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Issues Affecting Rural Telephone Service

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Resources, Community, and
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The Honorable Glenn English
Chairman, Subcommittee on
Government Information, Justice,
and Agriculture
Committee on Government Operations
House of Representatives

The Honorable Mike Synar
Chairman, Subcommittee on Environment,
Energy, and Natural Resources
Committee on Government Operations
House of Representatives

This report completes our response to your November 5, 1985, letter requesting us to (1) review the Federal Communications Commission's efforts to track and evaluate the effects of its regulatory decisions on telephone service, particularly in regard to rural areas and (2) undertake a broad review of the key issues and problems facing rural telephone companies and subscribers. We reported to you in June 1986 (GAO/RCED-86-146) on the Commission's monitoring of residential telephone service.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Chairman, Federal Communications Commission; the Administrator, Rural Electrification Administration; interested congressional committees, subcommittees, and individual members of the Congress, as well as other interested parties. Copies will be made available to others upon request.

A list of major contributors to this report is included in appendix XII.

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

As the telephone industry moves to a more competitive structure, about 1,400 local telephone companies face regulatory and technological changes. Small rural companies could have more difficulty in adjusting to some changes because they serve low-density areas and tend to have high fixed costs. The Congress, rural telephone representatives, and the Rural Electrification Administration are concerned about rural telephone companies' ability to continue providing affordable service.

The Chairmen of two Subcommittees of the House Committee on Government Operations asked GAO to review the key issues and problems facing rural telephone companies and subscribers in this changing environment.

Background

The Communications Act of 1934 and the 1949 telephone amendment to the Rural Electrification Act provide for adequate, affordable telephone service in rural America. According to the Bureau of the Census, about 90 percent of rural households have telephones.

Recent Federal Communications Commission regulatory decisions are designed to assist the industry's transition from a monopolistic structure to a competitive one. The Commission believes that competition will result in increased technical innovation, lower costs, and greater responsiveness to consumer needs.

Results in Brief

The major rural telephone service issues relate to whether (1) local rates will increase significantly as a result of federal and state regulatory changes that are shifting certain costs from long-distance to local service and that have increased administrative costs, (2) long-distance rates will increase in rural areas if urban and rural costs are no longer averaged in setting long-distance rates, (3) subscribers will benefit from the competition of long-distance companies, and (4) technological improvements will lower the cost of telephone service.

GAO conducted case studies at 10 small rural telephone companies—2 each in Colorado, Kansas, Missouri, New Mexico, and Oklahoma—to find out how these 10 companies and their subscribers were being affected by these issues. The 10 companies had not experienced significant adverse effects from the many regulatory changes. However, the companies see much uncertainty over the future direction of regulation and the industry. They believe local rates may eventually have to be increased.

GAO's Analysis

Recovery of Nontraffic-Sensitive Cost

The most important issue affecting rural service relates to Commission changes on recovering nontraffic-sensitive costs. These costs do not vary with usage and are concentrated in the telephone lines between a customer and the telephone company. This issue is significant because of its potential for raising local rates and its effect on how subscribers pay for their telephone service. In recognition of its potential impact, the Commission has created financial assistance programs for high-cost telephone companies and low-income subscribers.

The Commission added a flat monthly subscriber line charge—now $2 for each residential and single-line business customer and $6 per line for multi-line business customers—to local service bills to recover a part of the interstate nontraffic- sensitive costs. States can also add line charges to recover the intrastate part. The old method collected the nontraffic-sensitive costs from charges for long-distance service. The changed method, originally scheduled to be phased in over 8 years, now is being evaluated by the Commission.

Increased Administrative Burden

All 10 companies GAO studied had experienced increased administrative costs. Five companies provided GAO with estimates of annual administrative cost increases ranging from $12,000 to $91,000, or about $.37 to $2.07 per customer per month. These increases were primarily for consultant fees, staff time, and increased travel costs related to the companies' implementation of various regulatory and administrative changes. In this regard, the United States Telephone Association filed a petition with the Commission in February 1986 asking for a reduction in certain administrative requirements for small telephone companies. The Commission is considering this petition and has proposed some relief

Future Increase in Long-Distance Rates

Long-distance rates have traditionally been based on average costs even though similar calls involving equal calling distance may vary much in actual cost. This rate averaging system works in favor of rural customers whose long-distance service generally costs more per call

Eight of the 10 companies were concerned that the Commission or state commissions would "deaverage" rates for long-distance service in the future to encourage competition. The Commission has stated it has no

plans to deaverage interstate rates. However, rural telephone interests believe the Commission's general encouragement of cost-based telephone service pricing, coupled with its desire to encourage competition, could eventually lead to deaveraging.

Outlook for Competition and Technological Improvements

The 10 companies differed on whether much competition for long-distance service would occur in their service areas. However, those companies operating near large metropolitan areas, such as Denver and Kansas City, did see some competition occurring.

About 500,000 residents in the lower 48 states are without telephone service because they live in isolated locations where conventional telephone service is not provided. Although rural companies are introducing technology to reach new customers or improve service, the 10 companies had a mixed outlook towards technology's potential for expanding rural telephone service and reducing its cost. Four companies questioned the potential benefits and cost-effectiveness of new technology, including one that said it creates pressure to raise rates.

Companies' Operations

Through 1985 the companies were financially healthy despite fears that the recent federal or state regulatory changes could have detrimental effects on local rates and subscribership levels, especially in rural areas. For example:

- In 1985 all 10 companies were profitable with rates of return on net worth ranging from 14 to 32 percent.
- Only one of the companies had increased local telephone rates since 1983 (not including the subscriber line charge), and this increase was related to a system upgrade. Two companies had filed a request for rate increases with their state commissions.
- Since 1981 six of the companies had experienced increased subscribership. Losses at the other four companies appear to be related to poor local economies rather than to regulatory decisions.

Companies' Overall Response to Changing Industry Environment

GAO found that the 10 companies had not experienced significant adverse effects from various regulatory and industry changes. However, the companies were very concerned about the possible effects of changes (individually and cumulatively) on their future operations.

The companies were taking few steps to respond directly to the changing industry and regulatory environment. They were less concerned with their present situation than with the uncertainty of future developments, including whether future regulatory decisions would cause local rates to increase.

Recommendations

GAO is making no recommendations.

Agency Comments

GAO discussed the material in this report with officials of the Commission's Common Carrier Bureau, the Rural Electrification Administration, and industry trade associations and has included their comments where appropriate. The various officials were in general agreement with the report's information. GAO, however, did not request official agency comments on a draft of this report.

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Abbreviations

AT&T	American Telephone & Telegraph Company
FCC	Federal Communications Commission
GAO	General Accounting Office
LATA	local access and transport area
NECA	National Exchange Carriers Association
NTCA	National Telephone Cooperative Association
NTIA	National Telecommunications and Information Administration
RCED	Resources, Community, and Economic Development Division
REA	Rural Electrification Administration
USTA	United States Telephone Association
WATS	wide area telecommunications service

Introduction

In recent years the telephone industry has experienced fundamental changes centering on the breakup of the Bell Telephone System and the Federal Communications Commission (FCC) decisions promoting competition. These changes have raised concerns among congressional committees, consumer groups, and others about the cost of telephone service and the ability of many Americans to pay higher local telephone rates. Rural areas may be at risk in this changing environment because they are served by many small, cooperatively owned or commercial telephone companies with limited resources, low-density service areas, high costs, and heavy dependence on long-distance revenue. This report examines the key issues affecting rural telephone companies and their subscribers.

The Communications Act of 1934 (47 U.S.C. 151 et seq.) established a national goal of universal telephone service—to make residential service generally available at a reasonable price. Efforts to achieve universal service have been quite successful. In 1986 about 92 percent of all households had telephone service, compared with only 46 percent in 1945. Although recent data are not available on rural areas, in its 1980 census the Bureau of the Census reported that 90.5 percent of rural households had a telephone.

Increased telephone service is due, in part, to over $7.7 billion in low interest loans and loan guarantees made by the Rural Electrification Administration (REA) to small rural telephone companies and to the relative drop in residential service cost over a 40-year period. Data collected by Bell Communications Research, Inc., show that in 1940 6 hours of work were required to pay for 1 month of residential service with 100 calls. By 1980, only 1-1/2 hours were required for that same service.

The FCC has issued a number of regulatory decisions to change the telephone industry from a monopolistic to a competitive structure. The FCC has stated that increased competition will benefit the public by fostering technical innovation, lower costs, and increased responsiveness to consumer needs. To move toward a competitive industry, the FCC has issued decisions designed to price each telephone service more closely to what it believes is the actual cost of providing the service (cost-based pricing). The FCC generally maintains that cost-based pricing is better suited to the emerging competitive structure of the industry than the traditional practice of setting rates for some services (such as long-distance) above their costs in order to hold down costs for other services (such as local residential). In addition, states are considering whether they should make changes similar to the FCC.

The FCC's decisions, however, have proved to be controversial and have raised concerns about whether the United States can achieve its universal service goal in a competitive industry that relies on cost-based pricing. Rates based on cost are of serious concern in some rural areas where low population density tends to cause the telephone company to have high fixed costs per subscriber. Consequently, small rural telephone companies fear that their subscribers may not be able to afford telephone service in the future.

Legislation Promoting Universal Service

Title I of the Communications Act of 1934, as amended, sets forth the nation's policy for common carrier telecommunications, including telephone service. The act created the FCC

"[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges..."

The FCC in recent years has interpreted this policy statement, although general in nature, to encompass several goals—efficiency, universality of service, reasonable charges, and innovative services.

The act also generally excludes the FCC from jurisdiction with respect to "charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service by wire or radio of any carrier." Each state has a public utility commission charged with overseeing the provision of intrastate telephone services.

The FCC and the states generally regulate telephone service within their jurisdictions using rate of return/rate base regulation. Under this system a regulatory agency tries to simulate a competitive outcome by limiting a regulated firm's revenues to its cost of service, including a reasonable return on investment. This involves determining the firm's reasonable costs of plant (rate base) and expenses and the prices that it should charge for its products and services to cover its costs and provide a fair return to investors.

Following a decline in the percentage of farms with telephones between 1920 and 1940,[1] the Congress amended the Rural Electrification Act in 1949 to authorize the REA Administrator to make low interest loans to

[1]The percentage of farms with telephones slipped from 38 percent to 25 percent

persons, public bodies, and cooperatives to improve and extend telephone service in rural areas. In authorizing the telephone loan program, the Congress directed that the program be conducted to assure the availability of adequate telephone service to the widest practicable number of rural users of such service. A rural area was defined as any area not within the boundaries of a city, village, or borough having a population in excess of 1,500 inhabitants. At the end of 1985, cumulative REA loans and loan guarantees to about 1,000 small, independent rural telephone companies totaled over $7.7 billion, including about $388 million in new loans during 1985.

The Nationwide Telephone Network

Over the years, the Bell System and the more than 1,400 non-Bell telephone companies (independents) had developed an interconnected telephone network that essentially served the entire country, extending telephone service to businesses and over 92 percent of all residences. This network enabled customers to call nationwide through the interconnection of these companies' transmission and switching facilities.

Before the January 1, 1984, court-ordered divestiture, the Bell System designed, built, and operated a communications system that dominated the nation's telephone and telecommunications industry. The Bell System included American Telephone and Telegraph (AT&T), 22 Bell-owned operating companies,[2] the Western Electric Company, and Bell Telephone Laboratories, Inc. AT&T served as the parent company; the Bell companies were the system's principal domestic telephone operating companies; the Western Electric Company, the system's manufacturing arm; and Bell Telephone Laboratories, the system's research and development arm.

Competition, FCC deregulatory decisions, and the Bell System divestiture have significantly changed the local and long-distance telephone industry. First, the Bell System had provided long-distance services through AT&T's Long Lines Department and the Bell companies in cooperation with the independent telephone companies. New companies, "other common carriers," have been allowed to enter the long-distance market to compete with AT&T. Two of the more well known of these companies are MCI Telecommunications Corporation and US Sprint Communications. Second, the Bell System divestiture split the Bell System's

[2]In addition to the 22 Bell companies, AT&T was affiliated with the Southern New England Telephone Company and Cincinnati Bell, Inc However, these two companies, unlike the 22 Bell companies, were not majority-owned subsidiaries of AT&T

transmission functions in half and divided the country into about 160 geographic areas called local access and transport areas (LATAs). The divestiture agreement assigned the Bell companies local exchange and exchange access service, including local service and long-distance service, within their designated geographic areas. The Bell companies, including Cincinnati Bell and Southern New England Telephone, provide local services to about 80 percent of the nation's 118 million lines in both urban and rural areas. AT&T was assigned long-distance services among the various geographic areas.

Independent Companies

The independents serve about 20 percent of the nation's subscribers, primarily in rural areas, while covering about one-half of the land area. The independents include commercial, cooperative, and municipal systems. Most of the independents are very small with about 1,100 of the 1,400 companies serving less than 20,000 telephone lines. In contrast, Nevada Bell, the smallest Bell company, serves about 167,000 telephone lines. However, there are 4 independent holding companies that serve more than 1 million lines, including the General Telephone and Electronics Corporation, which serves about 10 million lines.

Although independent telephone companies that borrow from REA account for only a small portion of the domestic telephone industry, they still have substantial resources and provide service to many rural subscribers. For example, in 1985 telephone companies with REA loans had total assets of more than $9 billion, including telephone plant less reserves exceeding $7 billion. These companies provided telephone service to about 4.8 million subscribers. Through REA the federal government has been a primary source of funds to these companies, REA providing about 1,000 of them with cumulative financing of over $7.7 billion.

Objectives, Scope, and Methodology

On November 5, 1985, the Chairmen of two Subcommittees of the House Committee on Government Operations—the Subcommittee on Environment, Energy, and Natural Resources and the Subcommittee on Government Information, Justice, and Agriculture—asked us to (1) identify and discuss the key issues and problems facing rural telephone companies and subscribers and (2) illustrate how these issues might impact small rural telephone companies and subscribers.

To identify key rural telephone issues, we held discussions with representatives of the FCC, REA, the National Telecommunications and Information Administration (NTIA), industry associations, and about 25 small telephone companies. (NTIA, an agency in the Department of Commerce, develops and presents executive branch views on telecommunications and information policy.) We also reviewed pertinent studies and records obtained from these representatives and other sources.

To illustrate the issues' potential impact on rural telephone service, we selected 10 small rural telephone companies for case studies. Our selections were made from the population of REA borrowers and were based on size, geographic distribution, and other indicators. Our methodology for selecting the companies was discussed with representatives of the requesters' offices who agreed with the approach. While recognizing that the findings from these case studies would not be representative of all 1,100 small companies, we believed the insight gained would be valuable for identifying what factors regulators and the Congress should pay attention to, if quality telephone service at reasonable prices is to be maintained in rural areas served by small telephone companies. Case studies on each of the 10 companies are included as appendixes to this report.

These case studies were limited to small rural telephone companies and their subscribers because they appeared to face more risks under the new regulatory environment. For example, the FCC has noted that these companies generally have a smaller base of business subscribers and less flexibility than larger companies for recovering above average costs without increasing local rates. Small companies have also depended heavily on long-distance service revenues to recover the costs of their local facilities.[3] REA companies receive an average of 66 percent of their total revenues from long-distance service compared with 46 percent for the Bell companies. Due to the focus of our review, our findings are not representative of rural areas served by the Bell companies or other large telephone companies.

We selected companies that were REA borrowers for several reasons: (1) a telephone company receiving an REA loan must serve a rural area, (2) REA borrowers submit annual financial and operating statistics to REA,

[3]Since local facilities are used for originating and completing long-distance calls, the local telephone company receives a portion of long-distance revenues to cover the costs of these facilities

which facilitated our data collection efforts, and (3) the federal government has a strong interest in the financial health of REA borrowers since they owe the federal government billions of dollars in outstanding loans.

We limited our case studies to telephone companies with less than 20,000 telephone lines. Twenty thousand lines was selected because it was the number used by the United States Telephone Association, an association representing the entire telephone industry, as a cut-off point to define a "small" telephone company.

We selected companies in five states west of the Mississippi River. These states were Colorado, Kansas, Missouri, New Mexico, and Oklahoma. We focused on western states because REA and industry association officials told us that regulatory decisions affecting small rural telephone companies were a major concern in these areas because of the companies' high costs and dependence on long-distance revenues. Selecting companies in several states was important because state decisions can have significant impacts on rural telephone service and because state regulatory decisions can vary between states, depending on a state's regulatory philosophy.

Using the criteria discussed above and our judgment, we selected 10 telephone companies—two in each state. We sought to obtain as much variety in the companies as possible; that is, we selected companies that differed in (1) size, as represented by the number of subscribers, (2) market density, as indicated by the number of subscribers per mile of telephone line, (3) profitability, as indicated by the amount of income per subscriber, and (4) reliance on toll revenues, as indicated by the percentage of the company's costs recovered from long-distance revenues.

To develop a baseline to evaluate how the issues and problems might affect the 10 telephone companies and their subscribers, we examined companies' data indicating their overall health from 1976 to 1985, especially the last 5 years. These data were

- the general financial health of the company as shown by trends in profits and certain financial ratios;
- the price of rural telephone service as shown by the current local rate and recent increases in the local rate; and
- the trend in the number of subscribers served by the company, especially in regard to any declines.

In addition, using REA statistics on all of its borrowers, we analyzed financial and subscriber trends from 1981 to 1985. We did not independently verify or assess the reliability of the REA data base because of the resources that would have been required. However, we did note that REA's data base is a common data source used in studies of REA borrowers.

To determine how the issues and problems would affect rural telephone companies and subscribers, we relied primarily on information and insights obtained from the owners and managers of the 10 companies. Because small telephone companies maintain that divestiture and the changing regulatory environment have created an administrative burden, we did not want to add to that burden unnecessarily. Consequently, we tried to limit our data collection efforts to data that the companies had readily available.

We discussed the information obtained from the case study companies with the FCC's Common Carrier Bureau, REA, the National Telephone Cooperative Association, the United States Telephone Association, the National Rural Telecom Association, and the Organization for the Advancement and Protection of Small Telephone Companies. The various officials were in general agreement with the information. Their views and comments have been included in the report where appropriate.

Our field work was conducted from February 1986 through September 1986 at FCC and REA headquarters, the National Telephone Cooperative Association, and the United States Telephone Association in Washington, D.C.; and at 10 small rural telephone companies in Colorado, Kansas, Missouri, New Mexico, and Oklahoma. We performed our work in accordance with generally accepted government auditing standards.

Key Issues Affecting Rural Telephone Service

As the telecommunications industry moves from a monopolistic to a competitive structure, regulatory and technological changes will affect local telephone companies of all sizes. Many small, independent rural companies, however, may have more difficulty in adjusting to some of these changes than larger companies because smaller companies have a lower density of subscribers in their service areas, a tendency to have higher fixed costs per subscriber, and less flexibility in recovering above-average costs without increasing local rates. This has caused the Congress, REA, and representatives of the rural telephone industry to be concerned about the ability of rural telephone companies to continue providing affordable service to their subscribers.

Rural telephone companies, their industry representatives, and FCC and REA officials identified five issues that are particularly important to the future availability and affordability of rural telephone service:

- the effect of changes in the recovery of nontraffic-sensitive costs on rural local service rates,
- the increases in administrative and regulatory burdens on rural companies caused by regulatory and industry changes,
- the possible increases in rural long-distance rates if urban and rural costs are no longer averaged in setting long-distance rates,
- the failure of rural areas to benefit from price competition for long-distance service because of the slower development of long-distance competition in rural areas, and
- the potential for technological improvements to lower the cost of rural service and promote its spread to rural areas currently without telephones.

This chapter discusses these issues, as well as recent regulatory developments that bear on them.

Issue One: Effect of Changes in the Recovery of Nontraffic-Sensitive Costs on Rural Telephone Rates

Nontraffic-sensitive costs are those costs that a local telephone company incurs in providing its subscribers with a connection to the company's central offices. The nontraffic-sensitive portion of the company's plant is largely comprised of the telephone lines (called "local loops") running from the subscribers' premises to these central offices. A company's nontraffic-sensitive costs primarily depend on the number of its subscribers and the average length of its subscribers' local loops. Nontraffic-sensitive costs do not vary with the amount of telephone traffic carried over the loops, which is why they are generally considered to be "fixed" costs.

