, have little or no real choice or alternative other than their host utility. Most would agree that the core customer group would at a minimum include low-income and bad credit-risk residential customers. Others might include, as a part of the core customer base, all residential and small-commercial customers.

WHO ARE THE ETCs

Central and Southwest Corporation filed to set up the first ETC, CSW Communications, within hours of the signing of the 1996 Act.[15] CSW Communications is installing a fiber optics network in Austin and Corpus Christi, Texas areas as well as in Tulsa, Oklahoma. This system will be used to provide advanced communications and energy services, which will be provided by ChoiceCom, a joint venture between Central and Southwest and an experienced telecommunications service provider. The ultimate goal of ChoiceCom is to be a leading alternative phone company by providing competitive local exchange, exchange access, and interexchange services in areas overlapping the Central and Southwest electric service territories in Texas, Oklahoma, Louisiana, and Arkansas.

Similarly, in order to enter the market quickly, other electric utilities have entered into joint ventures with existing telecommunications service providers or wireless personal communications service providers. Boston Edison announced the formation of a joint venture with RCN, Inc., a provider of integrated voice, data video, and high-speed internet services. The backbone of the project is a 200-mile ring of fiber-optic cable that Boston Edison has already established for its own communications. Boston Edison and RCN have agreed to invest about $300 million in enhancing the network over the next five years so that it can be used to deliver video, telephone, energy management, and other services to 650,000 customers in the Boston and eastern Massachusetts area. The joint venture will be in direct competition with the local telephone company, New England Telephone, as well as cable providers and internet access companies.

Entergy has entered into a joint venture with a telecommunications provider to provide competitive local exchange and exchange access services initially in Baton

[15] Much of the following discussion on who are the ETCs is based on Edward Caine, 5-11; Goldman et al., Appendix A; and Sridarshan Koundinya, "Utility Acquisition, Mergers, Takeovers, and Divestiture: Water, Multi-Utility, and Utility-Related," mimeo, April 15, 1997.

Rouge, Louisiana, Jackson, Mississippi, and Little Rock, Arkansas. Also, Delmarva Power & Light announced plans to provide local exchange and interexchange services in Delaware, Maryland, southeastern Pennsylvania, and southern New Jersey using its 400 mile fiber optics network.

On June 24 of this year, Utilicorp and PECO Energy announced that they had formed a joint venture called EnergyOne to provide their own customers an ability to purchase electric, natural gas, telephone, internet, home security, and possibly cable television services in one stop. More important, this service will be available to customers of other electric utilities as well as through national franchising. AT&T will provide both long-distance and local telephone services through EnergyOne and will be responsible for customer service and billing nationally.

Several utilities are initiating comprehensive wireless personal communications systems. Foremost among them are Duke Power and Carolina Power & Light Companies. These utilities have entered into a joint venture with Bell South and Sprint to link their fiber optics networks with the transmission facilities of Bell South in order to provide personal communications service (PCS) throughout North and South Carolina. They might expand this service nationwide. Other utilities in the PCS market include Texas Utilities, Centerior, SCANA, PECO Energy, and GPU.

Other electric utilities are taking a more limited, less comprehensive approach to the opportunities created by the ETC provision of the 1996 Act. For example, Western Resources acquired and merged with Westinghouse Security Systems, the fourth largest electronically monitored security provider in the United States, to its Westar Security subsidiary, to make it the third largest security firm nationally. Prior to the acquisition and merger, Westar Security was the tenth largest security provider. Entergy acquired Sentry Alarm Systems. Moreover, Consumers Power has entered into a partnership to provide home security in the Detroit area.

Some of these companies have entered into joint ventures or partnerships with others. For example, KCP&L in partnership with CellNet Data Systems operates a wireless telecommunications in its service territory providing cellular telephone, wireless

e-mail services, and energy related services. MidAmerican Energy has acquired an interest in a telecommunications carrier that provides local exchange, exchange access, interexchange, and other services in the Midwest. LG&E has entered into a partnership with a local cable system to provide cable system fiber access to the LG&E infrastructure so that the two companies can together provide multiple service to LG&E electric customers. AEP in partnership with Integrated Communications Systems provides local exchange and exchange access, internet and cable television service to Dublin and parts of Columbus, Ohio. And, PEPCO in partnership with a wireless carrier provides wireless intranet and internet access via a high speed, digital data network in its service territory and in Northern Virginia.

Other utilities are offering these services on their own. For example, BGE is offering competitive local exchange access in the Baltimore area. APS is offering wireless telecommunications service providers services and may offer its own mobile telecommunications service in the future. Virginia Power is offering competitive local exchange access to businesses in its service territory.

Other utilities are expanding their traditional energy use management, load management, remote metering, and other services that are related to the direct provision of electric services in their own service territory, to take advantage of new interactive communications technology. For example, Pacific Gas & Electric has formed a joint venture with TCI and Microsoft to provide energy use management and interactive computer services to utilities and their customers, beginning with Brooklyn Union. Public Service Company of Colorado and many other utilities have signed contracts with Itron or other suppliers to install transmitters on gas and electric meters. TECO Energy has a project with TeCom to provide a variety of energy and nonenergy services on any customer's personal computer. Public Service Electric & Gas together with Lucent Technologies is developing an integrated broadband utility solution to provide thermostat and load control and wireless automatic meters, among other items. Wisconsin Energy together with Ameritech is developing something that they call Energy Oasys (which is not related to FERC's OASIS under FERC Order 889). Oasys

will use wireless paging and telephone lines as well as the power line to provide customers with energy and nonenergy services. Oasys focuses on the operating efficiency needs of utilities with DSM, and automatic meter reading, as well as customer needs with load control, air quality, security, and enhanced two-way communications. Consolidated Edison, Northern States Power, and Union Electric are also active.

Finally, several utilities are providing dark fiber capacity to competitive local exchange and interexchange carriers. For example, Southern California Edison leases significant fiber optics capacity to a competitive local exchange carrier who competes in the Los Angeles area. Others who lease their fiber include Central Maine Power, Northeast Utilities, Arizona Public Service, Houston Lighting and Power, Ohio Edison, Rochester Gas & Electric, and PEPCO. The principal advantage of this approach is that it makes use of the utility's surplus or excess capacity, while not "directly" competing with local telephone exchange carriers. This allows the electric utility to avoid common carrier status under the 1996 Act. The electric utility would not be required to share its fiber optics facilities with all other eligible telecommunications carriers. While avoiding common carrier status would potentially be advantageous to the electric utility and perhaps also to its customers (if the latter are allowed to in some way benefit from the installation of the fiber optics), not having the electric utility available as a facilities-based common carrier might eliminate many potential competitors from the local exchange market. If a facilities-based common carrier were available in the local exchange market, then a more robust form of competition might be available in local exchange markets than would be the case if local exchange competition is composed solely of resellers. Having an electric utility as a common carrier can benefit telephone ratepayers, who are typically the same entities as electric ratepayers.

STATE REGULATORY IMPLICATIONS OF ETCs

Section 253 (a) of the 1996 Act states that "[n]o state or local statute or regulation, or other state or local legal requirement may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." However, under section 253 (b) of the 1996 Act, state commissions are allowed "to impose, on a competitively neutral and nondiscriminatory basis consistent with section 254, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers."

Some further clues as to what is expected of state commissions are given in sections 254 (I) and (k) of the 1996 Act. The FCC and the state commissions are to ensure that universal service is available at rates that are just, reasonable, and affordable. More importantly, telecommunications carriers are not to use services that are not competitive to subsidize services that are subject to competition. The states, with respect to intrastate services (and the FCC with respect to interstate services), are to establish the necessary cost allocation rules, accounting safeguards, and guidelines to ensure that such cross-subsidization does not take place. It is therefore, not only proper, but incumbent that State commissions closely supervise the relationship that an ETC has with its affiliates. State commissions must make certain that the underlying electric system does not subsidize the competitive services being offered by its ETC. Further, as discussed below, state commissions must also make certain that the underlying electric utility pays its fair share for its facilities and its portion of any utility rights-of-ways.