FCC's decision to change the way in which local companies recover their nontraffic-sensitive costs is the most important issue affecting the affordability of rural telephone service in terms of (1) its potential for raising local rates, (2) its limit on the percentage of nontraffic-sensitive costs that local companies can recover from interstate long-distance services, (3) its affect on how subscribers pay for their telephone service, (4) the financial assistance programs it has created for high-cost telephone companies and low-income subscribers, and (5) the controversy and opposition it has engendered from the Congress, the states, and consumer groups.

Changes in the way nontraffic-sensitive costs are recovered could result in higher local rates in low-density rural areas (where nontraffic-sensitive costs tend to be higher on a per subscriber basis) than in urban areas. The FCC has decided that local companies can allocate no more than 25 percent of their nontraffic-sensitive costs to interstate service. Small rural companies have allocated as much as 85 percent of their nontraffic-sensitive costs to interstate service, thereby helping to keep local rates low. The FCC has also decided that local companies should recover some of these costs directly from the subscriber. In addition, states are considering whether they should make changes similar to the FCC's in how intrastate nontraffic-sensitive costs are recovered (for example, by recovering them from the subscriber).

Industrywide, nontraffic-sensitive costs are substantial. For example, in 1984 annual costs for installing and maintaining local loops amounted to nearly $25 billion. With about 113 million local loops nationwide, this total averaged out to about $219 per loop. However, loop costs can vary greatly from company to company. For example, nearly 230 small companies have nontraffic-sensitive costs of over $360 per loop, or $30 per month, with a few of over $1,000 per loop.[1] Nontraffic-sensitive costs also tend to be higher in low-density rural areas than in urban areas because rural populations are more dispersed, requiring longer loop lengths per subscriber. (In its work on allocation of nontraffic-sensitive costs, the FCC's Federal-State Joint Board found that density was a significant factor explaining high local exchange costs. However, the Joint Board also found that there were still many companies whose cost levels were not adequately explained by their density.)

[1]Based on data submitted in 1985 by local telephone companies to the National Exchange Carrier Association (NECA)

Because of their tendency to have higher nontraffic-sensitive costs, many rural telephone companies serving low-density areas have come to rely heavily on a method of nontraffic-sensitive cost allocation (first introduced in the 1940's) that enabled them to recover a large percentage of these costs from interstate long-distance revenues, rather than from local service rates. In December 1982, however, the FCC decided to make major changes to this allocation and recovery method. Rural companies are concerned that these changes will significantly curtail their ability to recover nontraffic-sensitive costs from interstate revenues, thereby forcing them to recover more nontraffic-sensitive costs from intrastate revenue sources, such as local service rates.

Development of Nontraffic-Sensitive Allocation and Cost-Recovery Methods

In the early decades of telephone service, local companies recovered all of their nontraffic-sensitive costs from their own subscribers. In 1930, however, the U.S. Supreme Court ruled in effect that a portion of the local companies' exchange plant costs should be assigned to toll operations if the plant was used for originating or completing toll calls. This decision was implemented in 1943, when local telephone companies began to recover a portion of their nontraffic-sensitive costs from the revenues generated by AT&T's toll service.

Determining what proportion of nontraffic-sensitive costs should be recovered from interstate long-distance revenues was an important issue because it had a bearing on local rates. The more nontraffic-sensitive costs a local company recovered from interstate long-distance revenues, the less revenue it needed to recover from intrastate services, such as local residential service. This issue has been addressed repeatedly by federal and state regulators over the past 40 years.

Initially, the regulators allowed each local company to allocate nontraffic-sensitive costs to interstate service on the basis of the percentage of time that its facilities were used for interstate calls relative to total use. In 1943 the average allocation was 3 percent, since 3 percent of the nation's telephone traffic was interstate.

Beginning in the early 1950's, the FCC, with the assistance of state regulators and the consent of the industry, began to revise the method of nontraffic-sensitive allocation and recovery. They gradually allocated an increasing proportion of nontraffic-sensitive costs to interstate in order to help promote the spread of affordable local telephone service. (In 1950, only 62 percent of the nation's households had telephone service, compared to about 92 percent in 1986.) In the last such revision to

be adopted (the 1970 Ozark Plan), the percentage of nontraffic-sensitive costs that a company could recover from interstate service was based on its "subscriber plant factor."

The subscriber plant factor was determined using a complex formula but was basically a weighted measure that approximately tripled a company's relative interstate usage. This weighting resulted in significantly increased levels of interstate nontraffic-sensitive allocations during the 1970's. As the actual relative use of local telephone facilities for interstate calls rose from about 5 percent in 1971 to about 8 percent in 1981, the average weighted interstate allocation rose from about 16 percent to about 26 percent. By 1981, some small rural companies with a relatively high amount of interstate calling were able to allocate as much as 85 percent of their nontraffic-sensitive costs to interstate.

FCC's Decision to Change Nontraffic-Sensitive Allocation and Recovery Methods

While the subscriber plant factor process helped to keep local rates low, it also increased the revenue requirement for interstate long-distance service, which was reflected in higher toll rates. By the late 1970's, the FCC decided that the old system of allocation needed to be reviewed, in large part, because long- distance companies had emerged during the 1970's to compete with AT&T. Regulators and the industry raised questions about the terms under which these new companies would interact with the nontraffic-sensitive allocation procedures. Specifically, AT&T's competitors purchased only local exchange service in providing their customers access to their long-distance services and were not party to the division of revenues (referred to as settlements) by which local carriers in effect received a contribution from AT&T Long Lines for their interstate operating costs.

In addition, the FCC was concerned over the rising average level of the subscriber plant factor. The subscriber plant factor was a particularly important issue because the emergence of long-distance competition and advances in transmission technology made it possible for heavy long-distance users (mainly large businesses) to set up private long-distance links that "bypassed" the local telephone company's facilities. Bypass systems do not contribute revenue to cover the local telephone company's nontraffic-sensitive costs and, therefore, its users may incur lower costs than users of regular long-distance service.[2] But at the same

[2]This issue is discussed in detail in our August 1986 report, Telephone Communications. Bypass of the Local Telephone Companies (GAO/RCED-86-66)

time, reduced local telephone revenues mean the possibility of higher rates for subscribers served by the local telephone company.

After a lengthy review process that considered the views of state regulators, industry representatives, and consumer groups, the FCC decided that the old allocation method was not suited to a competitive long-distance market and the threat of bypass. Consequently, in December 1982 the FCC adopted its "Access Charge" decision (93 FCC 2nd 241 [1983]), which dramatically changed nontraffic-sensitive allocation and recovery methods.

Under the access charge decision (and its subsequent modifications), the subscriber plant factor would be replaced by a procedure under which all local companies would allocate no more than 25 percent of their nontraffic-sensitive costs to interstate service. Companies that have been allocating more than this percentage are required to phase down to the 25-percent level (often referred to as the "gross allocator") in 5-percent increments over 8 to 12 years, beginning in 1986. Shortly thereafter, in a parallel proceeding, the FCC decided to phase out the practice of recovering nontraffic-sensitive costs allocated to interstate service from interstate long-distance revenues. Instead, the telephone companies were to recover these interstate allocations directly from their subscribers in the form of a flat monthly "subscriber line charge" (also referred to as end-user access charge), collected as part of the monthly local service bills. The subscriber line charge would vary from company to company, depending on the company's costs. The Congressional Budget Office estimated that if the FCC's subscriber line charge plan had been fully implemented in 1982, the average monthly subscriber line charge would have been about $5.

However, there was considerable opposition to the subscriber line charge by the Congress, state regulators, and consumer groups, who argued that interstate long-distance companies should continue to contribute to nontraffic-sensitive costs to keep local service affordable. The FCC responded to this opposition by delaying and then scaling down the implementation of the subscriber line charge. By mid-1986, businesses with more than one telephone line were paying a maximum subscriber line charge of $6 per month per line, while residences and single-line businesses were paying $2 per month. The FCC has ordered that the subscriber line charge will continue to remain frozen at these levels pending the results of a comprehensive review of the effects of its access charge decision by a Federal-State Joint Board (convened by the FCC, and made up of four state regulatory commissioners and three FCC commissioners).

This review began in July 1986 and is discussed at the end of this section.

Effects on Rural Telephone Service

The cumulative effect of these cost-recovery changes on local service rates in rural areas will vary from company to company. Those rural companies that have been allocating large percentages of their nontraffic-sensitive costs to interstate service may need to raise more revenue from intrastate sources, such as local rates, to offset the effects of phasing down to the 25-percent gross allocator. The higher the percentage that a company had been allocating, the greater the potential for increases in local rates. However, companies that have been recovering close to 25 percent of their nontraffic-sensitive costs from interstate revenues will experience little, if any impact, from this particular decision. In addition, rural subscribers (like urban subscribers) are subject to paying the subscriber line charge. The impact of the subscriber line charge on subscribers of high-cost rural companies could be substantial if the FCC decides to continue shifting the interstate nontraffic-sensitive allocation to the subscribers in the form of subscriber line charges.

While the effect of the subscriber line charge is to increase local service costs, its use has enabled interstate long-distance rates to decline since long-distance service no longer has to cover as much of the local companies' nontraffic-sensitive costs as before. The FCC pointed out in a July 1986 press release that both urban and rural subscribers benefit from the interstate reductions, which the FCC estimated at an average of 20 percent since divestiture. Subsequently, the FCC ordered that AT&T reduce its rates again, effective January 1, 1987. The FCC projected that its order would cause the average price of long-distance calls to drop another 11 percent.

Nevertheless, the FCC recognized that its access charge decision could contribute to local rate increases, which in turn might jeopardize the affordability of local telephone service, particularly in rural areas. It therefore directed a Federal-State Joint Board to develop assistance programs to help both companies and individual subscribers deal with the effects of these changes.[3] The resulting programs, the Universal Service Fund and the Lifeline Assistance Program, were adopted by the FCC and were being implemented in 1986.

[3]Joint Boards are convened by the FCC under provisions of the Communications Act to address regulatory issues of mutual importance to state public utilities commissions and the FCC

Universal Service Fund

The FCC's "Universal Service Fund" is designed to ensure that telephone rates remain affordable, especially for subscribers served by smaller, rural telephone companies. With the fund, companies with high nontraffic-sensitive costs per loop can recover a portion of these costs from the fund, which is supported by an additional allocation from carrier access charges paid by long-distance companies.

In devising the fund, the Joint Board concluded that assistance should be targeted to companies having above-average nontraffic-sensitive costs, since this is the single most important factor in determining the price of telephone service. The Joint Board recognized this approach would not cover all the companies adversely affected by the changes in nontraffic-sensitive cost recovery. For example, companies with high relative interstate usage and a high subscriber plant factor, but average nontraffic-sensitive costs, will lose interstate support as they move to the 25-percent gross allocator without being eligible for fund support. However, the Joint Board believed that such companies should be able to adjust to decreased interstate support without raising their local exchange rates above the national average.

The main goal of the fund is to provide increased protection for subscribers served by small high-cost companies, while keeping the overall size of the fund at a reasonable level. Accordingly, fund support is determined by formulas that consider a company's size and the difference between its nontraffic-sensitive costs per loop and the industry-wide average nontraffic-sensitive costs per loop. Companies with 50,000 or fewer working loops receive fund support covering 50 percent of their nontraffic-sensitive costs over 115 percent of the national average but not greater than 150 percent. On the other hand, larger companies with more than 50,000 loops receive fund support covering only 25 percent of their nontraffic-sensitive costs over 115 percent but not greater than 150 percent. Both small and large companies receive fund support to cover 75 percent of their nontraffic-sensitive costs over 150 percent. (Companies with loop costs that are 115 percent or less than the national average receive no fund support.)

The fund, like the transition to the 25-percent allocator, will be phased in over 8 years. During its first year of operation in 1986, the fund will provide about $55 million in assistance to high-cost companies. As high-cost companies continue to phase down their interstate allocations to the FCC-mandated 25-percent gross allocator between 1986 and 1993, they

will draw more support from the fund, increasing to about $437 million a year by 1993.[4]

Some aspects of the fund are controversial. For example, one question raised was whether companies would have a reduced incentive to make their operations as cost-efficient as possible if fund support was determined by high costs. The FCC responded that it will monitor the rate of nontraffic-sensitive cost increases among companies whose costs exceed 150 percent of the national average, although at the same time it admitted it may have difficulty detecting excessive costs in small companies. Another question concerned the lack of a procedure to ensure that the companies receiving fund support will pass this benefit through to their subscribers. The FCC said that it is relying on state public utilities commissions to ensure that the benefit accrues to the subscribers as intended.

Lifeline Assistance Program

Lifeline service is a specially priced local exchange service that has been specifically mandated by a state legislature or regulatory body for the purpose of providing telephone service to low-income households. Many state utility commissions opposed federal intervention in the area of lifeline assistance, stating that local service problems were a state responsibility and that the design and implementation of local service assistance programs were state prerogatives. For instance, various state regulators opposed lifeline service legislation introduced in the Congress (and generally supported by consumer groups) that would have established a national assistance program.[5]

The Joint Board noted that data from the Bureau of the Census indicated that telephone subscribership levels were stable between 1983 and 1985 but that subscribership among the lowest income groups was substantially below average. The Joint Board concluded that state regulators, working with their local telephone companies, were in the best position to identify those low-income households within their jurisdiction that needed assistance in affording a telephone. The Joint Board believed that a federal lifeline program should be supplemental to lifeline programs set up by the states in order to provide state regulators

[4]Based on 1985 NECA calculations. This total may change depending on yearly changes in the participating companies' nontraffic-sensitive costs and the national average nontraffic-sensitive costs.

[5]H R. 151 (Leland) and S. 960 (Heinz) would have amended the Communications Act of 1934 so as to require establishment of lifeline telephone service. Both bills were introduced in 1985.

with a strong incentive to develop lifeline assistance programs appropriate to their local needs.

The lifeline assistance program recommended by the Joint Board and adopted by the FCC in December 1985 provides matching federal assistance to households that are receiving lifeline assistance through state or telephone company programs highly targeted to low-income households. These programs must verify eligibility. The assistance given by the state/company programs can take several forms, such as reductions in local service rates, connection charges, or deposit requirements. The FCC's lifeline program matches the value of the state/company assistance up to the amount of the FCC's residential subscriber line charge ($2 a month). Its assistance takes the form of a waiver of the subscriber line charge (or matching portion of it) for the eligible households.

The ability of the FCC's program to assist low-income urban and rural households hinges, therefore, on the willingness of the states to develop and fund their own lifeline programs. The Joint Board said it would be "deeply concerned should the states fail to respond appropriately to any developments which caused a decline in subscribership levels." By January 1987, 10 states and the District of Columbia had been certified by the FCC for participation in the program.[6] These low numbers may renew the controversy over the voluntary nature of the FCC's program.

Ongoing Review of the FCC's Access Charge Decision

A Federal-State Joint Board convened by the FCC in July 1986 has been conducting a comprehensive review of the FCC's access charge decision, along with the Universal Service Fund and the lifeline program. The Joint Board is assessing whether the decision is achieving its goals of preserving universal telephone service, promoting economic efficiency, eliminating service pricing discrimination, and deterring uneconomic bypass.[7] The Board will consider any changes that need to be made in the access charge decision and will make recommendations, as appropriate, for consideration by the FCC.

Some parties filing comments with the Joint Board believe that this review is premature since the subscriber line charge has been in effect for only a relatively short time. Other parties are proposing that the

[6]Arizona, Arkansas, Colorado, Hawaii, Maryland, North Carolina, Oregon, Utah, Vermont, and West Virginia

[7]Uneconomic bypass is a form of bypass whose economic cost is higher but whose price is lower than the economic cost of an equivalent telephone company service

access charge decision go forward with some changes. For example, several major industry associations, representing most of the nation's local telephone companies, have called for changes in the formulas used to distribute Universal Service Fund assistance. They propose that companies with fewer than 200,000 loops recover a greater overall percentage of their nontraffic-sensitive costs from the fund, while those with 200,000 or more loops recover a smaller percentage. They also propose important changes to the way the Universal Service Fund is financed. Furthermore, the industry associations recommend that the subscriber line charge be allowed to increase to $3 in June 1987 and $4 at the beginning of 1988 in order to shift more nontraffic-sensitive costs onto subscribers.

Even after this review, it may be difficult to assess the effects of the access charge decision on rural companies, since both the phase-down to the 25-percent gross allocator and support from the Universal Service Fund are being implemented gradually between 1986 and 1993. Also, the phase-down and fund support affect a company's revenues; rates do not necessarily have to change proportionately. For example, a company could compensate for decreasing revenues by reducing expenses or by increasing revenues from special services. In addition, the possibility of further changes resulting from the Joint Board's review increases the uncertainty over how rural companies will be affected. Because of this uncertainty and the far-reaching nature of the access charge decision, rural telephone interests have ranked the nontraffic-sensitive cost-recovery issue as one of the most serious facing them.

Issue Two: Increased Regulatory and Administrative Burdens on Small Telephone Companies

The United States Telephone Association (USTA), whose membership includes nearly 80 percent of the nation's local telephone companies, maintains that the breakup of the Bell System has put "excessive and costly regulatory and administrative burdens" on the nation's independent telephone companies. Similar concerns have been raised by the National Telephone Cooperative Association (NTCA), which represents 450 of the nation's small, rural telephone cooperatives and companies. NTCA asserts that many of the FCC rulemakings that small companies find burdensome were initiated to confront problems that evolved out of the divestiture of AT&T and the FCC's efforts to deregulate the telephone industry.

In February 1986 USTA petitioned the FCC to initiate a rulemaking proceeding aimed at reducing the regulatory and administrative requirements on small, independent telephone companies. Specifically, USTA

asked that companies with 20,000 or fewer access lines be considered "nondominant" in the interstate access market. Such a ruling would enable about 80 percent of the nation's 1,400 independent telephone companies to come under the Regulatory Flexibility Act of 1980. The act requires federal agencies to consider less burdensome regulatory approaches for small firms or to avoid regulating them in the first place. USTA further petitioned the FCC to examine the impact of its pending and future rulemakings in order to minimize burdens on small telephone companies.

The issue of administrative and regulatory burdens was raised during March 1986 hearings before the House Appropriations Subcommittee on Commerce, Justice, State, the Judiciary, and Related Agencies. The Chief of the FCC's Common Carrier Bureau stressed that the FCC was already taking into account the different needs and abilities of small telephone companies in its rulemakings. He said that a finding of "nondominance," as requested in the USTA petition, would have "a lot of other impacts, including the fact that we would not be able to apply our normal type of oversights" to these telephone companies. He noted, however, that the FCC has put the USTA petition out for comment by interested parties on an expedited cycle to see if there have been changes in the industry that would require "a more flexible, more realistic, more modern approach on the part of the Commission."

This issue was raised again in May 1986 hearings before the Subcommittee on Export Opportunities and Special Small Business Problems, House Committee on Small Business. These hearings dealt with the progress being made by federal agencies in implementing the Regulatory Flexibility Act. The Small Business Administration's Director for Regulatory Affairs stated that the FCC

> "has avoided regulatory flexibility analyses by attempting to exclude groups of small businesses from [the act's] coverage. As an example, the Commission has determined that small telephone companies are dominant entities in their areas and, as such, not small businesses requiring the analysis provisions of [the act]."

At this hearing, the FCC Chairman mentioned specific steps taken by the Commission to reduce administrative burdens on small telephone companies. First, the FCC maintains a system of average schedule compensation that allows small companies to be paid for the use of their facilities by interstate long-distance carriers without having to perform the cost studies required of larger companies. Second, in revising its uniform system of accounts for telephone companies, the FCC simplified the

accounting rules for companies with less than $100 million in annual revenues. And third, the FCC has eliminated or reduced reporting requirements in a number of other proceedings.

On December 4, 1986, the FCC responded to USTA's petition and adopted a proposed rulemaking for reducing the administrative and regulatory burdens on small telephone companies. A major item in the FCC's proposal was simplified tariff filings for small carriers, thereby minimizing the additional administrative costs required to prepare tariff terms and conditions. The FCC, however, declined suggestions that small telephone companies be reclassified as nondominant, or that it examine specifically the impact of its proposed rules in pending and future rulemakings in order to minimize burdens on small telephone companies. The FCC said that it is committed to considering the costs and benefits of proposed rules on all interested parties. Pursuant to FCC rules, the proposed rulemaking requested that interested parties file comments on the proposal by January 26, 1987, and reply comments on or before February 25, 1987.

On December 22, 1986, following this proposed rulemaking, the FCC Chairman wrote the Chairman of the House Subcommittee on Export Opportunities and Special Small Business Problems responding to the Subcommittee's concerns regarding the FCC's classification of small independent telephone companies for purposes of the Regulatory Flexibility Act. The FCC Chairman stated that, even though the FCC believed its present approach was legally sufficient and ensured full consideration of regulatory changes on small companies, the FCC would utilize the formal procedures set out in the act in future rulemakings.

Other administrative burdens may be more difficult to address because they result from the restructuring of the industry following the breakup of the Bell System in 1984. For example, many of the small telephone companies' needs, such as operator assistance and billing services, were provided by the Bell System through one contract. After the breakup, a small company may have to negotiate several contracts for various services with its connecting Bell company. As the industry becomes more competitive, small companies are finding that they need to interact with more parties in order to obtain services, provide information to regulators, and keep current on industry developments that may affect their operations. For example, a company may now have to interact more with the FCC, the state commission, AT&T, the Bell company, NECA, and other independents.

Some states are taking steps to relieve small companies of some regulatory burdens related to intrastate service. Iowa, for example, has exempted 158 small companies and cooperatives from intrastate rate regulation by the Iowa Utilities Board. This action allows these small, rural companies to change their rates without going through a formal hearing, the expense of which could ultimately fall on their subscribers. The Board will ensure that these companies' subscribers continue to receive good service at reasonable cost through a monitoring and complaint process. Some other states with large rural areas—Illinois, Minnesota, Nebraska, Washington, and Wisconsin—have also taken deregulatory actions that can reduce regulatory requirements, such as the need to file requests with the state commission to increase rates.

Issue Three: Potential for Increased Rural Long-Distance Rates

The pricing of long-distance service is a significant issue for rural areas. In large urban areas, telephone subscribers have access to many businesses and services with a local telephone call. For rural subscribers in small towns, however, businesses and services may be located in neighboring or even distant communities, necessitating the expense of long-distance calls to reach them. Recent and proposed changes at both the federal and state levels promoting competition in the long-distance market have raised concerns that rates for long-distance service in rural areas could increase in the future because of geographic rate deaveraging.

Averaging of Interstate Rates

AT&T provides much of the interstate long-distance service in rural areas. Since the 1940's, AT&T has used nationwide geographic averaging in setting its interstate rates. Under rate averaging, interstate calls involving similar types of service and equal calling distances are charged equal rates even though the actual costs of interstate service vary from one area to the next, since low-traffic toll routes have greater costs per caller than high-traffic toll routes. In particular, REA and rural telephone associations have maintained that the first leg of the toll route connecting the local company to the toll network (the toll connect trunk) has higher costs in low-traffic rural areas than in more densely populated areas.

Geographic rate averaging makes a broad range of services available to various business and residential users at affordable rates. This availability is especially important to customers in rural areas where low-traffic toll routes would otherwise call for premium long-distance rates. As a result, however, customers making calls along high-traffic toll

routes pay somewhat more than they would if rates were not geographically averaged.

Prior to the mid-1970's, residential customers had few alternatives other than to use AT&T and pay its averaged rates. With the emergence of competition in long-distance service, customers began to have the opportunity to choose from among several long-distance companies. While AT&T continues to serve both urban and rural areas with geographically averaged rates regulated by the FCC, AT&T's competitors are free to concentrate on high-traffic routes and price their services close to actual route costs.[8] This is one of the factors that helps them offer their customers lower rates than AT&T.

Rural telephone interests are concerned that AT&T may eventually seek the FCC's permission to deaverage its rates in order to compete more effectively in urban areas. This issue was raised in hearings before the Senate Commerce Committee's Subcommittee on Communications in September 1985. The Chairman of AT&T said his company might request deaveraging if the FCC's rules governing AT&T's long-distance service did not allow AT&T to compete equally with its nonregulated rivals in the lucrative urban markets. The FCC Chairman, however, stated that he would not permit such deaveraging as long as he was a commissioner. Again, during March 1986 hearings before the House Appropriations Subcommittee on Commerce, State, the Judiciary, and Related Agencies, the FCC Chairman stated that he did not see any reason "in the near term, or perhaps the long term" why the FCC should have to consider the issue of deaveraging.

The FCC also emphasized its opposition to the geographic deaveraging of AT&T's long-distance rates in a July 2, 1986, press release summarizing its actions to assist rural telephone subscribers. The press release stated that the FCC's concern is that rural customers are not forced to pay excessive rates due to the lack of a competitive alternative to AT&T in certain rural areas.

Despite the FCC Chairman's support for continued geographic averaging, however, some observers believe that the FCC's general encouragement of cost-based pricing for telephone services, coupled with the pressures of competition in the interstate long-distance marketplace, may eventually lead to deaveraging of some sort between rural and urban areas.

[8]Unlike its competitors, AT&T is subject to FCC regulation on the grounds that it possesses market power because of its dominance of the long-distance market.

In our discussions with REA, industry representatives and small companies, we found wide disagreement on the impact of geographic deaveraging. For example:

- One attorney representing rural telephone companies said AT&T would not focus on deaveraging interstate toll rates; instead, it would emphasize maintaining business from its largest customers by offering volume discounts.
- The executive vice president of the Organization for the Protection and Advancement of Small Telephone Companies told us that if toll rates were deaveraged, rural rates would not significantly increase.
- Several REA and small company officials were concerned that deaveraging would significantly raise toll rates in rural areas.
- One major consulting company suggested that deaveraged toll rates would result in a rate structure similar to the airline industry with high-volume routes between large cities priced lower than low-volume routes between rural areas.
- One company's vice president observed that the effect of deaveraging in his state would depend on various factors, including the specific rules set forth by the state utility commission and the reaction of telephone companies.

Changes in Intrastate Long-Distance Rates

Competition is affecting intrastate long-distance service, as well as interstate. State public utilities commissions, which regulate intrastate service, have been addressing the issue of what regulatory changes are needed to respond to the entry of new competing companies in the intrastate long-distance market. State actions in response to this competition may affect the rate structure associated with intrastate toll service For example, in an action that parallels the FCC's access charge decision, the New Mexico State Corporation Commission decided to reduce the amount of nontraffic-sensitive costs recovered through intrastate long-distance revenues. To achieve this, the Commission established a $2 intrastate subscriber line charge. New Mexico subscribers pay this charge each month in addition to the FCC's interstate subscriber line charge. The New Mexico Commission also recently approved an "originating responsibility plan" that will, according to the state's small companies, eliminate geographically averaged intrastate toll rates, which had benefited the sparsely populated, high-cost areas of the state. The Illinois Commerce Commission recently approved a cost-based "primary toll carrier" plan for intrastate service areas that could result in deaveraged toll rates. The Commission observed that toll rates in some rural areas may rise slightly as a result of the plan.

State regulatory decisions could have important effects not only on intrastate toll costs for rural areas but also on their local service rates. A local company receives revenues from the intrastate long-distance carriers for the use of its facilities in completing the toll connection. Higher intrastate long-distance rates could lead rural subscribers to cut down on the amount of their toll calling, which could result in a loss of intrastate toll revenue by the local company. This loss, in turn, raises the possibility that some of the revenue shortfall may need to be recovered through higher local rates.

Issue Four: Development of Competitive Long-Distance Services in Rural Areas

One of the central purposes of the AT&T divestiture was to bring the benefits of long-distance competition to consumers, so that they can select from various service offerings and rates offered by a range of long-distance companies Rural areas, however, have not yet seen as much of this competition as urban areas. Although this situation is gradually improving, in part, because of some innovative technical approaches discussed in this section, many rural subscribers still do not have access to competing long-distance companies.

Areas served by the Bell operating systems are converting their local exchanges to equal access according to a schedule agreed to by the Department of Justice. Equal access involves changes to the local telephone network in order to allow competitive long-distance carriers to obtain access to the local exchange, which is similar to that provided to AT&T. Conversion schedules were not established for local independent companies serving rural areas. Instead, these companies convert at the request of the competing long-distance companies. Such requests for conversion, however, do not appear to be occurring rapidly. Rural telephone representatives point out that the competing companies have concentrated on building their communications networks in high-volume urban markets and, for the most part, have not yet connected with the widely scattered, lighter volume rural companies. Rural companies, therefore, are faced with the need to make themselves economically attractive to these competitors.

To attract these competitors, several small companies may aggregate their long-distance traffic at a central switching point, called an equal access switch. Long-distance carriers can then connect to this one equal access switch to reach all of the local companies rather than establish separate connections with many scattered rural companies.

This approach is occurring in Indiana, where a company called Indiana Switch, Inc., and 27 independent telephone companies are developing a statewide network to provide access to competing long-distance carriers on a centralized basis. The project is a joint venture between the independents and Indiana Switch's parent company, U.S. Switch. Indiana Switch will aggregate the participating companies' long-distance traffic at its equal access switch in Indianapolis, where it will connect the companies' subscribers with the long-distance carriers of their choice.

Indiana Switch's parent company, U.S. Switch, believes that similar arrangements can be made in other states. For example, plans were being made to establish an equal access switch in Illinois. The Florida Public Service Commission has taken a somewhat similar approach with its adoption of equal access exchange areas. Twenty-two equal access exchange areas will be established across Florida. Long-distance competitors will be able to connect to these centers to serve the whole state, rather than connecting with nearly 500 separate office locations.

Despite approaches such as these, long-distance competition may still be slow in coming to some rural areas. It remains to be seen how many of these joint venture agreements can be reached to help bring long-distance competition to rural areas. One benefit of competition has already reached all rural subscribers, however. Since 1984 AT&T has lowered its interstate long-distance rates by an average of about 20 percent for both rural and urban customers. Still, many rural subscribers find themselves having to bear the effects of the FCC's regulatory decisions that promote competition without being able to choose service from among the competition.

Issue Five: Potential for Expansion and Cost-Reduction of Rural Telephone Service Through Technological Improvements

Rapid technological advances have been largely responsible for the significant changes occurring in the telecommunications industry and the sophisticated services being offered to consumers. These same technologies may also provide ways for rural companies to bring telephone service to new subscribers and to reduce nontraffic-sensitive costs and thereby hold down local service rates.

According to the FCC, between 10 and 15 percent of the geographic area of the lower 48 states is so remote that it is without conventional telephone service. REA estimates that 500,000 residents occupy this area. In many cases, this lack of telephone service is due to the prohibitive cost of running wire to isolated locations. The continuing development of

new telecommunications technologies, however, may offer more cost-effective ways to extend service to these rural locations.

One technology that may help to expand rural telephone service involves the use of radio links rather than wires to connect subscribers to the switching office. In May 1986, the REA and four national telephone industry associations petitioned the FCC to establish a basic exchange telecommunications radio service that would allow local telephone companies to have access to certain radio frequencies on a primary basis to connect fixed locations to their switching offices.[9]

The petitioners maintain that this service would provide companies with the means of expanding telephone service at reasonable costs to rural areas currently without service. The petitioners also noted that this service would be useful in helping companies hold down the cost of providing service to their current subscribers, since radio links could be used to replace some existing wire loops that had become uneconomical due to age, obsolescence, or extensive damage. The service could also be used to upgrade party-line service and provide temporary or emergency telephone service. In all, the petitioners estimated that the potential market for such radio links would be nearly 884,000 subscribers.

On December 18, 1986, the FCC adopted a notice of proposed rulemaking for basic exchange telecommunications service. The FCC proposed three alternatives for providing the service with appropriate radio frequencies. Comments on the proposed alternatives from interested parties must be filed by March 30, 1987, and reply comments by April 27, 1987.

Another technology, called "Ultraphone," has recently been authorized for experimental service by the FCC in Idaho, Kansas, Puerto Rico, and Wyoming. Ultraphone substitutes radio microwave channels and digital encoding techniques for regular wire loops. Like the basic exchange telecommunications radio service, this technology should also be useful in providing service to areas where running wire loops is impractical or too costly. According to a staff engineer for the Idaho Public Utilities Commission, the costs of bringing traditional wireline service to areas of rugged terrain in the state would be $9,000 a line or more. He estimated that digital radio telephones could reduce this cost by as much as two-thirds.

[9]USTA, NTCA, the National Rural Telecom Association, and the Organization for the Protection and Advancement of Small Telephone Companies were the petitioners

Yet another radio technology that could be useful in rural areas is cellular, a form of mobile telephone service available in many urban areas. In June 1986, the FCC adopted rules to expedite the development of cellular telephone service in rural areas. The rules define boundaries for cellular markets not previously categorized as "metropolitan" and establish filing procedures and general requirements for cellular applications to serve these rural markets. The speed and extent to which cellular service becomes available in rural areas will depend on the willingness of new or existing communications companies to invest in the development of rural cellular service.

Also, in July 1986, the FCC allocated certain radio frequencies for a new mobile service that would use a communications satellite to transmit telephone calls in remote, rural areas. This service will not be available until the necessary satellite is launched several years from now. There is some controversy over the appropriateness of the frequencies that the FCC set aside for this service. Critics, such as the National Aeronautics and Space Administration and the Canadian government, maintain the radio equipment needed to use these frequencies is too costly to make the service commercially viable. At least one private industry participant, however, believes that suitable equipment could be developed over the next few years.

Improvements in the way calls are switched at the company's central office offer another area for cost savings. Electronic and digital switching systems offer operating efficiencies over the older electromechanical technology. Electronic switching is also the foundation for "enhanced" services, such as call waiting and call forwarding.

Technological improvements such as electronic and digital switching and the others mentioned previously require capital funding. Rural company officials have stressed the importance of REA loan assistance and engineering standards to help rural companies undertake the improvements needed to bring their subscribers some of the benefits of modern telecommunications. In our recent report, Rural Cooperatives: Information on Two Rural Electrification Administration Proposals (GAO/RCED-86-101, May 1986), we determined that the advantages of REA's standard-setting function include lower facilities construction costs resulting from standardized designs, materials, and contracts; greater security for REA loans due to standardized construction methods; and increased efficiency for materials and equipment manufacturers.

FCC's Response to Rural Telephone Concerns

In July 1986, the FCC issued a news release summarizing its actions to ensure that rural telephone subscribers continue to receive affordable service. The FCC wished to make clear that its record "demonstrates sensitivity to the special needs of rural telephone subscribers and the small independent telephone companies which serve many rural areas." The FCC maintained it had taken numerous steps to assist these rural companies and their subscribers. Specifically, it cited the following actions, all of which touch upon the issues discussed in this chapter:

- Establishment of the Universal Service Fund, with its provisions for additional assistance to small companies with 50,000 or fewer lines.
- Use of the nationwide interstate cost of capital in calculating nontraffic-sensitive cost levels for Universal Service Fund assistance, which benefits companies that obtain capital through low-interest REA loans.
- Establishment of the FCC lifeline program for low-income households in both rural and urban areas.
- Opposition to the geographic deaveraging of AT&T's interstate long-distance rates.
- Reduction of AT&T interstate long-distance rates by an average of 20 percent for both rural and urban subscribers, which accompanied the FCC's subscriber line charge.
- Establishment "in many instances" of reduced reporting requirements for small telephone companies, such as simplified cost accounting procedures, the use of average cost schedules, and more limited equal access conversion requirements.
- Introduction of competition in the provision of telephone equipment, which allows both rural and urban subscribers to purchase low-cost telephones rather than to continue paying monthly rental charges.

The FCC noted that (1) Bureau of the Census data showed that residential subscribership outside of major cities and their suburbs increased slightly between March 1984 and March 1985 (the latest measurement period), (2) the financial performance of REA borrowers had improved substantially in recent years, and (3) rates in rural areas tend to be lower than in urban areas. These conditions, the FCC concluded, indicate that "information currently available shows that the Commission's efforts are working very well."

Summary of Case Studies on 10 Small Rural Telephone Companies

To illustrate the impact of important telephone issues on rural telephone service, we selected 10 small companies receiving REA loans for case studies. While recognizing that the findings from these companies would not be representative of the entire industry, we believed the insight gained would be valuable for identifying what factors regulators and the Congress should pay attention to if quality telephone service at reasonable prices is to be maintained in rural areas.

REA and industry association officials told us that small rural telephone companies were in good financial condition. Our analysis of REA data for about 950 companies showed that from 1981 to 1985 the companies were profitable and financial trends were favorable. The one negative statistic was the large percentage of REA companies (26 percent) that lost subscribers during these years. REA officials said the declines appeared to be due to poor economic conditions in rural areas.

Although representatives from the 10 companies that we contacted were concerned about the future impacts of regulatory changes, at the time of our review the rural telephone issues discussed in chapter 2 had not had a significant adverse impact on the companies' profits, rates, subscribership levels, or ability to repay REA loans. Specifically, we made the following observations about conditions at the 10 companies:

- In 1985 all 10 companies were profitable, with rates of return on net worth ranging from 14 to 32 percent.
- Only one of the companies had increased local telephone rates since 1983, and only two companies had a request to increase rates filed with the state commission. All of these rate increases are associated with system upgrades implemented by the companies.
- Between 1981 and 1985, six of the companies had gained subscribers while the other four companies had lost subscribers. The losses appear to be related more to conditions in the local economy than any particular regulatory decision.
- None of the companies was delinquent in its loan payments to REA, and in 1985 only one of the companies was considered by REA to represent a loan risk. REA attributed the latter company's difficulties to poor management by its former owners. In 1986 the company was no longer classified a loan risk by REA.

We found no major adverse impacts on the companies, but the companies and their subscribers have felt some effects from regulatory changes. All of the companies told us they have been burdened by the increase in administrative requirements resulting from the Bell System

divestiture and federal and state regulatory changes. They now have to deal with more organizations requiring more meetings and trips, additional data requests, and consultants and other experts to understand and comply with complex regulatory requirements. In addition, the subscribers to the 10 companies, like all other subscribers nationwide, have seen their monthly telephone charges increase as a result of the $2 subscriber line charge imposed by the FCC. Subscribers of the two companies in New Mexico have also seen an additional $2 state subscriber line charge added onto their bill. At the same time, the companies' subscribers who make long-distance telephone calls have benefited from the nationwide average 20 percent reduction in AT&T's interstate long-distance rates during the last 2 years.

The concern of the companies we visited, however, was less with their present condition, than with the future. They see much uncertainty over the future direction of regulation and the industry and, as a result, much uncertainty about how these changes will affect rural telephone service. They explained that important regulatory policies are under discussion at the FCC and state utility commissions, and others are being phased in slowly over 8 years or more. Company officials believed it was too early to tell how the changing regulatory environment will affect rural telephone rates. While four companies saw local rate increases as likely, the other six noted that the need for rate increases will depend on future regulatory changes.

The 10 Companies Visited by GAO

We visited 10 small rural telephone companies in 5 western states to observe how they were coping with the major issues affecting rural telephone service. A complete discussion on our selection methodology is contained in chapter 1. Table 3.1 identifies the 10 companies, their location, type of ownership, and the density of their service area in 1985, as measured by the number of subscribers per route mile of telephone line. (Generally, the lower the subscriber density, the more rural the area served.) As table 3.1 shows, all but one of the companies have a subscriber density below the REA average of 5.50 subscribers per route mile, indicating that these companies serve areas that are more rural than areas served by the average REA company. Four of the companies are cooperatives. A cooperative is a business owned and controlled by the people using its services.

Table 3.1: Small Rural Telephone Companies Selected for GAO Case Studies

Name of company	Location	Ownership type	Subscribers per route mile (density)
Big Sandy	Simla, Colo	Commercial	1 67
Eastern Slope	Hugo, Colo	Cooperative	1 74
MoKan Dial	Louisburg, Kans	Commercial	5 47
S & A	Allen, Kans	Commercial	3 44
Grand River	Princeton, Mo	Cooperative	3 51
Green Hills	Breckenridge, Mo	Cooperative	2 36
Baca Valley	Des Moines, N.Mex.	Commercial	0 90
Penasco Valley	Artesia, N Mex	Cooperative	1 41
Dobson	Cheyenne, Okla	Commercial	2 36
McLoud	McLoud, Okla	Commercial	12 46
REA average			5 50

Condition of Companies

None of the 10 telephone companies selected for our case studies experienced serious problems, although four companies saw declines in subscribers and one company incurred a deficit in 1984. Rates had been generally stable since 1983; between 1981 and 1985 declines in subscribers for four companies were less than 10 percent; loan payments to REA were current as of September 1986; and the financial condition of the one deficit company improved in 1985.