While it may be difficult for a state commission, given section 253 (a), to block utility diversification into an ETC or to prevent a utility merger or acquisition to form an ETC, state commissions always have a right, if not a duty, to make certain an ETC is not cross-subsidized from noncompetitive utility services.[16] Access to utility and ETC

[16] See Burns et al., *Regulating Electric Utilities with Subsidiaries*, Chapters 4 and 5. Even for those state commissions who do not have authority to disapprove the establishment of electric utility subsidiaries, they have the authority to prevent cross-subsidies and to examine and allocate joint and common costs.

books and records are critical in this regard. However, because an ETC is exempt from the PUHCA, individual state commissions might have difficulty obtaining the necessary books and records from either out-of-state holding companies or from nonjurisdictional ETCs. If it is not preempted from doing so, a state commission might require an ETC and its holding company to provide access to books and records as a condition of doing business in the state. The topic of state commission access to books and records is part of the current debate over PUHCA reform or repeal; however, in the meantime, state commissions might find it useful to begin to trade information on ETCs in a fashion similar to that of the regional oversight groups that oversee Regional Bell Operating Companies (RBOCs).

State commissions will need to examine the ETC's cost of capital to properly account for any double leveraging effect that such diversification might have on the utility's cost of capital.[17] And, to the extent that there are affiliated transactions taking place between the utility and its ETC, the state commission will need to review the transfer prices.[18]

State and/or local agencies are also permitted under section 253 (c) "to manage the public rights-of-way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for the use of the rights-of-way. . .." So, while a state commission might not be able to regulate in an overly stringent and severe manner that creates prohibitive entry barriers, state commissions can regulate and provide for fair and reasonable compensation for the use of electric utility rights-of-way.

State commissions thus have a right, if not a duty, to make certain that an ETC fairly compensates its electric utility for the use of both its facilities and its rights-of-ways. The approach that a state commission might take to see that the electric utility is fairly compensated could depend on how the fiber optics plant was funded. In many of

[17] Ibid., see Chapter 6.

[18] Ibid., see Chapter 7.

the states, some, several, or all of the jurisdictional electric utility companies have not had a rate case in the last several years.[19] And in some (perhaps many) cases, utilities are earning in excess of their approved allowed rate of return.[20] In such cases, without a new rate case brought *sua sponte* by the state commission or requested by a consumer advocate or other intervener, one can expect that an electric utility with fiber optics invested in its fiber optics out of its internally generated revenues. Rather than pay its stockholders a higher dividend or invest in overseas ventures or some other form of diversification, some electric utilities have invested in fiber optics. And as noted earlier, such fiber optics are necessary for the electric utility to have real time control over its transmission system.

However, until there is a rate case where the utility requests that the fiber optics be put into rate base, there might be little opportunity for the state commission to review the investment in fiber optics. First, if the electric utility could finance the fiber optics installation out of internal revenues, there would be no opportunity to review the investment in fiber optics at a securities issuance proceeding. Secondly, no condemnation would be necessary for its installation as the fiber optics would be laid on the existing transmission right-of-way. The only chance to review the fiber optics installation would be if the addition of fiber optics communications facilities is considered a major addition to transmission line facilities. Although the installation of fiber optics is considered expensive as a telecommunications technology, its cost would normally be dwarfed by the cost of additional transmission or generation facilities.[21] In such situations, the issue before the commission is likely to be whether the cost of an investment in fiber optics is justified given the benefit of increased reliability due to real-

---

[19] See generally, tables 250 and 251, *National Association of Regulatory Utility Commissioners' Compilation of Utility Regulatory Policy, 1995-1996* (Washington, D.C.: The National Association of Regulatory Utility Commissioners, 1997), 532-33.

[20] Ibid.

[21] Telephone conversation with John Tucker, Engineer, Public Utilities Commission of Ohio, August 12, 1997.

time control of the transmission system. One would expect, in the face of catastrophic costs of widespread transmission outages that in most cases the answer would be yes.

Sometimes, though, an opportunity does arise in the rate case setting to examine whether it would be both used and useful and prudent to put fiber optics facilities in rate base. One such occasion arose with the Ohio Public Utilities Commission. In the Zimmer case, the Ohio Consumers' Counsel argued that very little of the utility's fiber optics capacity was being used for internal communications needs and that the remainder of the capacity should be excluded from rate base. The Commission Staff testified that the decision to install fiber optics was prudent and used and useful, and that once a decision had been made to install fiber optics, the cost of installing additional surplus dark fiber was negligible.[22] The Ohio Commission adopted the staff's position.