Our review of financial and operating statistics from 1981 to 1985 for all REA borrowers also indicated the absence of any serious problems. We focused our analysis on the years from 1981 to 1985, since these were the years of major regulatory and court decisions.

Financial Condition

REA and industry association officials told us that small rural telephone companies were in good financial condition. Our analysis of REA statistics for about 950 companies filing annual financial information with REA agrees with those observations. Overall the companies were profitable, and financial trends have been favorable. Our analysis of data on the 10 companies in our case studies also indicates a profitable financial condition.[1]

[1]Our basic source of financial and operating data was REA's published annual statistical report on rural telephone borrowers In some cases, if a company had submitted revised financial and operating data after publication of REA's annual report, we used the revised data.

We focused on the following three indicators of small companies' financial condition: (1) the percentage of operating and interest expenses to operating revenues (accrual ratio), which is a measure REA uses to gauge a company's ability to repay its long-term debt, (2) net income per subscriber, which is a measure of the average net income earned from each subscriber, and (3) net income[2] as a percentage of the owners' equity (rate of return on net worth), which is a measure of what return the owners are making on their own investment. In addition, as a simple measure of their financial condition, we noted the number of companies reporting a deficit each year. All of these indicators are used by REA in monitoring its borrowers.

REA considers the accrual ratio an important indicator of a company's ability to meet its debt payments to REA. It views an accrual ratio of 100 percent or more as a "red flag" indicating a company that may be in financial trouble. (The lower the accrual ratio, the better able the company is to meet its loan obligations to REA.) As part of its oversight responsibilities, REA prepares a semiannual security report of borrowers with accrual ratios over 100 percent and other problems that expose REA's loans to risk.

Financial data for all REA telephone companies for the 5 year period, 1981 to 1985, show overall improvement. As table 3.2 shows, data on the accrual ratio percentage, companies reporting a deficit, and net income per subscriber have shown consistent improvement each year, except for the slight decline in rate of return during 1985. The number of companies listed on REA's loan security report has been relatively stable from 1982 to 1985.

[2]For the four cooperatives we used a comparable account called "net margin," which is total income from all sources minus expenses Data on both net income and net margin exclude extraordinary items and unregulated income and deductions

Table 3.2: Financial Information on All REA Telephone Companies, 1981-85

Year	Reporting borrowers	Borrowers on REA security report	Average accrual ratio (percent)	Borrowers reporting a deficit	Average net income per subscriber	Average rate of return on net worth (percent)
1981	949	113	89 1	85	$59 81	14 7
1982	950	74	88 8	51	68 99	15 3
1983	949	70	87 7	40	79 73	16 2
1984	946	71	86 9	27	93 90	17 2
1985	942	75	86 6	26	101 77	17 1

Data on these indicators for the companies in our case studies also suggest a positive financial picture for 1985. Table 3.3 presents 1985 financial data on the 10 companies.

Table 3.3: Financial Information on 10 REA Telephone Companies, 1985

Company	Accrual ratio (percent)	Annual net income per subscriber	Annual rate of return on net worth (percent)
Big Sandy	90 8	$316 67	31 6
Eastern Slope	83 3	193 86	14 9
MoKan Dial	87 5	102 04	14 4
S & A	89 4	92 11	13 5
Grand River	94 3	44 47	22 7
Green Hills	90 6	91 09	15 8
Baca Valley	97 5	181 93	16 8
Penasco Valley	87 2	253 20	14 1
Dobson	89 1	114 20	15 2
McLoud	97 9	15 96	25 9
REA average	86 6	$101 77	17 1

As table 3.3 shows, all of the companies had an accrual ratio below 100 percent in 1985 and were profitable. Net income per subscriber ranged from $15.96 to $316.67, and rates of return on net worth ranged from 13.5 percent to 31.6 percent. McLoud was on REA's loan security report in 1985, but as of November 1986 it was no longer on the report. Also, as of September 30, 1986, none of the companies was delinquent in their loan payments to REA. Detailed financial information on each of the 10 companies are in the appendixes.

The increasing trend in the percentage of revenues obtained from long-distance service has been one factor in the favorable financial condition

of REA companies, including our case study companies. In 1976 REA companies received 55 percent of their revenues from long-distance service, while in 1985 they received 66 percent. Our 10 companies all heavily depend on long-distance revenues. In 1985 they received from 59 to 89 percent of their revenues from long-distance service.

When we discussed this financial information with representatives from REA and the United States Telephone Association, they pointed out that the data on rate of return on net worth should be interpreted with caution. They explained that REA companies typically have a low percentage of net worth, and a high percentage of long-term debt, to total assets. The large percentage of long-term debt (about 52 percent of total assets in 1985 for all REA borrowers) places REA borrowers in a risky financial condition because of their large fixed interest payments. The representatives also pointed out that financial statistics for individual small telephone companies tend to fluctuate from year-to-year because they are usually reluctant to adjust to changing conditions by requesting rate changes from state commissions.

Subscribership Trends

Determining the level of residential telephone subscribership (commonly called the "penetration level" and measured as the percentage of households having telephones) is basic to any evaluation of universal telephone service. Telephone penetration at the national level, as measured by the Bureau of the Census, has remained relatively stable between 1983 and 1986, with the most recent data showing a small upward trend. Figures for November 1983 indicated that 91.4 percent of the nation's households had telephones. The November 1986 figures put the penetration level at 92.4 percent—1 percent higher. The Census data also indicate relatively stable penetration on a state-by-state basis. However, because Census' sampling design was generally not intended to provide measures of penetration below the state level, the data cannot help determine whether penetration changes are taking place in rural areas within individual states.

A loss of subscribers by one telephone company does not necessarily mean that the state or national penetration level has declined and that those subscribers have been disconnected from the national telephone network. Subscribers may, for example, have simply moved out of the company's service area into another company's service area where they re-established their telephone service.

REA does not ask its companies for data on their penetration rates except when processing a loan application, although REA companies do report data annually on the number of subscribers served. In order to analyze trends in subscribership levels at small telephone companies, we collected data on the number of REA companies reporting a decline in subscribers between 1981 and 1985, as well as subscriber data on the 10 case study companies.

REA data showed that 248 of its telephone companies, or about 26 percent of all REA companies, had a decline in the number of subscribers between 1981 and 1985. REA officials suggested that the primary cause for these declines may be the poor economies in many rural areas rather than any particular regulatory decision.

Our analysis showed a wide range among the 10 companies in how their subscribership levels had changed. Table 3.4 shows that the percentage change in subscribers ranged from a 41-percent increase to a nearly 9-percent decrease. Four of our 10 companies showed a decline in subscribers during this period.

Table 3.4: Change in Number of Subscribers by Company, 1981-85

Company	Number of subscribers 1981	Number of subscribers 1985	Change in subscribers 1981-85 (percent)
Penasco Valley	1,325	1,873	+ 41 4
McLoud	3,988	5,564	+ 39 5
Eastern Slope	3,239	3,662	+ 13 1
Baca Valley	451	523	+ 16 0
Big Sandy	584	612	+ 4 8
MoKan Dial	2,117	2,195	+ 3 7
S & A	770	744	- 3 4
Grand River	18,993	17,735	- 6 6
Green Hills	2,923	2,691	- 7 9
Dobson	4,345	3,973	- 8 6

It is difficult to determine the causes for these changes in subscribership levels. We would have to learn why individuals made decisions to have or not to have telephone service. Consequently, we did not attempt to analyze possible reasons for these changes. However, REA and company officials did note certain circumstances at several companies that would appear to provide a partial explanation. For example, Eastern Slope and McLoud are near Denver and Oklahoma City, respectively, and so have

benefited from growing population in those urban centers. Also, Penasco Valley's service area, although described as having a declining economy, does include a developing resort area that has contributed to its increasing subscribership. However, Dobson, Grand River, Green Hills, and S & A are in geographic areas that have been hurt by the economic problems in the farming and oil industries.

Local Rates

The basic portion of residential rates, plus the interstate and any intrastate subscriber line charges, paid by rural subscribers is important because it represents the minimum cost of maintaining telephone service. Regardless of the number of local or long-distance calls made or the types of special services available, the subscriber must pay at least the basic local telephone charge and subscriber line charges.

Since REA does not routinely collect information on rates from its borrowers, we were not able to determine how rates charged by REA companies have been changing during the last few years. REA officials believed that local rates charged by its borrowers have been relatively stable.

The FCC estimates that the national average price of basic local residential service, as of May 1986, was $13.27 a month, excluding the subscriber line charge. The basic monthly local rates charged by the companies in our case studies range from about $4 to about $11 for residential subscribers. In addition, the residential subscribers pay a $2 per month subscriber line charge imposed by the FCC on all subscribers. The subscribers of the two companies in New Mexico pay another $2 per month subscriber line charge imposed by the state.

The local rates of the 10 companies tend to support the view of REA and the FCC that rural residential telephone rates tend to be lower than urban rates. However, REA and representatives of the National Telephone Cooperative Association told us that rural rates should be evaluated in terms of "value of service." According to this concept, the value of local telephone service is worth less in rural areas than in urban areas because the number of other subscribers in the rural local calling area that can be called without a toll charge is much lower than in urban areas. For example, in a large metropolitan center, a monthly charge of $16 may allow a subscriber to access 1 million or more business and residential telephone users with a local telephone call; in a rural community a monthly charge of $8 may allow a subscriber to access only a few thousand other telephone users without incurring a toll charge. With a

local call, subscribers of the 10 companies in our case studies can generally call from a few hundred to a few thousand other subscribers in their own exchange or in nearby exchanges without incurring a toll charge.

Thus, from a value of service point of view, local rates can be considered as higher in rural areas than urban areas due to the limited number of subscribers in a typical rural calling region. However, the cost of servicing rural customers in low density areas tends to be more expensive and, therefore, a cost-based ratemaking policy would establish higher local service prices for these customers.

Only 1 of the 10 companies in our case studies had increased local telephone rates since 1983, and only 2 companies had filed a request to increase rates with the state commission. All of these rate increases were associated with system upgrades implemented by the companies.

None of the company officials offered discounted rates for service to low income customers. The FCC adopted a lifeline assistance program in late 1985 to provide reduced rates for low income households. Subsidies provided by this program could more than offset increases due to the subscriber line charge for qualifying low-income subscribers living in states that choose to participate in the program. The maximum federal-state subsidy provided is double the amount of the prevailing residential subscriber line charge. Of the five states in our case studies, only Colorado had a lifeline program approved by the FCC. But at the close of our field work in September 1986, neither of the two companies we examined in Colorado had subscribers participating.

Total Monthly Telephone Bills

REA and industry association officials maintain that an evaluation of reasonable telephone rates in rural areas must consider not only the subscribers' local charges but also the total telephone bill. These officials point out that since rural subscribers can typically call only a few hundred or thousand other subscribers in their local calling area, they tend to make many long-distance calls and, therefore, to have relatively high long-distance and total telephone bills. Cost-based pricing and geographic toll deaveraging could, depending on the specific costs involved, increase both local and long-distance rates in some rural areas.

In order to obtain some insight into what a typical rural residential subscriber pays for all telephone services, we asked the 10 telephone companies to give us information on the average residential monthly

telephone bill, broken down into the various types of services—the basic local charge, intrastate and interstate long-distance charges, taxes, and special services. So that our request would not be a burden on the companies, we asked only for information that was readily available. Unfortunately, most of the companies did not have overall billing data separated between residential and business subscribers. However, most of the companies did provide us estimates of their subscribers' average monthly toll bill. The estimates ranged from $19 to $57, which is about four to seven times their basic local service charge. These estimates appear to support the view of REA and industry officials that a large percentage of rural subscribers' monthly telephone bill is for long-distance calls.

Impact of Rural Telephone Issues

REA and industry associations agreed that small rural telephone companies were in good financial condition, but they maintained that the favorable trends and condition of small rural telephone companies could not be used as an indicator of what could be expected in the future. They said the industry structure and regulatory environment under which these conditions were attained have been and still are undergoing significant changes, and the future is uncertain.

The 10 companies provided information consistent with this view. They were less concerned with present conditions than with what the future holds since many important regulatory actions at both the federal and state level were just being implemented or were under consideration. While four companies believed their subscribers will face rate increases, the other six noted that the need for rate increases will depend on the direction of future regulatory changes.

As a result of this state of flux in the industry, it is difficult to evaluate the impact of any one issue on rural telephone service. For example, the manager of the Penasco Valley (New Mexico) telephone company told us that there were so many state and federal changes taking place that it was difficult to say what the company was going to do in just one situation; it needed to look at the whole picture. He also said that Penasco Valley had not yet made any plans to cope with the federal and state changes because it was too difficult to say for sure what changes will take place. He said that it was also difficult to predict the exact impact changes will have on rates, although he thought that rates would rise and subscribers would drop-off. Six other companies specifically mentioned the difficulty of planning in the current environment. All of the companies noted the uncertainty about future regulatory decisions.

The following sections summarize the views of representatives from the 10 companies on how the five key issues identified in chapter 2 will affect their company and subscribers.

Recovery of Nontraffic-Sensitive Costs

As discussed in chapter 2, small rural telephone companies are very concerned about the recovery of nontraffic-sensitive costs. Rural companies serving low-density areas tend to have high fixed costs and historically have kept rates low by recovering a large percentage of these costs from long-distance revenues. The FCC believes that competitive pressures require a new pricing arrangement that sets rates closer to costs and assigns more of the nontraffic-sensitive (fixed) costs to the subscriber. At the same time, the FCC has sought to keep rates affordable in high cost rural areas by establishing a Universal Service Fund.

We found that the impact of this issue on the individual telephone companies and their subscribers will vary depending on a number of factors, including (1) the level of the company's fixed costs relative to the national average, (2) the percentage of revenues the company receives from interstate and intrastate toll settlements, (3) how a company decides to adjust to changing revenues, and (4) how the company's state regulatory commission decides to recover fixed costs assigned to the intrastate jurisdiction. Information provided to us by the companies showed:

- Nine[3] companies had annual 1985 nontraffic-sensitive costs that ranged from a low of $216 to a high of $1,242 per telephone loop. Both New Mexico companies were above $1,000. (The level of a company's nontraffic-sensitive costs relative to the national average, about $213 in 1985, will affect the amount received from the Universal Service Fund.)
- The percentage of the companies' nontraffic-sensitive costs recovered from interstate toll services in 1985 varied from 19 percent to 68 percent. (The FCC has ordered that local telephone companies can allocate only 25 percent of their nontraffic-sensitive costs to interstate toll services. Companies above that level will have 8 to 12 years to adjust down to 25 percent.)
- A change in revenues does not necessarily mean a corresponding change in rates charged subscribers. (The Grand River cooperative said that it will respond to a decline in revenues by reducing expenses and

[3]Green Hills was not able to identify its nontraffic-sensitive costs because it was an "average schedule" company. Average schedules are available for use by exchange carriers that, because of their small size, are assumed to have insufficient resources or expertise to justify requiring them to perform cost studies.

increasing revenues from special features; it will raise basic local rates only if necessary.)

- Six of the companies were especially concerned about changes or possible changes by the state regulatory commission to the method for determining intrastate toll payments. For example, subscribers of the two companies in New Mexico now pay a $2 state subscriber line charge in addition to the $2 federal subscriber line charge.

Adding to the difficulty of evaluating the impact of changes in the way nontraffic-sensitive costs are recovered is the Federal-State Joint Board's ongoing review of FCC's access charge decision. This review, which will also include an assessment of the Universal Service Fund and the subscriber line charge, is discussed in chapter 2. The Board's review could result in recommendations to the FCC for revisions in any of these areas.

Increased Regulatory and Administrative Burdens

All of the companies said they have incurred increased costs from regulatory and administrative requirements resulting from (1) the increase in the number of organizations they now must deal with and from which they receive continual requests for information and (2) the need for additional legal and accounting expertise to comply with and understand the complex regulatory environment. However, officials from the 10 companies vary in how they judge the severity of the burden on their particular company with some companies viewing the burden as light and others as heavy. Five companies provided us with annual estimates of the extra costs associated with the increased administrative requirements since 1983. These estimates, primarily for increased consultant fees, additional staff time, and increased travel, ranged from about $12,000 to $91,000 a year, or about $.37 to $2.07 per subscriber per month.

In the past, small companies were in close partnership with their connecting Bell company, according to REA and company officials. The Bell company generally handled the administrative requirements involved in settling their share of long-distance revenues. With divestiture and regulatory changes, however, the partnership with the Bell company has been replaced with a need to interface with numerous organizations, including state and national industry associations, the connecting Bell company, the long-distance carriers, and NECA, all of which ask for information about the company's operations and call meetings to discuss issues and strategies.

However, some efforts are being made to find ways to reduce the administrative burden on small telephone companies. Their problems with increased administrative requirements have received attention from the industry, particularly the United States Telephone Association, which has filed a petition with the FCC for relief from some of these requirements. The administrative burden has also been discussed in several congressional hearings involving small business concerns. In addition, the FCC has said it will try to do what it can to reduce unnecessary regulatory requirements and will give expeditious treatment to the petition.

Potential for Increased Rural Long-Distance Rates

Eight of the 10 companies expressed concern about the potential adverse impact on rural telephone service of deaveraged long-distance rates The other two companies noted that it was too early to estimate what the impact might be. The eight companies believed that deaveraged, cost-based toll rates could or will cause higher rates for rural customers served by high cost companies. The result, as expressed by the manager of Colorado's Big Sandy, will be a spiraling of higher rates and decreased use: decreasing long-distance usage due to increased rates; increasing local rates to recover costs lost through decreased toll revenues; customers dropping telephone service because of high rates; and the need to raise rates higher for those customers remaining on the network to make up for lost revenues.

The FCC Chairman has stated that he will not allow AT&T to deaverage its interstate long-distance rates. As noted in chapter 2, however, some industry representatives think that averaged toll rates cannot be maintained for very long in a competitive environment. Complicating the issue are certain state regulatory actions that some of the companies view with alarm. Baca Valley and Penasco Valley, the two companies in New Mexico, are extremely concerned about decisions being taken by their state regulatory commission that they believe would deaverage intrastate toll rates and result in higher toll rates for their customers. (These decisions are discussed in detail in the appendixes.)

Competitive Long-Distance Services in Rural Areas

The companies differed on whether their customers will benefit from competitive long-distance services, although their views did depend, to a certain extent, on the company's proximity to larger urban centers and the population density of their area. For example, both Big Sandy (Colorado) and Penasco Valley (New Mexico) said it was unlikely that AT&T will face competition in their service areas because of the low population density. (Both Penasco Valley and Big Sandy have less than two

subscribers per route mile compared to the REA average of five and one-half.)

On the other hand, MoKan Dial (Kansas) said AT&T may face competition within its service area because of the company's close proximity to Kansas City. Another company, Eastern Slope (Colorado), said it anticipates competition primarily in its Bennett exchange, a growing community 20 miles east of Denver. Bennett's population has been increasing and will increase even more if Denver's new international airport is built near Bennett. Currently, customers calling from the Bennett exchange to Denver must incur a toll call. According to the Eastern Slope general manager, the Bennett exchange customers prefer to have toll-free access to the Denver calling area. Other competitors might offer this type of service to the Bennett exchange.

Although half the companies believe the Indiana Switch approach is a good one, most of the companies noted practical problems with its establishment and implementation. Three companies questioned whether an adequate market existed for such a service; two companies thought it was either not profitable or not feasible; one company declined to participate in a proposed state effort because of how it would be financed; and another company tried to organize a "Missouri Switch" but could not convince two larger companies to participate. MoKan Dial, however, did mention that some independent telephone companies in Kansas have discussed building an independent toll network called the Kansas Independent Network. This network would use microwave to send toll messages and would bypass the Bell companies' systems.

Technological Improvements in Rural Telephone Service

The companies had a mixed outlook towards the potential for expansion and cost-reduction of rural telephone service through technological improvements. One of the companies, S & A (Kansas), planned to conduct the industry's first field trial of an Ultraphone digital radio telephone system. Installation was scheduled for 1986 and 1987. Eight of the companies have been replacing their old electromechanical switches with advanced digital switches. And several of the companies cited REA's loan program and equipment standards program as important factors in maintaining the quality of rural telephone systems.

However, a number of the companies questioned whether technology was an immediate solution to keeping down rural telephone costs or improving service. Eastern Slope, Grand River, Green Hills, and MoKan Dial expressed various concerns about the potential benefits and cost-

effectiveness of new technology. Eastern Slope, although agreeing that new technology could reduce its operating costs, said the overall effect would be minimal. Grand River thought Ultraphone, cellular, and radio systems may not be cost-effective or provide quality service. Green Hills noted that it did not want to invest in digital switches because it believed their cost outweighs the potential benefits to its subscribers. And MoKan Dial, while recognizing that technology provided new services, said technology also creates pressure to raise rates.

Besides these concerns, the S & A manager observed that there are unknowns with the Ultraphone technology that it is testing, such as maintenance costs, that could affect its success. Finally, Big Sandy said its telephone system, installed in 1981, was in excellent condition and was one of the most modern systems available. The company did not think that any other technology existed that would reduce its operating costs.

Company Response to Issues

Because they saw the future as uncertain, generally the companies we studied were taking few steps to respond specifically to the changing industry and regulatory environment. Except for the two companies that had filed for rate increases in connection with system upgrades, none had immediate plans to increase rates, but several believed increases were likely in the next few years. Finally, although one company was enthusiastic about new technology to improve service, the companies generally had mixed feelings about the potential of modern technology to expand service and reduce high rural telephone costs.

Several of the companies were discussing diversifying into related businesses. For example, Green Hills said its response to the changing telephone industry was to expand into related services, such as mobile telephone, paging, and answering services. Its general manager expected the telephone company to be the smallest portion of Green Hills' business interests within 5 years. Dobson, Eastern Slope, and McLoud also were discussing diversifying into other areas, such as cable television.

GAO Observations

The five rural telephone issues had not significantly affected the 10 small telephone companies that we studied. When we spoke with company representatives, they were less concerned with their present situation than with the uncertainty of future developments. The prospects for rural telephone companies and subscribers will depend on (1) future regulatory actions by the FCC and the states, (2) the extent to which the

increasingly competitive telecommunications industry finds rural areas attractive, and (3) the particular circumstances of each telephone company.

The transition to the 25 percent interstate gross allocator and the implementation of the Universal Service Fund are being phased in over a period of 8 years or more; and, if problems develop, they may not be felt for several years. In addition, some important regulatory issues are still under discussion at the FCC and the state public utility commissions. The decisions that come out of these discussions could have important implications for small rural telephone companies and their subscribers. Small telephone companies are finding it difficult to plan in this uncertain environment.

It is also difficult to assess the impact of rural telephone issues because the 10 companies in our case studies are so diverse. They differ in their subscriber growth, in their size, in their cost structure, in their susceptibility to competition, in their subscriber density, and in their profitability. It appears to us that they will be affected differently as the cumulative impact of the various regulatory decisions are felt.

Because of the regulatory uncertainty and the diversity of the companies we reviewed, we believe it is too early to judge whether rural telephone service will benefit from these many changes or whether, instead, universal service and affordable rates in rural areas are in danger. Nevertheless, the FCC has emphasized that it recognizes the special needs of rural telephone subscribers and that it is committed to ensuring the continuation of universal telephone service at affordable rates.

In chapter 2 we discuss a number of actions, such as establishing the Universal Service Fund, that the FCC has taken to protect universal service in high cost rural areas. While we recognize that the FCC's actions are intended to assist small rural telephone companies, we believe it is critical for the FCC to have a means to assess whether these actions are, in fact, accomplishing the primary objective of ensuring the continuation of universal telephone service at affordable rates. The means chosen by the FCC is a monitoring program that collects information on subscribership levels, rates, and rate cases before state public utility commissions.

In our June 1986 report, Telephone Communications: The FCC's Monitoring of Residential Telephone Service (RCED-86-146), we pointed out that the FCC's monitoring program relies on broadly aggregated data that

does not provide insight into conditions at the local level, particularly in rural areas. We recommended that the FCC work with REA to develop an improved data collection program for rural telephone service, especially for identifying conditions that could threaten universal service. Subsequently, the FCC Chairman implemented our recommendation, and the FCC and REA signed a formal agreement on July 15, 1986.

We believe that a strong monitoring program that collects current information on the health of small rural telephone companies is necessary to ensure that the regulatory decisions of the FCC and the states do not have unintended consequences. For example, a cause for concern is the number of REA companies (248, or about 26 percent of all REA companies) that have lost subscribers between 1981 and 1985. Four of the companies we studied also lost subscribers during this period. In addition, most of the 10 companies cited the poor local economies in their service areas. While these conditions had not adversely affected the companies' profitability through 1985, we believe it is reason for REA and the FCC to carefully watch subscribership and other trends of small rural telephone companies.

The agreement recently signed by the FCC and REA to collect information on, among other things, unusual changes in subscriber loss, rate changes, bypass, and toll revenues, if effectively implemented, should help provide the mechanism to protect universal service and affordable rates in rural areas.

Big Sandy Telecommunications, Inc. Simla, Colorado

Background

Big Sandy Telecommunications, Inc., a privately owned company located in Simla, Colorado, was formed in 1979 when the Simla company merged with the Ramah/Matheson company. After the 1979 merger, Big Sandy received an REA loan and in 1981 installed a new telephone plant. A service change to single-party from multi-party lines occurred after the plant was installed.

Located in a rural area 50 miles northeast of Colorado Springs, Colorado, and 85 miles southeast of Denver, Colorado, Big Sandy has only 1 exchange and provides service to portions of Elbert and El Paso counties. Ranching and farming are the area's dominant industries, followed by a few small businesses. Lower farm prices had weakened the area's economy, but the service area population had remained stable. However, there was the potential for subscriber growth in El Paso County from the expansion of the Department of Defense's Strategic Defense Initiative, commonly known as "Star Wars," which is centered in Colorado Springs, Colorado.

Service and Rates

The number of subscribers increased between 1981 and 1985 from 584 to 612, of which 545 were residential and 67 were business subscribers. Big Sandy had 636 single-party access lines; there were no multi-party access lines. The company had 365 miles of cable or 1.67 customers per mile. Approximately 90 percent of the households in the area had telephone service.

Residential and business telephone service rates varied depending upon the type of service provided. Residential service began at $7.25 per month for rotary dial and business service started at $11.50 per month for single-line rotary dial. Residential subscribers and single-line businesses paid an additional $2 per month for the FCC's subscriber line charge. Installation charges began at $10 and might be higher, depending on the amount of installation work done. Big Sandy customers could call approximately 600 other subscribers within the Big Sandy service area without paying long-distance rates.

Big Sandy had not filed for a rate increase since 1981, and it did not plan to file for a rate increase. According to the manager, Big Sandy's average monthly telephone bill had increased by about $2 since 1981 because of the federal subscriber line charge. Other telephone bill increases between 1985 and 1986 were due to an increased number of toll calls from decreased toll rates.

However, the federal access charge might be waived for qualifying low-income Big Sandy customers. In July 1986, the FCC certified the Colorado lifeline plan for matching federal assistance benefits. Under the federal assistance program, those subscribers eligible under the state-approved lifeline plan would have their federal access charge waived equal to the amount of the state-provided benefit, but no greater than the full amount of the access charge. (See chap. 2 for additional discussion of the FCC's lifeline program.) According to the company manager, approximately 30 Big Sandy customers (5 percent) would qualify under this plan. The plan was optional for small telephone companies, but if adopted by Big Sandy, it would decrease eligible customers' bills by $4 per month and increase the remaining customers' bills by about $.10 per month to fund the reduced rates. Because of administrative costs and additional paperwork, however, Big Sandy had decided not to implement this program at the time of our meeting.

Financial Information

Big Sandy's net income in 1985 was about $195,000, or $317 per subscriber. The company received about 55 percent of its operating revenue of $818,000 from intrastate toll traffic, 34 percent from interstate toll traffic, 10 percent from local telephone traffic, and 1 percent from other sources. As a proportion of assets, its long-term debt was 65 percent.

As table I.1 shows, except for 1982, when it lost money, Big Sandy had been profitable, with net income per subscriber ranging from a low of $233 to a high of $498 per subscriber in 1984. (Big Sandy only began filing financial and operating data with REA in 1981.) In 1985 the net income per subscriber fell to $317. The return on net worth had fluctuated in the same way as net income. Big Sandy's accrual ratio percentage rose to 91 percent in 1985 from 74 percent in 1984, but it was still well below REA's "red flag" of 100 percent.

Table I.1: Selected Financial Statistics, 1981-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1981	$233 46	64 2	67 8
1982	(117 00)	NA	111 5
1983	265 20	39 4	87 4
1984	498 26	47 1	74 3
1985	316 67	31 6	90 8

In 1985, nontraffic-sensitive costs were $790 per line, above the national average of $213. Big Sandy's interstate subscriber plant factor was 34 percent, which was above the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

Various regulatory and non-regulatory changes will affect Big Sandy. The company manager discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

The final implementation of the FCC's 25 percent gross allocator will cause a revenue loss for Big Sandy; however, the Universal Service Fund will compensate for more than 100 percent of the revenue loss. In fact, the Universal Service Fund will result in a 287 percent increase over the final year's gross allocator revenue loss. Therefore, the net effect on Big Sandy revenues of the gross allocator phase-down and the Universal Service Fund phase-in will be a projected revenue increase of $16.07 per line per month in 1993. The manager said customer rates will probably not change because of the phase-down.

In addition to these federal changes, Big Sandy's manager said that Mountain Bell, because of the threat of intrastate competition from MCI, US Sprint, and other carriers, was looking into ways to reduce its intrastate toll payments to independent telephone companies in Colorado. Specifically, Mountain Bell had developed three cost-sharing alternatives: the reduction of the intrastate subscriber plant factor, an originating responsibility plan, and a customer access line charge similar to the FCC access charge. These three alternatives would produce various effects. (See apps. VII and VIII for how the two New Mexico companies view their state's originating responsibility plan.)

According to company estimates, the first alternative— reducing the intrastate subscriber plant factor to (1) whichever is lower, the subscriber plant factor or a subscriber line usage factor;[1] (2) 25 percent; or (3) zero—would cause Big Sandy a revenue loss per access line per month of $13, $15, or $33, respectively. According to the manager, Big Sandy might have to recover these losses through increased local rates if the subscriber plant factor reduction goes into effect. Mountain Bell

[1]Line usage is a measure of the relative usage of each subscriber line between local and toll calls and is based on the ratio of actual unweighted minutes of use for each service

wanted the subscriber plant factor reduction to take place in 1986; however, the proposal had not been brought before the Colorado Public Utilities Commission because agreement had not been reached on its implementation.

Under the second alternative, the originating responsibility plan, the manager believed the company might lose subscribers because of higher rates. Under this plan, the telephone company where the call originates pays an access charge to each telephone company that helps transmit the call to its destination. This, the manager explained, would result in deaveraged toll rates, causing the customer to pay different rates depending on where a call is originated and terminated. Big Sandy's originating responsibility plan impact study shows an intrastate/intraLATA telephone rate increase per customer of $7.54 per month. A possibility exists that Big Sandy could lose customers because of such an increase. However, this plan had not been implemented because Mountain Bell had not submitted its proposal to the Colorado Public Utilities Commission.

The third alternative—the customer access line charge—was proposed in September 1983. This charge is similar to the current federal access charge, which increases customers' telephone bills by $2 per month. In addition, Mountain Bell's proposal would have each telephone company within the state charging a different rate based on that company's costs allocated to intrastate toll. Instead, the other telephone companies wanted to use an average customer access line charge. Mountain Bell did not agree to this idea, although Big Sandy's manager believed Mountain Bell's customer rates would not increase substantially using either method. For example, the average customer access line charge would range from $.33 in 1984 to $2.20 by 1990 for all telephone companies in Colorado, including Mountain Bell. Under Mountain Bell's plan, however, Mountain Bell's customer access line charge would range from $.32 in 1984 to $2.07 by 1990; a decrease of $.01 in 1984 to $.13 by 1990 over the average customer access line charge.

The manager believed Mountain Bell's proposal might adversely affect rural telephone companies. For example, Big Sandy's charge under the Mountain Bell plan would be the highest in the state—$2.90 in 1984 to $26.15 in 1990, an increase of $2.57 in 1984 to $23.95 in 1990 over the average customer access line charge. Mountain Bell's proposal, however, was not sent to the state Public Utility Commission because an agreement between the Colorado telephone companies and Mountain Bell could not be reached.

Increased Regulatory and Administrative Burdens

Big Sandy's manager estimated that his paperwork had more than tripled since the AT&T divestiture on January 1, 1984. Prior to the divestiture, Big Sandy settled all toll revenues with Mountain Bell using one settlement method. By 1986, Big Sandy had to settle with AT&T and NECA for interstate toll revenues, AT&T for intrastate/inter-LATA toll revenues, and Mountain Bell for intrastate/intra-LATA toll revenues. Each of these settlements used a different method.

In addition, information requests from NECA, the state, and the federal government had caused consulting costs to increase 43 percent, from about $17,000 in 1985 to over $24,000 in just the first 5 months of 1986. Travel expenses also rose because company officials were attending as many industry and state meetings as possible in order to understand the regulatory changes taking place.

The revision to the FCC's uniform system of accounts means more detailed financial information will be required of telephone companies accounts.[2] Consequently, according to the company manager, paperwork would increase further, consulting costs would increase, and customer rates might increase, as well.

Potential for Increased Rural Long-Distance Rates

Toll deaveraging, which might result from Mountain Bell's originating responsibility plan, would create a vicious cycle for Big Sandy's customers and operations, according to the company manager. Deaveraged toll rates would cause higher toll rates. Consequently, customers would decrease long-distance telephone usage; the company would have to increase local rates to recover costs lost through decreased toll revenues; customers would be lost; rates would have to be increased.

Competitive Long-Distance Services in Rural Areas

It is unlikely that AT&T will face competition in the Big Sandy service area because of the low population density per square mile and the high costs of providing telephone service. However, if Mountain Bell is allowed to provide inter-LATA service within Colorado, AT&T will face competition from Mountain Bell.

Cable television, cellular telephone, and shared tenant services (i.e., telephone service exclusively for building tenants) were not likely sources

[2]The uniform system of accounts that the FCC requires for telephone companies under its jurisdiction provides a means for classifying, recording, interpreting, and reporting a carrier's financial information. State and REA regulations impose the FCC's uniform system of accounts on many small telephone companies.

of competition in Big Sandy's service area. Big Sandy purchased two small cable systems in Simla, Colorado, and Calhan, Colorado, in 1986, thus eliminating other competitors from providing television and telephone service through this source. The company had also banded together with other independent telephone companies to form Cellular, Inc., for investment purposes and plans to provide cellular telephone service to its customers sometime in the future.

"Resellers," however, may be a source of long-distance competition in the Big Sandy area. A reseller was operating in the area, but it was not yet having a large impact on Big Sandy. Reselling is a form of bypass. A reseller subscribes to the local telephone company lines in a service area, thereby accessing the lines, and then offers service through itself to other customers at a lower rate than the telephone company charges. For example, a reseller could purchase 5 lines through Big Sandy and serve 10 or more customers through these 5 lines, thereby taking these 10 customers and revenues away from Big Sandy.

Technological Improvements in Rural Telephone Service

The current telephone plant consists of a digital switchboard with underground cable. Built in 1981 after receipt of an REA loan, the system was in excellent condition, according to the company manager, and was one of the most modern systems available. He did not think any other technology existed that could reduce its operating cost.

REA had been a great help for Big Sandy, according to the manager. REA equipment standards help small companies because they do not have to hire engineers. Big Sandy had no plan to invest in new telephone equipment since it installed a new system in 1981; however, it might purchase equipment sometime in the future, and an REA loan might be necessary, depending on interest rates.

Response and Future Plans

Big Sandy's manager said the company was trying to keep up with the many industry changes and to minimize any of their negative effects. The implementation of the 25 percent gross allocator would reduce revenues, but the Universal Service Fund would compensate for over 100 percent of this revenue shortfall. The telephone plant was in excellent condition and customer rate increases were unlikely at the time of our interview. Future federal and state changes could, however, cause rate increases and subscribership decreases for Big Sandy. The company had diversified into cable television and cellular telephone service.

Eastern Slope Rural Telephone Association, Inc. Hugo, Colorado

Background

The Eastern Slope Rural Telephone Association, Inc., is a cooperative founded in 1952 to provide telephone service to rural areas in eastern Colorado. Before Eastern Slope, a major portion of eastern rural Colorado was either without telephone service or had telephone service in limited quantity and quality.

Eastern Slope's service area covers 5,165 square miles. It has 10 exchanges in 6 counties—Adams, Cheyenne, Kiowa, Kit Carson, Lincoln, and Washington. The closest large urban area is Denver, which is anywhere from 20 to 120 miles from Eastern Slope, depending on the exchange.

The principal economic activities within the service area revolve around farming, ranching, and the oil industry. Company officials noted that the population had declined in all of Eastern Slope's exchanges except the Bennett area, which is 20 miles from Denver and growing rapidly. In 1985 and 1986, Hugo, the town in which Eastern Slope's headquarters is located, has seen a decline resulting in the closing of small businesses such as gas stations and restaurants.

Service and Rates

At the end of 1985, Eastern Slope provided single-party service to all of its 3,662 subscribers (2,968 residential and 694 business). For these subscribers, there were 3,838 access lines. Between 1976 and 1985, the number of subscribers rose gradually from 2,851 to 3,662, with the biggest increase, 380 subscribers, in 1983. (Approximately 92 percent of the households in the service area had telephone service.) There were 1.74 subscribers per mile of cable.

Eastern Slope's rates varied between residential and business customers and by type of service. The least costly basic residential service rate was $5.20 per month for single-party, rotary service. The least costly business rate was $7.95 per month for single-party, rotary service. In addition, residential and single-line business subscribers paid $2 per month for the FCC's subscriber line charge. Both of these services provide unlimited local calling. Subscribers could call anywhere from 90 to 1,000 other subscribers without making a toll call, depending on the size of the exchange in which they were located. However, they incurred a toll call whenever they called to another exchange.

Eastern Slope's installation charges varied depending on the amount of work necessary to connect a customer. For new service the lowest installation charge was $31, which included a service order and central office

connection. Installation charges were the same for both residential and business customers.

The company had not increased its rates since 1983, and was not in the process of filing for a rate increase. The only change in the total bill since 1983 was the federal subscriber access charge. There had been some discussion of increasing rates in the future because of a gradual decrease in toll revenues. However, the company board was reluctant to raise rates since it is a cooperative whose owners are also its subscribers. It did not offer special discount rates for low-income customers.

Eastern Slope's telephone plant consisted of 10 central offices, 6 of which were electromechanical and 4 of which were digital. The age of the plant varied with each central office; some equipment had been in place since 1952, and some was installed in 1986. The company intended to constantly upgrade its underground cable plant and those central offices that are not digital.

Financial Information

Eastern Slope's net margin in 1985 was about $708,000, or $194 per subscriber. The cooperative received about 38 percent of its $2.3 million in operating revenues from intrastate toll traffic, 36 percent from interstate toll traffic, 16 percent from local telephone traffic, and 10 percent from other sources. As a proportion of assets, the company's long-term debt is 49 percent.

As table II.1 shows, the rate of return on net worth had fluctuated during the 10-year period but stayed between the high of 21 percent earned in 1976 and the low of 12 percent earned in 1983. The net income per subscriber gradually increased from 1976 to 1984 ($103 to $226, respectively) but decreased to $194 in 1985. The accrual ratio had remained between 75 and 83 percent.