Whether the fiber optics is included in rate base or not, the source of funding is essentially the same: the ratepayer. If the fiber optics is included in rate base, then the commission should have clear jurisdiction over the revenues produced from the use of the fiber. One good approach for providing that the utility receive adequate compensation might be one similar to that used for wholesale power sales. If a state commission's jurisdictional customers bear the residual burden of meeting the revenue requirement of the utility, then the sales from the fiber optics in a rate period ought to be netted against the electric ratepayers revenue requirement. Alternatively, a state commission could set in place a revenue sharing mechanism or impute a revenue level for the services as a goal against which the utility could measure its performance. Mechanisms such as these are familiar when accounting for wholesale power sales.[23]

A regulator might find the establishment of an ETC to be a knottier problem when the electric utility has financed its investment in fiber optics out of internal revenue and

---

[22] Ibid.

[23] Some of these approaches are described in Narayan S. Rau, *The Evaluation of Transactions in Interconnected Systems* (Columbus, Ohio: The National Regulatory Research Institute, 1988).

has not included the fiber optics in rate base. Such a situation could easily arise in the current regulatory environment if an electric utility is taking advantage of regulatory lag. In the current regulatory environment, it is not uncommon for an electric utility to find that it has no need of a rate increase. Indeed, the management of such an electric utility might fear that if it were to come in for a rate case to include new investment in rate base, that any increased revenues from an increase in the size of the rate base would be more than offset by a state commission determination to decrease the weighted cost of capital, with the cost of equity (and perhaps also debt) brought down to current, lower levels. Where a state regulator finds that fiber optics have not been included in rate base, regulators might need to contend that the investment in fiber optics had ratepayer funding as its ultimate source, and that as a result ratepayers have a right of beneficial ownership in the plant.[24] As such, any revenues from fiber optic services might be used to at least partially offset retail rates.

State commissions also need to make certain that the host electric utility treats other market entrants fairly and that the host electric utility takes no action to foreclose competition. In particular, an electric utility must not be allowed to use its electric utility services, an area where it has market power, to be tied to the provision of the competitive services of an ETC. For example, an electric utility must not be allowed to provide that in order to receive electric service that a customer must take local exchange or other services from the ETC. Such a blatant tying of services would clearly violate antitrust laws. But state commissions must also be on guard against other more subtle preferences that the electric utility might employ.

One approach would be to require that there be a utility affiliate standard of conduct to make certain that all parties are treated comparably, if not the same, by the electric utility, with the view that such a standard of conduct should protect consumer interests and foster competition. Such a standard of conduct could incorporate

[24] The theory of beneficial ownership by ratepayers of utility property is developed further in Chapter 8 of Kenneth Rose et al., *Public Utility Commission Implementation of the Clean Air Act's Allowance Trading Program* (Columbus, Ohio: The National Regulatory Research Institute, 1992).

nondiscrimination standards, disclosure and information standards, and separation standards. The nondiscrimination standards could provide that no preference is accorded to customers of affiliates, or to requests for service from affiliates, relative to nonaffiliated suppliers and their customers. Disclosure and information standards could prohibit disclosure of utility and utility customer information with the exception of customer-specific information which the customer has explicitly consented to disclose.[25] The standard of conduct could prohibit the utility from providing marketing leads to its affiliates, unless the same information were released to all competitors at the same time. There might also be a prohibition on affiliates trading upon, promoting, or advertising their affiliation with utilities, because of its "unfair" marketing advantage.

The utility affiliate code of conduct could include a separations standard that could provide that the utility's and the affiliate's operations be functionally separate to prevent or minimize cross-subsidization of the marketing affiliate by the utility's customers. There is a problem with such an approach, however, if the justification for ETCs relies on the contention that the ETC takes advantage of economies of scope; a requirement for functional separation would tend to compromise, if not destroy, those economies. Alternatively, the utility and its affiliate ETC could be required to maintain and make available separate books and records. Although this form of accounting separation is weaker than a functional separation, it could help to enforce nondiscrimination standards and help prevent cross-subsidies.