Table II.1: Selected Financial Statistics, 1976-85

Year	Net margin per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$103 12	21 2	77 7
1977	81 39	15 0	83 1
1978	108 17	18 4	78 6
1979	134 32	20 5	76 2
1980	135 19	18 4	78 7
1981	173 35	20 9	75 2
1982	149 29	16 1	83 0
1983	164 85	12 1	82 1
1984	226 39	19.7	76 5
1985	193 86	14 9	83 3

The 1985 nontraffic-sensitive costs per line were $278. (The national average was $213.) Company officials explained that the level of their nontraffic-sensitive costs results from the relatively low customer density inherent in their service area. Eastern Slope's interstate subscriber plant factor was 39 percent, which was above the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

Various regulatory and non-regulatory issues at both the federal and state level will affect Eastern Slope. Company officials discussed the impact of the five issues we identified on their company.

Recovery of Nontraffic-Sensitive Costs

Although the FCC decision on the 25 percent allocator will decrease revenues, the Universal Service Fund will compensate for a large percent of the revenue lost. Therefore, when both the 25 percent allocator and the Universal Service Fund are completely in place in 1993, the net effect, based on company estimates, will be a revenue loss of $1.64 per line per month.

In addition to federal regulatory changes, Eastern Slope officials pointed out that regulatory issues within Colorado are still being developed and discussed, which could affect the recovery of nontraffic-sensitive costs. However, when we spoke with them they did not feel that the effects could be determined. They believed Mountain Bell's originating responsibility plan will require the company to increase rates and possibly staff.

(Details of New Mexico's originating responsibility plan are discussed in apps. VII and VIII.)

Potential for Increased Rural Long-Distance Rates

Intrastate and interstate geographic toll rate deaveraging would have a negative effect on Eastern Slope's customers and operations, according to company officials. Eastern Slope is considered a high-cost company and serves a rural area. Therefore, under toll deaveraging its cost-based rates would be higher than those charged by Mountain Bell in lower-cost urban areas. Since Mountain Bell's rates would be lower, subscribers would be encouraged to bypass Eastern Slope's facilities to gain direct access to these cheaper rates. This bypassing could result in a reduction in toll revenues from these subscribers.

Increased Regulatory and Administrative Burdens

Regulatory and non-regulatory changes have significantly increased administrative costs, such as staff time, consulting fees, accounting, and travel, since 1983. For example, Eastern Slope officials estimated that administrative costs increased by $90,800, or 36 percent, (from $249,700 to $340,500) between 1983 and 1985. This increase averages out to $2.07 per month per subscriber. In addition, they felt increased information requests from the federal and state commissions and joint boards will have some effect on the company's operations and subscribers' bills.

The implementation of a revised uniform system of accounts will also have a major effect on the operations of the organization, according to company officials. The conversion to a new accounting system will be time-consuming to accomplish, stressful to the employees, and costly to implement. The additional costs to install a new accounting system will be absorbed by Eastern Slope.

Eastern Slope believed that the many federal and state changes would adversely affect its ability to maintain its subscriber base and keep its rates low. Rates would increase and, therefore, subscribers would leave the network. The company felt that the FCC does not have rural areas, along with the concept of universal service, in mind when making policy decisions.

Competitive Long-Distance Services in Rural Areas

Eastern Slope anticipated competition primarily in its Bennett exchange, a growing community 20 miles east of Denver. Bennett's population had been increasing and will increase even more so if Denver's new international airport is built near Bennett. At the time of our review, customers calling from the Bennett exchange to Denver had to incur a toll call. The Eastern Slope general manager told us that Bennett exchange customers preferred to have toll-free access to the Denver calling area. Other competitors could offer this type of service to the Bennett exchange, which would mean a loss of customers for Eastern Slope and increased rates for remaining customers. If customers discontinue service and rates continue to increase, the general manager thought universal telephone service could be threatened.

Eastern Slope expected other forms of competition, primarily in the Bennett exchange. Competition might result from bypass and other companies providing telephone maintenance, inside wiring, toll, and telephone sales service. Also, AT&T and Mountain Bell would probably face competition from other exchange carriers, such as MCI, US Sprint, and resellers, in the company's service area.

Technologica Improvements in Rural Telephone Services

Although new technology could reduce Eastern Slope's operating costs because maintenance expenses would be reduced, company officials believed its overall effect would be minimal. One of Eastern Slope's exchange areas could be affected by cellular telephone service in the near future, which could mean additional competition for Eastern Slope.

Company officials did point out that REA's loan program allows a telephone cooperative like Eastern Slope to upgrade facilities with approved equipment and provide reliable and quality service to subscribers. Upgrading from aerial to buried telephone plant, for example, increases the reliability of the equipment because this newer technology protects the customer's service from lightning storms, which are common in this part of the country. Eastern Slope had plans to upgrade its telephone plant, and it would need an REA loan.

Response and Future Plans

Eastern Slope had many discussions at its board meetings on maintaining low rates and on the possibility of diversifying into other areas, such as cable television. The company had also discussed ways to cope with the many regulatory changes it faces. Company officials felt that rate increases were inevitable as toll revenues continued to decline.

However, since the company is a cooperative, company officials will keep rates as low as operations permit.

Mokan Dial, Inc. Louisburg, Kansas

Background

MoKan Dial, Inc., is a family-owned business. It was formed in 1961 when its owners purchased and linked two telephone systems: a rural cooperative system run by local farmers and a town system in Louisburg, Kansas, which belonged to the father of one of the purchasers. MoKan Dial provides conventional telephone services and does not engage in other businesses.

MoKan Dial's 11 employees operate 4 exchanges in 2 eastern Kansas counties and 1 northwestern Missouri county. The service area covers 191 square miles. Although farming is the most prevalent business in the service area, many individuals commute to jobs in the Kansas City, Kansas, and Kansas City, Missouri, areas.

Service and Rates

MoKan Dial served 2,195 subscribers at the end of 1985 and had a density of 5.47 subscribers per mile of telephone cable. Subscribership had increased 14 percent since 1976 and 4 percent since 1981. MoKan Dial's general manager said the company did not track the number of households subscribing to its telephone services, but he estimated that over 90 percent of households in the service area had telephones.

All of the company's subscribers had single-party service. During the 10-year period ending December 31, 1985, the company increased the value of its telephone plant from about $2.6 million to about $3.7 million. The last system modernization took place in 1974.

Basic service rates had not increased since 1974. Residential rates for rotary dial service ranged from $5.25 to $5.60, and business rates ranged from $8.50 to $9.20. Residential and single-line business subscribers also paid an additional $2 per month for the FCC's subscriber line charge and a $1 telephone rental fee if the subscriber did not own a telephone. These basic service charges permitted subscribers in the Louisburg and Freeman exchanges to call about 1,800 subscribers without incurring a toll charge. Those in the Rantoul exchange could reach about 245 other subscribers, and those in the Hillsdale exchange could reach about 220 subscribers. The company charged $12.75 to install a single-line telephone.

The company's business and accounting consultant estimated that the 1985 average subscriber bill was about $51 per month. Of this amount, about $24 was for intrastate tolls, approximately $10 was for local service and subscriber access charges, about $15 was for interstate tolls,

and about $2 was for federal and state taxes. MoKan Dial did not offer discounted rates to low-income subscribers.

Financial Information

MoKan's net income in 1985 was about $223,000, or $102 per subscriber. The company received about 52 percent of its operating revenues of $1.4 million from intrastate traffic, 28 percent from interstate traffic, and 19 percent from local telephone traffic. Thus, the company relied on toll service for about 80 percent of its 1985 revenues. Between 1976 and 1985, increases in toll revenue outpaced increases in local traffic revenue. Specifically, local telephone revenue increased by about 40 percent while toll revenue increased by 315 percent. Also, during this period the company's long-term debt declined from about 75 percent of assets to about 46 percent of assets.

As table III.1 shows, the company's financial condition was profitable over the period despite some fluctuations in net income per subscriber and rate of return on net worth. From 1976 to 1981, the trend of net income per subscriber and rate of return on net worth was upward, but then both declined in 1982. Between 1982 and 1985, net income per subscriber increased slightly in 1983, more than doubled in 1984, but dropped again in 1985. For the same period, rate of return on net worth also rose in 1984 and declined in 1985. MoKan's accrual ratio percentage between 1976 and 1985 has ranged from 75 percent to 91 percent, staying below 100 percent.

Table III.1 Selected Financial Statistics, 1976-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$35.50	16 3	85 0
1977	56 12	21 4	80 1
1978	72 39	25 2	77 3
1979	70 19	30 9	80 6
1980	105 39	35.0	74 7
1981	118 95	31 5	75 8
1982	58.78	13 5	88 3
1983	60 11	11 9	90 6
1984	129 31	19 0	83 0
1985	102 04	14 4	87 5

The 1985 unseparated nontraffic-sensitive revenue requirement per loop for MoKan Dial's Missouri exchange was $276, which was above the national average of $213. The Missouri interstate subscriber plant factor was 24 percent, which was already below the 25 percent maximum intended by the FCC. The 1985 nontraffic-sensitive revenue requirement for its Kansas exchange was $219 per loop. The Kansas interstate subscriber plant factor was 33 percent.

Impact of Regulation and Competition

The MoKan Dial general manager said that the company had not yet experienced any significant adverse effects from recent federal and state regulatory changes. Rather, his concerns focused on what might happen in the future. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

MoKan Dial did not expect a highly significant change in its revenues due to the FCC's 25 percent gross allocator decision. MoKan Dial's consultant said that the company will receive $6,141 less in interstate toll revenues annually. The company's Missouri exchange will generate $994.50 from the Universal Service Fund in 1986. The Kansas exchanges do not qualify for compensation.

Neither Kansas nor Missouri had made any recent regulatory changes that MoKan Dial believed would significantly affect its operations. However, Kansas had called for hearings on whether to reduce intrastate toll rates and charge subscribers a $1 toll access charge.

Increased Regulatory and Administrative Burdens

Additional requests for information had increased the company's administrative costs, according to the general manager. Although he could not document the full amount of the cost increase, he discussed how costs had increased. First, AT&T's breakup indirectly required the company to file 56 reports annually for each state. Second, in 1982 he made two to three business trips per year; now he makes about two per month, and he does not attend every meeting he would like to. Third, the company spent about $48,000 and $86,000 for consulting services in 1983 and 1985, respectively. Fourth, in 1983 the company spent $17,421 for billing services; in 1985 it spent $31,349. The increase was due to the changing nature of the information the company required and not a price increase from the billing company. And fifth, revising the uniform system of accounts will create more bookkeeping.

Potential for Increased Rural Long-Distance Rates

The general manager felt that deaveraging interstate and intrastate toll rates would probably cause higher telephone rates.

Competitive Long-Distance Services in Rural Areas

The general manager told us that AT&T might face competition from resellers within the company's service area because of the company's close proximity to Kansas City, Kansas. Some independent telephone companies in Kansas had discussed building an independent toll network called the Kansas Independent Network. The system would use microwave to send toll messages and would bypass the Bell companies' systems.

The company was closely following the potential for cellular services. Kansas City's proximity could mean that a cellular company might reach some of its subscribers. MoKan Dial would then have to compete, i.e., offer cellular services, to keep its subscriber base.

Technological Improvements in Rural Telephone Service

The company had not targeted any new technology that it felt would provide service at lower cost. New technology provides new services, but the investment creates pressure to raise rates.

The company was obtaining estimates on updating its electromechanical switches to digital in two of its four exchanges. The company secured an REA loan 5 years ago for this purpose on the basis of the projected growth rate in subscribers, but it delayed the investment when the expected growth did not materialize.

Response and Future Plans

Regarding the company's future plans, the general manager said he had few long-range plans because planning was difficult when the future is as uncertain as it is in the telephone industry. Also, he had not made specific plans for adjusting to the loss in revenues caused by the FCC's gross allocator decision because (1) the impact was not expected to be severe and (2) specific plans could not be made until he knew if the state will set an allocator for state tolls. The FCC's 25 percent allocator decision would not, by itself, cause the company to increase its basic service rates.

In addition, the general manager said the FCC and the state public utilities commission were not assisting the company to adapt to the changing

industry. The greatest assistance to rural independent telephone companies would be for the FCC to better educate itself about rural telephone companies.

S & A Telephone Company Allen, Kansas

Background

The S & A Telephone Company is a family-run business established in 1939 when the president's family purchased an existing telephone system. It was incorporated as the S & A Telephone Company in 1963. S & A provides conventional telephone services and has a vested interest in a partnership with Southwestern Bell to provide cellular telephone service in Topeka, Kansas.

The company's six employees operate two exchanges within Osage and Lyon counties, Kansas. The service area covers 175 square miles about 40 miles south and southwest of Topeka and about 20 miles north of Emporia, Kansas.

S & A serves rural communities where farming is the main industry. The general manager said the farming community is declining economically, but his subscribers are located close enough to Topeka and Emporia to find work without having to move from the service area, giving S & A a relatively stable subscribership.

Service and Rates

At the end of 1985, S & A served 744 subscribers, had a density of 3.44 subscribers per mile of telephone cable, and maintained 216 miles of cable. About 80 percent of its subscribers had single-party service, and the remainder had four-party service. From 1976 to 1985, subscribership increased 6 percent. Reaching its peak in 1981 of 770, subscribership has since fluctuated within a relatively stable range. S & A did not track information on the number of households with telephone service, but the general manager estimated that about 96 percent of households within the service area had telephones.

The company had not raised its basic service rates since 1978. The rates for residential rotary dial service ranged from $5.80 for four-party service to $6.10 for single-party service. Rates for business subscribers ranged from $8.45 to $11.90. These rates did not include $1 for equipment rental for subscribers who do not own a telephone and a $2 federal subscriber line charge for residential and single-line business subscribers. Telephone installation charges reached a maximum of $14.

S & A's business and accounting consultant estimated that the 1985 average monthly subscriber payment was about $47. Of this payment, approximately $9 was for local service and federal access charges, $28 was for intrastate tolls, $8 was for interstate tolls, and $2 was for state and federal taxes. The company did not offer discounts to low-income subscribers.

Financial Information

In 1985 S & A's net income was about $68,000, or $92 per subscriber. S & A earned operating revenues of about $470,000. About 58 percent of these revenues came from intrastate toll traffic, 21 percent from interstate toll traffic, and 19 percent from local telephone traffic. Thus, the company relied on toll traffic for about 79 percent of its revenues. Between 1976 and 1985, toll revenues increased a little more than 300 percent, while local revenues increased about 56 percent. In the last 10 years, the company's long-term debt declined from 79 percent of assets to 54 percent of assets.

As table IV.1 shows, the company's financial condition had been profitable despite some fluctuations. Between 1976 and 1983, net income per subscriber fluctuated within a range of $18 to $59. During these years, movements in the rate of return on net worth corresponded to changes in net income per subscriber. Net income per subscriber in 1984 and 1985 was the highest in 10 years, while the rate of return increased to levels attained by the company in the early 1980's.

S & A's accrual ratio ranged from 85 percent to 97 percent between 1976 and 1985. The company's accrual ratio was 89 percent in 1985. This measure indicates that the company had sufficient operating revenues to meet its operating expenses and fixed charges.

Table IV.1: Selected Financial Statistics, 1976-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$33 63	19 6	84 7
1977	18 21	9 9	92 3
1978	27 78	13 5	89 5
1979	39 75	17 0	87 5
1980	59 22	18 7	86 2
1981	44 27	13 3	92 1
1982	37.64	9 7	94.5
1983	21 22	5 4	97 3
1984	89 38	16 1	88 2
1985	92.11	13 5	89 4

According to the company's business and accounting consultant, S & A's 1985 nontraffic-sensitive revenue requirement was $424 per loop. This per loop figure exceeded the national average of $213 per loop. The

company's subscriber plant factor, which was 23 percent, was below the FCC's intended maximum allocator of 25 percent.

Impact of Regulation and Competition

S & A's general manager said that federal and state regulatory changes had not significantly affected the company, and the company had not experienced any competition to date. However, he was concerned that regulators may deaverage tolls or change the settlements structure and cause the company to receive less in toll revenues. He was also concerned about competition for intrastate and interstate toll service and its effects on the industry. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

The company will not be significantly affected by the FCC's 25 percent allocator decision because S & A's subscriber plant factor is already below the FCC's intended maximum. The company will probably qualify for compensation from the Universal Service Fund because its per line costs are high relative to other companies. According to the consultant, the company will receive $8,678 from the fund in 1986.

Although the general manager said that no recent Kansas regulations had adversely affected the company's operations or rates, he was concerned that state commissions felt pressure from the FCC's access charge decision to make a similar decision.

Increased Regulatory and Administrative Burdens

The company's administrative tasks had greatly increased since AT&T's divestiture. Divestiture created new organizations and new issues. Two state associations, several national associations, the national toll pool, the state toll pool, AT&T, and Southwestern Bell all hold meetings to discuss issues and strategy, and travel has increased five-fold. Supplying information to these organizations had increased the company's administrative burden. The FCC's proposed revision of its uniform system of accounts will also mean an additional charge from the company's accounting consultant for time spent changing to the new system.

Potential for Increased Rural Long-Distance Rates

The general manager believed that geographic toll deaveraging would devastate rural economies. Rural subscribers depend on toll service for their basic needs, and deaveraging would significantly increase toll bills. Higher toll bills would create public relations problems, could cause universal service to decline, and would be a barrier to rural economic

growth. Deaveraging would be one more link in a destructive chain reaction within the farm economy.

Competitive Long-Distance Services in Rural Areas

According to the general manager, AT&T might face competition from US Sprint because that carrier was routing its fiber optic cable across S & A's service area in two locations. He was also concerned that a cellular company doing business in Topeka or Emporia could connect S & A customers to those cities' telephone systems. Customers near those cities would much prefer to be on the city systems and avoid the toll charges incurred when calling these cities. In addition, Kansas was letting resellers compete for intrastate toll business.

Technological Improvements in Rural Telephone Service

S & A's general manager said the company's physical plant was new in 1969 (Allen exchange) and 1977 (Scranton exchange). About 98 percent of the system was buried cable and about 2 percent was aerial.

In response to the changing telephone industry, S & A was looking to new technology. After obtaining REA loan approval in 1983, S & A reevaluated its decision to lay new cable and explored the idea of using a wireless telephone system. The company planned to conduct the industry's first field trial of an Ultraphone digital radio telephone system. This new system would supplement the current system. Installation is scheduled for 1986 and 1987.

The general manager had a positive view of the impact of REA's loan program on rural telephone service. REA provides low-interest loans, sets industry standards, and offers technical assistance. It is leading the way to designing new construction criteria that will permit new technologies. S & A depends on REA for help with loans and new technology. Commercial monies are not available to finance small telephone companies because they are poor financial risks by commercial standards. Without REA, the general manager saw, in the long term, deterioration and abandonment of the plant.

Response and Future Plans

S & A's general manager believed he had not gotten the assurance he wanted that regulators would support universal service. The general manager provided the following comments on the company's future plans and general response to the changing industry:

- The company had no specific plans regarding the FCC's allocator decision because it should not experience any impact warranting a response.
- The company requested a rate increase in 1983 when it was taking the initial steps to upgrade the current system. However, Kansas indicated it would not act on the request until the new system was in place. S & A's request was based on REA's recommendation that residential rates be set at $10 (not including equipment rental and federal access charges).
- Long-range plans consisted of working for stability through political efforts and supporting universal service at affordable rates.
- If regulators deaverage toll rates or significantly change toll settlements, he may decide to leave the telephone business.
- REA's 1983 loan approval for a new cable system was for about $1 million, but the uncertainty and changes within the industry made the manager uncomfortable about investing large amounts. The Ultraphone system, which S & A was field-testing for adequacy of design and service, will cost about $300,000 to install.
- Wireless technology can only be employed when a company does not have a full complement of cable or is installing a new system. Installation costs are less, but maintenance costs are still unknown, and life expectancy is about half that of a cable system's. As costs go down, wireless systems will become more practical, especially where the terrain is hazardous for laying cable.

The general manager stated that neither the FCC nor the Kansas State Corporation Commission were helping S & A adjust to industry changes. Rather, FCC decisions reflected a lack of knowledge about the rural situation and create headaches, confusion, and uncertainty. In his opinion, FCC accommodations to rural telephone companies are forced only by political pressures.

Grand River Mutual Telephone Corporation Princeton, Missouri

Background

Grand River Mutual Telephone Corporation was organized as a cooperative in June 1951 to upgrade the quality of telephone service in the community. The company provided conventional telephone services and planned to offer paging services sometime in the future.

The company's 90 employees operate 44 exchanges in 12 northwestern Missouri and 8 southern Iowa counties. The service area covers 4,064 square miles northeast of Kansas City, Missouri, and south of Des Moines, Iowa. Subscribers commonly travel to these cities for major services such as auto purchases and medical care. Both cities are approximately 100 miles distant for most subscribers, depending on the point of origination from the service area. Local economic centers, such as Bethany and Trenton, Missouri, are about 15 to 25 miles away for most subscribers.

The general manager said the service area includes rural communities with farms and supporting businesses, such as grain elevators, and retail and service businesses, such as banks, gas stations, and restaurants. The general economic condition had been poor and several grain elevators and banks within the service area had closed in recent years. The company serves several large business operations including a college.

Service and Rates

At the end of 1985, Grand River served 17,735 subscribers and had a density of 3.51 subscribers per mile of telephone cable. Between 1976 and 1980, subscribership increased by 3 percent However, between 1981 and 1985 subscribership fell almost 7 percent. Company officials were very concerned about this trend.

About 85 percent of subscribers received single-party service, and 15 percent had multi-party service. Grand River maintained 5,047 miles of telephone cable. The company did not track the number of households having telephone service. However, the general manager estimated that over 90 percent of households within the service area had telephones.

Service rates varied depending on the number of subscribers who could be called without incurring a toll charge and by the type of service. Basic rates for residential subscribers in Missouri ranged from $3.95 for four-party to $10.65 for single-party rotary dial service. All Iowa subscribers had single-party service with rates ranging from $6.80 to $10.65 for rotary dial service. Business rates in Missouri began at $6.05 for a single line and in Iowa at $10.70. These rates did not include the

federal access charge ($2 for residential and single-line business subscribers and $6 for multi-line business subscribers) and the $1 rental charge for equipment. The general manager said that rates for some of the company's exchanges had recently increased because some electromechanical switches were upgraded to digital. The company charged $22.50 to install new service if no additional wiring or line connection devices were needed.

The company divided its exchanges into five groups. The average number of subscribers within each group that could be reached with a local call was: Group I—403, Group II—556, Group III—1,522, Group IV—1,568, and Group V—2,588.

Grand River's general manager estimated that subscribers spent an average of $52 per month for telephone services. Excluding the local residential service charges, the typical subscriber spent from $41 to $45 on toll calls and taxes each month. Missouri planned to initiate a lifeline program to assist low-income telephone subscribers, but the general manager did not believe that there were eligible individuals in Grand River's service area.

Financial Information

Net margin in 1985 for Grand River was about $800,000, or $44 per subscriber, a substantial improvement from declines in both 1983 and 1984. Company officials specifically attributed the sharp decline of about $368,000 in net margin in 1984 to (1) a decrease in interstate toll rates brought about by the divestiture of AT&T and (2) increased operating expenses from unanticipated costs associated with the company's switch upgrade project.

Grand River received about 38 percent of its operating revenues of $9.1 million in 1985 from intrastate toll traffic, 30 percent from interstate toll traffic, and 26 percent from local telephone traffic Between 1976 and 1985, increases in toll revenues outpaced increases in local service revenues. Specifically, local revenue increased by about 80 percent while toll revenues more than tripled. As a proportion of assets, the company's long-term debt had declined from 92 percent in 1976 to 87 percent in 1985.

As table V.1 shows, Grand River's financial condition had been good despite some fluctuations over the period. Net margin per subscriber improved from negative positions in 1976 and 1977, reached a peak of $48 in 1981, but dropped again in 1983 and 1984. In 1985 net margin

per subscriber improved to $44. Grand River's accrual ratio was above 100 percent in 1976, 1977, and 1984, but decreased to 94 percent in 1985. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues.

Over the last 10 years, the company's return on net worth fluctuated from a negative position in 1976 and 1977 to a peak of 57 percent in 1979. In 1983 and 1984, however, the rate of return dropped to 21 percent and 7 percent, respectively, but increased to 23 percent in 1985.

Table V.1: Selected Financial Statistics, 1976-85

Year	Net margin per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	($7 62)	NA	106 3
1977	(8 10)	NA	105 6
1978	8 27	31 1	97 7
1979	16 05	56 9	94 5
1980	14 54	39 0	95 8
1981	47 68	56 4	88 2
1982	46 12	42 2	90 0
1983	30 12	21 4	95 4
1984	10 22	6 9	100 8
1985	44 47	22 7	94 3

In 1985 Grand River's nontraffic-sensitive cost per line for Iowa was $216 per loop, which was slightly above the national average of $213. In Missouri, Grand River's nontraffic-sensitive cost per line was $235, also above the national average. The company's interstate subscriber factor for Iowa was 38 percent, which was above the FCC's intended maximum of 25 percent. The interstate subscriber factor for Missouri, however, was 24.5 percent, which was below the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

Grand River's general manager said the company had not yet experienced any significant adverse effects from recent federal and state regulatory changes. While cautiously optimistic about the present, he was concerned about the future. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

After the transition to the 25 percent gross allocator, interstate revenues from the Missouri exchanges will increase by $21,881 annually, and interstate revenues from the Iowa exchanges will decrease by $299,439 annually. The company did not qualify for revenues from the Universal Service Fund in 1986, but it will qualify in later years after it completes the current upgrade project. Grand River will never be a large recipient of the fund because the FCC's qualifying criteria are too stringent to benefit the company.

FCC's allocator decision will not in itself cause the company to raise its rates, but it does create pressure. The federal decision could lead state commissions to set an allocator for intrastate revenues, and a 25 percent gross allocator on intrastate revenues would cause the company to raise its rates.

Neither Missouri nor Iowa had made any recent regulatory changes that significantly affected the company's operations, but several items under consideration were of concern to company officials. For instance, both the Missouri and Iowa intrastate toll revenue pools are being studied by their respective state commissions. The outcome could alter future settlements with the Bell companies.

Increased Regulatory and Administrative Burdens

Increases in reporting requirements had led the company to purchase more consultant services, and the company's employees spent more time traveling and communicating with national and state toll revenue-sharing pool managers and trade associations. In addition, the general manager believed that changes in the uniform system of accounts would create more bookkeeping work with no apparent benefit to the company.

Potential for Increased Rural Long-Distance Rates

The general manager felt strongly that deaveraging of interstate and intrastate tolls is the single greatest threat to rural telephone companies. With deaveraging, toll rates in rural areas would rise significantly because the volume of toll calls over rural routes would be insufficient to support those routes. In his opinion, the FCC should remember that Grand River was organized for social reasons, i.e., universal service, and not for economic reasons.

Competitive Long-Distance Services in Rural Areas

A few exchanges—those near the area's economic centers of Chillicothe, Trenton, and Bethany—may draw competition for long-distance services, according to the general manager. A reseller had already set up business in Trenton, Missouri, and Grand River might be losing some toll revenues. However, the general manager was not overly concerned about this competitor because new tariff rates would significantly reduce the differential between AT&T's and the reseller's rates.

Technological Improvements in Rural Telephone Service

The general manager said that all plant was in good condition. Grand River began a major upgrade of its equipment in 1978 and expects to complete the project in 1987. When completed, 38 exchanges will use digital switches. Six exchanges will continue to use relatively new electromechanical switches that did not warrant replacing. The upgrade in equipment will provide all subscribers with single-party service.

Grand River had no plans to employ new technologies, such as fiber optics, wireless systems, or the Indiana Switch concept because (1) the company would never abandon a working system to employ new technology; (2) it does not have enough volume or demand for high technology services to support the costly investment in fiber optic cable; (3) a telephone company can only consider Ultraphone/cellular/radio systems when it needs a new system, and these technologies may not be cost-efficient or provide quality service; furthermore, if the cost of cable and cellular systems decline, competition could split off towns from their rural neighbors; and (4) although the Indiana Switch concept is good, the company declined to participate in a proposed "Missouri Switch" because the venture was going to be 100 percent debt-financed. However, the general manager noted that REA engineering standards benefit the industry.

Response and Future Plans

The general manager said Grand River's response to recent changes in the telephone industry had been to cut expenses and increase revenues. No long-range plans had been made because frequent changes in the industry had created an atmosphere of uncertainty in which planning was difficult.

To adjust to the loss in revenues caused by the 25 percent allocator, Grand River would cut expenses through employee attrition and by upgrading its computer and closing a district office. It would also try to increase revenues by aggressively advertising custom calling features. If necessary, Grand River would increase revenues by raising rates. The

company had filed for rate increases in some of its exchanges as part of its upgrade of switching equipment. It had no other plans for major investment.

The general manager said independent telephone companies should depend on themselves and their consultants when reaching individual business decisions. He did not want more government involvement if it meant more reporting. If government wants to provide more individual assistance, such assistance should come from the state rather than the federal government because state commissions should be in a better position to deal with problems related to the companies within their borders.

Green Hills Telephone Corporation Breckenridge, Missouri

Background

The Green Hills Telephone Corporation was organized as a cooperative in May 1952 by local farmers who wanted to bring telephone services to the whole community. The company provided conventional telephone services and had joined with five other independent telephone companies to form a subsidiary corporation that will offer telephone-related services. In September 1986, Green Hills acquired the Wheeling Telephone Company of Columbia, Missouri, as a subsidiary.

The company's 13 employees operate 11 exchanges in 5 northwestern Missouri counties. The service area covers 734 square miles northeast of Kansas City and east of St. Joseph, Missouri. Both of these cities are approximately 60 to 80 miles distant from Green Hills' service area, depending on the point of origination. Company officials said subscribers commonly travel to these cities for services such as major purchases, medical care, and Christmas shopping. Chillicothe, Missouri, which is about 15 to 25 miles away for most subscribers, is the most frequently used economic center within the service area.

The office manager said the company serves rural communities with farming, grain elevators, and small retail and service operations. She also said economic conditions within the service area were poor, and several businesses had closed in recent years. For instance, Breckenridge, Missouri, where the company headquarters is located, does not have a full-service grocery store or restaurant.

Service and Rates

In 1985, Green Hills served 2,691 subscribers and had a density of 2.36 subscribers per mile of cable. Subscribership had increased less than 1 percent from 1976 levels. It reached its peak in 1981, with 2,923 subscribers, before declining. The office manager was not overly concerned about the amount of the decline but was concerned about the trend. Green Hills' management did not track the number of households that have telephone service. However, the general manager estimated that over 90 percent of households within the service area had telephones.

All Green Hills subscribers received single-party service. During the 10-year period ending December 31, 1985, the company increased its telephone plant from about $3.4 million to about $5.9 million. The company maintains 1,139 miles of telephone cable. The last system modernization took place in 1980.

Green Hills had not raised its basic service rates since 1975. The residential rate for rotary service was $8 for all subscribers; the business rate

was $11. These rates do not include $1 for equipment rental and $2 for federal access charges. Subscribers can avoid the $1 equipment rental charge by purchasing their own telephone. Depending on the exchange, these charges allowed subscribers to call from about 100 to 450 subscribers without incurring a toll charge. The company charges $21 for telephone installation. The office manager estimated that customers spent an average of $45 per month for telephone services. Excluding the basic service charges, the typical subscriber spent from $27 to $34 on toll calls and taxes each month.

According to the office manager, Missouri planned to initiate a lifeline program that would enable qualifying low-income subscribers to obtain telephone service at a reduced rate. She did not know what that rate would be.

Financial Information

The net margin for Green Hills in 1985 was about $246,000, or $91 per subscriber. Green Hills received about 57 percent of its total operating revenues of $1.2 million from intrastate toll traffic, 27 percent from local telephone traffic, and 15 percent from interstate toll traffic. Thus, the company relied on toll traffic for 72 percent of its operating revenues. Between 1976 and 1985, increases in toll revenues outpaced increases in local revenue. Specifically, toll revenues increased by 188 percent while local revenues increased by 68 percent. As a proportion of assets, the company's long-term debt had declined from 86 percent in 1976 to 75 percent in 1985.

As table VI.1 shows, Green Hills' financial condition was somewhat better between 1982 and 1985 compared to the first 6 years. The trend for net margin per subscriber has been upward, increasing from $8 in 1976 to over $91 in 1985. Green Hills' rate of return on net worth has been good since 1981, reaching a high of 32.5 percent in 1984. In 1985 Green Hills' return on net worth was 16 percent. Between 1976 and 1985, Green Hills' accrual ratio was below 100 percent—except for 1981, when it reached 107 percent, and the company incurred a deficit. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues. In 1985 the company's accrual ratio was 91 percent.

The general manager noted 1984 was an unusual year for Green Hills because (1) the company received about $142,000 in extraordinary items and (2) toll revenues increased because the company received a backlog of unanticipated final settlement monies.

Table VI.1: Selected Financial Statistics, 1976-85

Year	Net margin per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$8.09	4 7	96 1
1977	7 32	4 4	97 9
1978	13 58	7 9	95 0
1979	11.64	19 2	95 9
1980	14 62	7 5	95 7
1981	(11 55)	NA	107 1
1982	56 74	26 6	91 9
1983	67 50	24 1	90 8
1984	159 31	32 5	77 0
1985	91.09	15 8	90 6

The company's business and accounting consultant told us nontraffic-sensitive costs could not be identified for an average schedule company like Green Hills, nor did the company have a subscriber plant factor. Average schedules are available for use by exchange carriers that, because of their small size, are assumed to have insufficient resources or expertise to justify requiring them to perform jurisdictionally separated cost studies for determining their compensation in originating and terminating interstate telecommunications services. No exchange carrier is required to use average schedules for compensation, but it may elect full compensation on a cost basis.

Impact of Regulation and Competition

According to Green Hills' general manager, regulatory changes had not had a significant adverse effect on the company, but they had created a climate of uncertainty. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

The company will lose some toll revenues from the FCC's 25 percent allocator decision, but the general manager did not expect the amount to be significant. The company will probably qualify for compensation from the Universal Service Fund, but the manager expected little revenue from it. Green Hills' consultant calculated the company would receive $8,184 from the fund in 1986.

The general manager did not believe that Missouri's regulatory activities would cause rate increases in the near future.

Increased Regulatory and Administrative Burdens

The general manager told us that his paperwork had increased substantially since AT&T's divestiture. The increase had necessitated hiring a consultant at a cost of about $12,000 in 1985, an average of $.37 per month per subscriber, and consumed an additional 1,248 hours of company staff time annually However, he did not feel that adjusting to the FCC's revised uniform system of accounts would be a problem, although the new system would increase the bookkeeping work load without benefiting the company.

Potential for Increased Rural Long-Distance Rates

Deaveraging interstate and intrastate toll rates, in the general manager's view, could cause toll rates in Green Hills' service area to increase. He also noted that it could cause such significant subscriber rate increases that universal service could deteriorate. Green Hills would probably begin losing subscribers if the average telephone bill reached $65 to $75 per month.

Competitive Long-Distance Services in Rural Areas

The general manager did not expect competition from cable or cellular companies because the area had too few subscribers, especially business subscribers, to create much profit potential. AT&T would not face any competition from long-distance competitors unless Missouri's independent telephone companies joined together to utilize the Indiana Switch concept. Green Hills and several other independents tried to organize a "Missouri Switch," but they could not convince two companies with large service areas that would have improved the profit outlook to join in the venture.

Technological Improvements in Rural Telephone Service

The company was not planning any major modifications in the equipment it owned. Green Hills' physical plant was constructed in 1980 and was in very good condition. The equipment was relatively new, and the general manager did not know of any new technologies whose benefits would warrant a major investment at this time. For instance, he did not want to invest in digital switches because he believed their cost outweighed their potential benefits to his subscribers.

The general manager believed that independent telephone companies must look to themselves for help. Companies should buy their technical assistance because (1) trade associations and public utility commissions cannot give the level of assistance needed and (2) these entities do not understand the problems of small telephone companies because their perspective is slanted toward the needs of larger companies.

Response and Future Plans

Green Hills' response to the changing telephone industry was to expand into related services. The company had joined with five other independent telephone companies to form a subsidiary called TriStar, Inc. TriStar was purchasing business interests in Columbia and Jefferson City, Missouri, and its organizers hoped to expand into southern Missouri's resort lakes area. TriStar would provide mobile telephone, paging, and answering services. Additionally, the member telephone companies would reduce expenses by jointly contracting for production of their respective telephone directories. Green Hills' general manager expected the telephone company to be the smallest portion of Green Hills' business interests within 5 years.

The general manager had no specific plan for adjusting to the potential loss in revenues caused by the 25 percent allocator. The company did not expect this regulatory action by itself to have a significant impact. The company had not filed for a rate increase and had no specific plans to increase rates. Future rate increases would probably depend on federal and state regulatory actions.

Baca Valley Telephone Company Des Moines, New Mexico

Background

The Baca Valley Telephone Company, founded in 1974, is a family-owned and operated company whose owners live in the local area. In addition to providing telephone services, Baca Valley sells telephone equipment.

Baca Valley is located in rural northeastern New Mexico and serves major portions of Colfax and Union counties. The company provides telephone service to customers in the 2,545 square mile area that includes the towns of Des Moines and Maxwell. There are no significant population centers within the service area. The nearest medical and economic center is Raton, about 38 miles from Des Moines, and Des Moines is about 150 miles south of Pueblo, Colorado, the nearest city with a population of 25,000 or more.

The company's service area has not changed since 1980. The company manager painted a grim picture of economic conditions in the community. There was little growth. Many elderly people lived in the area, and the young people rarely stayed after they finished high school. The major industries in the service area are farming, ranching, and rock quarrying. Many of the residents in the service area did not have a steady income because they had to rely on ranch work, which is often seasonal. There was little work for teenagers, except for ranch work.

Service and Rates

Baca Valley had 523 subscribers at the end of 1985: 456 residential and 67 business. For these subscribers, there were 548 access lines, all of which were single-party. Between 1981 and 1985 the number of subscribers increased by 16 percent. However, the number of subscribers had declined since reaching a peak of 535 in 1983. According to the company manager, approximately 98 percent of the households in the Baca service area had telephone service. Density (subscribers per cable mile) is 0.90, based on 1985 REA statistical data.

Baca Valley's residential rates ranged from $9.50 per month for rotary service to $15.25 for touchtone service. The monthly business rates ranged from $17 for rotary service to $19.25 for touchtone service. Residential and single-line business subscribers paid another $4 for federal and state access charges. Subscribers within the Maxwell exchange could call about 170 other customers without incurring a toll charge, and those within the Des Moines exchange could call about 350 other customers without incurring a toll charge. Subscribers calling between these two exchanges would incur a toll charge. The company had not increased its basic rates since 1983, and the only change in

the subscribers' bills were the federal and state access charges. The installation charges ranged from $43 for residential service to $53 for business service.

The average residential monthly telephone bill for May 1986 included about $21 for interstate toll calls and about $20 for intrastate toll calls. The company did not offer any type of special discount rate for low-income subscribers.

Financial Information

Baca Valley's net income in 1985 was about $93,000, or almost $182 per subscriber. The company received about 61 percent of its operating revenues of about $1 million from interstate toll traffic, 20 percent from intrastate toll traffic, and 19 percent from local traffic. Thus, the company received over 80 percent of its revenue from toll traffic. Since 1980, toll revenues had increased by 435 percent while local revenues had increased by 165 percent. As a proportion of assets, the company's long-term debt had declined slightly from 79 percent in 1980 to 76 percent in 1985.

As table VII.1 shows,[1] over the last 5 years Baca Valley's financial condition has been good despite some fluctuation. From 1980 to 1985, net income per subscriber had increased from a deficit of $52 in 1980 to a high of $570 in 1984. In 1985 net income per subscriber fell to $182. Baca Valley's accrual ratio peaked in 1980 at 109 percent, remained within the 79 to 84 percent range between 1981 and 1984, but rose to almost 98 percent in 1985. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues.

Between 1982 and 1985, Baca Valley's rate of return on net worth declined steadily. After recovering from a negative position in 1980, the company's rate of return peaked in 1981 at almost 200 percent but dropped to 17 percent by 1985.