However the commission would decide to construct a utility affiliate standard of conduct, it is important to remember that the purpose of a utility affiliate standard of conduct is not to *disadvantage* utility affiliates, such as ETCs, relative to competitors. Rather it is to ensure that utility affiliates, such as ETCs, do not *gain* an unfair

[25] This approach is consistent with the one suggested in Burns et al., *Utility Customer Information: Privacy and Competitive Implications*.

advantage over other market players.[26]

Finally, if the establishment of an ETC were to involve a merger or acquisition and if state commissions are not preempted by section 253 (a) from requiring or being able to condition their approval of the merger or acquisition, then one might expect an analysis of a merger or acquisition setting up an ETC that might be similar to that laid out here. Traditionally, state commissions in judging whether or not to approve, to reject, or whether to place conditions upon the approval of a merger, apply a cost-benefit test. Typically, each state commission attempts to measure the jurisdictional costs and benefits of the merger. And, when more than one state commission is involved, then each commission would require that the merger or acquisition be structured in such a manner that retail ratepayers in each affected state would benefit, usually through lower rates.

It is argued here that state commissions in doing their cost-benefit analysis should not count supposed cost savings as a benefit unless the cost savings cannot be

[26] See, for example, The Order Instituting a Rulemaking and an Investigation to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates, California Public Utilities Commission Rulemaking 97-04-011 and 94-04-012, April 9, 1997.

achieved by other means. A cost savings should also only be counted if it is sustainable through time and will be passed through to the ultimate customer. Thus cost savings, such as those derived from diversity of load, that could be achieved simply by opening up and trading on the wholesale market would not be counted; nor would many of the administrative cost savings which could be achieved through outsourcing of billing, collection, and maintenance and other functions.

The main item that state commissions should count in their cost-benefit studies is the effect the merger would have on competition in the future market. It is easy to imagine how a merger or acquisition could permanently displace current and future benefits of a more competitive utility market, benefits that would eventually flow through to all customers, including native load core customers. A merger or acquisition that substantially increases market power creates a major cost, that is, the lost benefits that a more open and robust market would have provided. To the extent that a merger or acquisition creates such costs, without clearly demonstrating offsetting benefits, the merger or acquisition should be denied.[27]

But are there offsetting benefits that cannot otherwise be realized? And can an ETC be set up in a manner that protects against increased market power or other potential anticompetitive conduct of the ETC or the electric utility? As has been discussed earlier, ETCs create an opportunity for an electric utility to create and market new products. To the extent that an ETC does create truly new products and services that did not previously exist — that is to say that the new services and products are not

[27] For a thorough description of Department of Justice Guidelines that deal with measuring market concentration to help identify which proposed mergers or acquisitions are likely to have adverse consequences on the competitiveness of the relevant market, see Robert Graniere and Robert E. Burns, *Mergers and Acquisitions: Guidelines for Consideration by State Public Utility Commission* (Columbus, Ohio: The National Regulatory Research Institute, 1996), 4-6. A future report in this series on mergers and acquisitions will address FERC Order 592, FERC's Policy Statement on Its Merger Policy under the Federal Power Act.

simply repackaged existing products and services[28] — then an ETC creates consumer welfare by creating value for the consumer. Indeed, *so long as an ETC or its electric utility are not allowed to act in an anticompetitive fashion*, then a strong argument can be made that in most instances the benefits to consumers of ETCs are likely to outweigh their costs.

But therein lies the rub. State commissions need to consider conditioning any approval of establishment of ETCs. First, state commissions must still have access to books and records of ETCs to make certain that they are not cross-subsidized from noncompetitive markets. Further, where there are shared resources, including the use of rights-of-way, state commissions need to make certain that the costs of the ETC are fairly allocated. But perhaps most importantly, standards of conduct are necessary for the electric utility that owns the ETC to make certain that the electric utility in no way discriminates against the ETCs competitors. With a clearly articulated and closely supervised state policy to encourage and promote competition, state public utility commissions can take appropriate state action to protect the consumer and to ensure that ETCs serve the public interest.[29]

CONCLUSIONS

Overall, state public service commissions will find the regulation of ETCs and their associated electric utilities to be challenging. ETCs may exist under a holding company structure, exempt from the PUHCA. The PUHCA exemption granted to ETCs creates an urgent and immediate need for state commissions to reexamine their

[28] For example, a case can be made that many aspects of the much ballyhooed electric and gas "convergence" is little more than a repackaging of existing available products and services. A fundamental issue that state regulators should keep in mind is whether new products or services are being created. If not, there might not be a consumer welfare gain, and indeed there might be a consumer welfare loss, by allowing a utility to eliminate substitutes while the regulator abandons traditional cost of service regulation.

[29] For a thorough discussion on state action to protect the consumer, see Suedeen Kelly and Robert E. Burns, "The Antitrust State Action Doctrine and Its Potential Role in Assuring Consumer Protection in a More Competitive Utility Environment," *NRRI Quarterly Bulletin* (Fall 1996), 395-411.

authority concerning affiliated transactions, access to books and records, and cost of capital determination.[30] State commissions need to make certain that their laws and regulations can reach out-of-state utilities that own ETCs within their state and as well as out-of-state ETCs that might be owned by a jurisdictional electric utility.

State commissions need to be most sensitive to the problems that might be caused when the costs associated with a regulated utility are used to provide competitive services. For example, in one manner or another, much of the cost of the dark fiber optics that make ETC services possible has been and is being paid for from the revenues of the regulated electric utility. As noted earlier, even when the investment in dark fiber has not been placed in rate base, a strong argument can be made that the source of revenues that permitted the investment in such facilities was ratepayer funds. It is therefore imperative that state commissions make certain that the electric utility is properly compensated for the use of its dark fiber. It is also desirable that some of that compensation flows back through to ratepayers. Regulators will need to balance the actual source of investment in the asset and the risks associated with the assets against the rewards that can be produced by the asset. Regulators might use these tests to determine that at least a partial sharing of the benefits from the revenues made possible from fiber optics is proper and that retail electric rates should be offset, at least in part.

Special care is especially needed when electric utilities request to transfer dark fiber assets from the electric utility to its ETC.[31] Regulators should take care that such assets are not undervalued as they can produce significant streams of revenues for the electric utility in the future — streams of revenues that could be used to offset retail electric rates.

---

[30] For a thorough discussion of these issues, see Burns et al., *Regulating Electric Utilities with Subsidiaries*.

[31] There is currently at least one such case pending. American Electric Power, in Public Utilities Commission of Ohio Docket 97-748-EL-ATR, has proposed to transfer its rate-based fiber optics assets to its subsidiary, AECommunications. Conversation with John Tucker, Public Utilities Commission of Ohio, Engineering Officer.

Moreover, the establishment of ETCs also makes it necessary for state commissions to assure that the ETC or its associated electric utility of communications provider does not discriminate and foreclose competitors of the ETC. This might require affiliate codes of conduct for electric utilities and their ETCs. State commissions might find it useful to begin to share regulatory information in a manner similar to what is done for regional oversight of RBOCs, such as Ameritech, NYNEX, and U S West, to better monitor the activity of ETCs set up by jurisdictional electric utilities.[32]

Alternatively, state public utility regulators might decide to use the occasion of an electric utility's establishment of an ETC as an opportunity to develop and implement a framework to allow and promote competition in the telecommunications markets. Indeed, state regulators can use this occasion to actively facilitate the transition to competitive, facilities-based telecommunication services.[33] Requiring that an ETC provide its services on a common carrier basis would add a facilities-based competitor to the local exchange market, which could provide backbone facilities for a more robust form of competition in the local exchange market than mere resellers can offer.

[32] For a thorough discussion of how regional regulation can be used in this fashion, see Douglas N. Jones et al., *Regional Regulation of Public Utilities: Opportunities and Obstacles* (Columbus, Ohio: The National Regulatory Research Institute, 1992).

[33] State Public Utility Commissioners have indicated their general support of competition in utility markets when that competition is fair and effective. In particular in the PSC 2000 Summit, State Commissioners adopted mission statements to develop and implement a framework to allow and promote competition where appropriate; to actively facilitate the transition to competitive services; and to support competition where it improves efficiency and innovation. See *Missions, Strategies, and Implementation Steps for State Public Utility Commissions in the Year 2000: Proceedings of the NARUC/NRRI Commissioners Summit,* ed. David Wirick (Columbus, Ohio: The National Regulatory Research Institute, 1995), 9.

Whatever approach state regulators choose in dealing with the issues raised by ETCs, regulators need to make certain all utility ratepayers can reap the benefits of an efficient and innovative technology without those services being cross-subsidized from the electric utility's customers; and, to the extent that electric customers have contributed revenues resulting in the investment in such fiber optics, regulators need to make certain that those electric customers are also permitted to reap the rewards from the investment in fiber-optic technology.