[1]Baca Valley did not start filing financial and operating data with REA until 1980

Table VII.1: Selected Financial Statistics, 1980-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1980	$(52 44)	NA	109 0
1981	158 05	198 5	83 3
1982	337 49	72 8	81 9
1983	351 12	66 2	84 4
1984	569 54	56.1	79 4
1985	181 93	16 8	97 5

The company's consultant said that the nontraffic-sensitive requirement for Baca Valley was $1,242 per loop, which was substantially above the national average of $213 per loop. The company's interstate subscriber plant factor was 68 percent. Baca Valley would have 8 years to decrease this factor to the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

The Baca Valley manager and consultant discussed the impact of the five issues we identified on the company.

Recovery of Nontraffic-Sensitive Costs

The implementation of the 25 percent gross allocator will result in decreased revenues for Baca Valley. Although the company qualifies for the Universal Service Fund, revenue from that fund will not compensate for all of the revenues lost from the 25 percent allocator. Therefore, in 1993, when both the 25 percent allocator and the Universal Service Fund are completely phased in, Baca Valley will have a revenue shortfall of about $182,000, which results in a shortfall of about $26 per line per month.

According to the company manager and consultant, local rates would probably have to increase; however, it was difficult to predict the amount of the increase because other state and federal regulatory decisions might also affect rates. Further, the cumulative effect of all these changes was unknown.

Regulatory changes within New Mexico might also impact Baca Valley. In 1986 New Mexico had an intrastate access charge, which added $2 to each customer's telephone bill. In addition, the manager observed that Mountain Bell's originating responsibility plan, effective January 1,

1987, might increase both local and intrastate toll rates for Baca Valley's customers.[2] (See app. VIII for more information on the originating responsibility plan in New Mexico.) The originating responsibility plan could also result in toll deaveraging and, from an administrative perspective, be complex and burdensome for small companies. However, at the time of our study, it was not known how the originating responsibility plan would affect Baca Valley's rates.

Potential for Increased Rural Long-Distance Rates

According to the company's manager, some toll rate deaveraging would probably occur in New Mexico, which would result in increased toll rates for rural areas. Toll rate deaveraging would largely result from the competition Mountain Bell might face from other carriers between Santa Fe, Albuquerque, and Las Cruces, New Mexico. Mountain Bell would want to decrease the toll rates between these routes, which would result in increases between other routes where little or no competition exists. As noted previously, Baca Valley also believed Mountain Bell's originating responsibility plan might encourage intrastate toll rate deaveraging.

Increased Regulatory and Administrative Burdens

The company manager noted that federal and state regulatory changes and subsequent requests for information had increased administrative burdens and costs for Baca Valley. The company was receiving a lot of requests for information from organizations such as NECA, AT&T, NTCA, Mountain Bell, and the FCC. The company's consultant answered these requests. Regulatory changes had also increased the amount of paperwork required. It took three people to handle the paperwork that one person used to handle. The amount of travel by the company manager had also increased. In addition, administrative costs, especially consultant and attorney fees, had increased significantly. For example, in 1983 consultant fees totaled $15,000, and, as of July 1986, they were already up to $43,000. Attorney fees had increased from none in 1983 to $2,000 per month in 1986.

Other FCC regulatory changes might also affect the company. The move to the revised uniform system of accounts would also affect Baca Valley. This system would be more detailed and result in more of an administrative burden for the company. In addition, it would be expensive for the

[2]Following completion of our field work, the New Mexico State Corporation Commission ordered the postponement of the effective date of the originating responsibility plan from January 1 to July 1, 1987

company to purchase the computer program it needed to change over to the revised system.

The company believed that the many federal and state regulatory changes would adversely affect its ability to maintain its subscriber base and keep rates low. It was especially concerned about Mountain Bell's originating responsibility plan.

Competitive Long-Distance Services in Rural Areas

Baca Valley did not expect any competition within its service area as a result of these regulatory changes. However, if cellular telephone technology became more cost-effective, Baca Valley might encounter some competition. In addition, AT&T would probably face competition in Baca Valley's service area from Mountain Bell in intra-LATA/intrastate calls and in operator assistance.

Technological Improvements in Rural Telephone Service

According to Baca Valley's manager and consultant, all existing plant equipment, two central offices (one in Des Moines and one in Maxwell) and buried cable, was in good condition. The central office in Des Moines had a 3-year-old digital switch, and the Maxwell central office was to be upgraded to a digital switch in 1986.

Baca Valley had no plans for future investment other than upgrading the Maxwell central office to digital equipment in 1986. In addition, it had no plans to use new technologies to provide telephone service.

Response and Future Plans

Baca Valley had not made specific plans to cope with regulatory or nonregulatory changes. According to the company manager and consultant, it was too difficult to plan from year to year because the impacts of most of these changes could not be determined since they had not yet been implemented. Although Baca Valley had taken no action to increase its rates, it would probably have to do so some time in 1987 when the originating responsibility plan is implemented. However, the company did not know how much rates would rise.

The New Mexico independent telephone companies were working together to educate the state legislature on the possible impacts of state policy decisions on their operations and subscribers. The independent telephone companies believed that if the legislature understood the consequences of state regulatory changes, such as the originating responsibility plan, it might be less likely to allow them to occur.

Penasco Valley Telephone Cooperative, Inc. Artesia, New Mexico

Background

The Penasco Valley Telephone Cooperative, Inc., with headquarters in Artesia, New Mexico, serves portions of four southeastern New Mexico counties: Eddy, Lincoln, Ottero, and Chaves. Penasco's service area surrounds the city of Artesia and extended area telephone service (at no extra charge) is offered between Artesia and three of Penasco's exchanges. The telephone company was formed in 1954 as a joint operation with the Central Valley Electric Cooperative, and its purpose is to provide service to those areas that no one else would serve.

The telephone company separated from the electric company in July 1979. At that time, it began an intensive outside plant replacement and upgrade program to replace the majority of the existing aerial cable with buried cable and to upgrade all exchanges to single-party service. The company had 99 percent buried cable, all single-party service, and digital microwave equipment. Penasco also sells telephone equipment and was considering cellular telephone and cable television as future business ventures.

Oil, ranching, and farming are the area's dominant industries, and some customer telephone service drop-off may have occurred because of declines in these industries, although two exchanges serving resort areas were experiencing growth.

Service and Rates

At the end of 1985, the company served 1,873 subscribers in 6 exchanges: 1,468 residential and 405 business. Approximately 85 percent of the households in the area had telephone service. Penasco had 1,846 access lines, about 1,300 miles of cable, and 1.41 customers per mile of cable.

Penasco's rates varied between residential and business customers and by type of service provided. Residential service began at $15.40 per month. (Single-party service with customer-owned telephone equipment was $11.40, plus federal and state access charges of $4.) Business service started at $20.40 per month. (Single-party service with customer-owned equipment was $16.40, plus access charges of $4.) Installation charges, which were the same for residential and business customers, varied depending on the service provided, and they ranged from $23.60 to $91.25. According to the company manager, the average monthly telephone bill had risen since 1983 because of federal and state access charges.

Penasco had not filed for a rate increase since 1983, although in May 1984 it unbundled rates. That is, the company varied rates depending on the type of service provided to the customer. Consequently, some customers' rates increased, others decreased, and some stayed the same. According to the company manager, a rate increase might be necessary sometime in the future, depending on what happened with federal and state regulatory changes. In addition, the company manager said Penasco did not offer any special discount services to low-income customers because the local rates were affordable.

Financial Information

Penasco's net margin in 1985 was about $457,000, or $253 per subscriber. The company received about 59 percent of its almost $3 million in operating revenues from interstate toll traffic, 24 percent from intrastate toll traffic, and 16 percent from local traffic. Thus, the company relied on toll service for 83 percent of its revenues. Between 1976 and 1985, increases in toll revenues outpaced increases in local revenues. Specifically, Penasco's toll revenues increased from $199,000 to $2,534,000 while local revenues increased from $159,000 to $469,000. As a proportion of assets, the company's long-term debt had increased from 68 percent in 1976 to 73 percent in 1985.

As table VIII.1 indicates, Penasco's financial condition had been profitable despite some fluctuations. Since 1978 net margin per subscriber had steadily increased from a low of $27 in 1978 to a peak of $412 in 1984. The 1984 increase in net margin per subscriber of over $200 from 1983 was due to a plant upgrade, according to Penasco's consultant. (This upgrade also caused Penasco's revenue requirement and toll revenue settlements to increase.) In 1985 net margin per subscriber fell back to what appears to be a more normal level for the company. Between 1976 and 1985, Penasco's accrual ratio remained below 100 percent, fluctuating from a high of 97 percent in 1978 to a low of 75 percent in 1984. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues. In 1985 Penasco's accrual ratio was 87 percent.

Between 1976 and 1985, Penasco's rate of return on net worth ranged from a low of 4 percent in 1978 to a high of 25 percent in 1984. In 1985 however, the company's rate of return dropped to 14 percent.

Table VIII.1: Selected Financial Statistics, 1976-85

Year	Net margin per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$76 18	13 6	84 8
1977	71 27	11.8	86 3
1978	26 93	4 5	97 1
1979	48.22	8 0	93 3
1980	205 90	22 4	79 9
1981	208 47	18 7	84 9
1982	238 25	17 7	84 4
1983	204 72	14 7	85 5
1984	411 80	24 6	75 0
1985	253 20	14 1	87 2

Penasco's 1984 nontraffic-sensitive costs were $1,041 per loop, substantially above the national average of $213 per loop. Penasco's high nontraffic-sensitive cost per line, according to the commercial manager, resulted from the low population density of the rural area. Penasco's subscriber plant factor was 61 percent, which is above the FCC maximum of 25 percent. The company would have 8 years to decrease this factor to the FCC maximum.

Impact of Regulation and Competition

Company officials discussed the impact of the five issues we identified on their company.

Recovery of Nontraffic-Sensitive Costs

Company officials said the FCC decision to implement a 25 percent gross allocator will cause a revenue decrease for the company. However, the Universal Service Fund will compensate for more than 100 percent of the revenue shortfall. The net effect of the 25 percent allocator and the fund on Penasco revenues will be an increase of $22 per line per month in 1993. According to the company's consultant, these revenue increases will be used by Penasco to reduce expected local rate increases from intrastate shortfalls.

In addition to the federal changes, company officials noted various state changes that had taken place: (1) intrastate toll revenue settlements were reduced, and a customer access line charge was initiated, (2) intrastate toll revenue settlements were terminated, and (3) Mountain Bell

proposed its originating responsibility plan. These state activities, company officials said, had caused and would cause a loss in intrastate revenues for Penasco.

The New Mexico State Corporation Commission issued an order on December 16, 1983, requiring existing intrastate, nontraffic-sensitive toll settlements to be reduced by 10 percent. The commission allowed this settlement reduction to be recovered in a customer access line charge, which resulted in an increase of $2 per customer per month. Although this access charge did not totally recover the company's settlement reduction, the company chose to absorb the difference.

The Commission not only decided to reduce intrastate, nontraffic-sensitive toll settlements, but it also issued an interim order in 1985 to terminate these settlements as of November 1, 1985. Specifically, the independent telephone companies were directed to bill their customers' intra-LATA long-distance calls, and the independent telephone companies were to keep these revenues. Mountain Bell, in turn, was to pay a prescribed amount to the independent telephone companies based on the independent telephone company's 1984 traffic-sensitive and nontraffic-sensitive costs. As a result of this termination of intrastate/intra-LATA settlements, the Penasco consultant estimated a 2-year intrastate revenue loss of $353,000 for 1985 and 1986. If the revenue loss is unrecoverable, (1) the Universal Service Fund might compensate for a portion of the loss or (2) customer rates might increase.

To follow this interim order, the Commission approved Mountain Bell's originating responsibility plan, which was to be effective January 1, 1987.[1] This plan replaces intrastate/intra-LATA toll settlements and eliminates averaged intrastate/intra-LATA toll rates.

Further, before March 31, 1985, all intrastate toll revenues were pooled together, and all independent telephone companies received a certain statewide averaged percentage of these revenues from Mountain Bell, as the pool administrator. Statewide averaged rates were used to even out the differential between the very sparsely populated, high-cost areas and the rest of the state. They allowed affordable telephone service for customers in those high-cost areas. Under the originating responsibility

[1]Following completion of our field work, the New Mexico State Corporation Commission ordered the postponement of the effective date of the originating responsibility plan from January 1 to July 1, 1987

plan, toll revenues will no longer be pooled, and each independent telephone company will no longer receive a certain revenue settlement percentage from Mountain Bell. Instead, telephone companies will have to develop their own toll rates, and each telephone company that originates a call will pay the other telephone companies it uses to transport and terminate the call. These payments then will replace intrastate/intra-LATA settlements.

According to the New Mexico Independent Exchange Carrier Group, a group of independent telephone companies set up to present their concerns about state activities to the state legislature, originating responsibility plan requirements will create (1) an increase in rural toll charges because rural areas are high-cost areas, and toll routes in high-cost areas will be priced higher than non-rural areas; (2) a shift of more of the burden for telephone costs onto the telephone company originating the call; and (3) an administratively burdensome and costly process of implementation. Penasco's consultant estimated that Penasco would realize a $408,000 intrastate revenue loss in 1987 from the plan. This loss might be recovered through the Universal Service Fund overflow and/or local and toll rate increases.

Potential for Increased Rural Long-Distance Rates

Geographic toll rate deaveraging of intrastate and interstate toll rates, according to Penasco's consultant, would have a negative effect on Penasco's customers and operations. Since Penasco is a high-cost company serving a rural area, its cost-based rates would be greater than rates presently charged by Mountain Bell. As rates increased, subscribers would be more apt to seek an alternate facility for toll calling (where available) or merely refrain from toll calling. Either way, higher toll rates would affect Penasco's revenue flow. Revenue losses would have to be made up from other sources, such as local rates. As local rates increased, some subscribers would discontinue service, which, in turn, would cause rates to increase even more for the remaining subscribers.

Increased Regulatory and Administrative Burdens

The commercial manager also pointed out that Penasco's paperwork and commercial expenses had increased by about 60 percent between 1984 and 1985 as a result of state and federal regulatory changes. In addition, he expected an even greater increase in 1986. Consulting costs increased between 1984 and 1985 and had almost reached 1985 levels in the first 6 months of 1986. Specifically, consulting costs were about $49,000 in 1984, $74,000 in 1985, and $71,000 for the first half of 1986.

Revising the uniform system of accounts would expand the current system and thus require additional detail. According to the company consultant, this revision would take 2 to 4 years to complete and to train employees.

Competitive Long-Distance Services in Rural Areas

AT&T would not face competition in the Penasco market because of the low population density per square mile. Competition from resellers and cellular telephone companies was possible, however. A reseller was supplying Penasco's large customers with toll service by purchasing wide area telecommunications service (WATS) lines from Mountain Bell. According to the company manager, Penasco's toll revenue had dropped as a result. However, the reseller's service quality was not good, and some subscribers had returned to Penasco. Cellular telephone competition was a future possibility.

Technological Improvements in Rural Telephone Services

Penasco's equipment, according to the company's commercial manager, was in good condition, modern, and well-maintained. The company was looking into cellular and radio telephone technology and considered fiber optics as a way to lower costs in the future.

REA loans had helped the company upgrade its facilities since 1979, including extending service to other areas in its exchanges that did not have telephone service. According to the Penasco manager, REA is one of the most successful programs the federal government provides. Penasco needed REA low-interest loans to keep its operations going and to maintain its equipment. Although REA material requirements, such as those requiring a certain type of cable, increase costs, the quality was better, and cost savings were realized in the long-run.

Response and Future Plans

Penasco had not made any definite plans to deal with the many regulatory or non-regulatory changes that were occurring because, according to the company manager, it was difficult to say with certainty what changes would take place in the future. It was also difficult to foresee the exact impact the state and federal regulatory changes would have on Penasco's customers. However, although the company had not filed for a rate increase, he predicted that customer rates would rise and subscribers would drop service. The company was looking into diversifying into cellular telephone sometime in the future; however, competition in other telephone services was tight, and REA would have to approve any additional services the company provides. The implementation of the 25

percent gross allocator would reduce Penasco's revenues, but the Universal Service Fund would compensate for over 100 percent of this revenue shortfall.

Dobson Telephone Company, Inc. Cheyenne, Oklahoma

Background

Dobson Telephone Company, Inc., is a family-owned and operated business formed in 1936 to provide service in an area considered unattractive to other telephone companies. Dobson has been able to provide quality service to its subscribers, according to the vice president of finance, because (1) the availability of low-cost REA loans enabled it to develop service while keeping local rates low and (2) it received a large percentage of toll revenues through the settlements process. Dobson Telephone Company acquired McLoud Telephone Company in October 1984.

Dobson's 34 employees operate 9 exchanges covering 1,828 square miles in far western Oklahoma. These exchanges are contiguous and offer service to Bechham, Roger Mills, Dewey, Woodward, Ellis, and Custer counties. There are no cities or towns in excess of 25,000 individuals within the service area. The vice president of finance noted that subscribers had to travel 30 miles or more for medical service and that subscribers routinely traveled 120 miles to Oklahoma City.

The dominant industries in Dobson's service area are farming and oil. The vice president noted that both industries were doing poorly.

Service and Rates

In 1985 Dobson Telephone served 3,973 subscribers and had a density of 2.36 subscribers per mile of telephone cable. The company maintains 1,681 miles of telephone cable. Between 1976 and 1980, the number of subscribers had increased by 12 percent from 3,569 to 4,014. However, subscribership declined by 9 percent between 1981 and 1985. Dobson officials were concerned about the decline in subscribership, which they attributed primarily to the area's declining economy. Further, they did not believe subscribership would increase to past levels because of (1) shifting demographics, with younger people leaving the state; (2) a national farm policy that favors large farms, resulting in fewer people in the community and thus fewer telephone subscribers; and (3) the oil industry, which was not expected to improve.

All of Dobson's subscribers receive single-party service. About two-thirds of the company's switching equipment is digital and about one-third electromechanical. The vice president estimated that over 90 percent of the households within the area had telephones.

Dobson had not raised rates since 1973. Basic rates were $4 for residential subscribers and $8 for business subscribers, with an additional $.65

fee for telephone rental for subscribers who did not own their telephones. Residential and single-line business subscribers also paid an additional $2 for the federal subscriber line charge; multi-line business subscribers paid an additional $6 per line. With a local call, a subscriber could reach from about 200 to 740 other subscribers, depending on the exchange; a call outside the exchange was a toll call. Dobson did not offer any discount to low-income subscribers. Typical installation charges were $25 for residential and $44 for business subscribers.

According to the vice president, Dobson's subscribers spent an average of $40 per month for telephone services, about $32 of which was spent on tolls—$18 for intrastate tolls and $18 for interstate tolls.

Financial Information

The vice president of finance noted that Dobson Telephone was in good condition. Net income in 1985 was about $463,000, or $114 per subscriber. The company received about 45 percent of its operating revenue of about $4.3 million from interstate toll traffic, 43 percent from intrastate toll traffic, and 11 percent from local telephone traffic. Between 1976 and 1985, local service revenue increased by about 50 percent, while toll revenues increased by about 340 percent. As a proportion of assets, the company's long-term debt had declined from 80 percent in 1976 to 71 percent in 1985.

As table IX.1 shows, the company's financial condition had fluctuated over the 10-year period. Between 1976 and 1981, net income per subscriber fluctuated while the rate of return on net worth declined. After improving to $180 in 1982, net income per subscriber declined to $103 in 1983, rose again in 1984 to almost $198, but declined to $114 in 1985. Dobson's accrual ratio peaked at 89 percent in 1985, but it had not risen above 90 percent between 1976 and 1985. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues.

Over the same period, the company's rate of return on net worth fluctuated from a peak of almost 59 percent in 1976 to a low of 15 percent in 1985. In 1983 the rate of return dropped to 23 percent from almost 47 percent the year before, recovered in 1984 to 32 percent, and then declined again in 1985 to 15 percent.

Table IX.1: Selected Financial Statistics, 1976-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$125 83	58 6	65 6
1977	67 94	32 7	84 0
1978	87 37	31 5	79.3
1979	79 08	25 3	82 4
1980	67.60	19 5	86 3
1981	76 60	20.6	87 6
1982	180 15	46 9	79 1
1983	103 28	23 0	89 0
1984	197 73	32.1	82 3
1985	114 20	15 2	89 1

The vice president said that the nontraffic-sensitive revenue requirement for Dobson was $586 per loop, which is above the national average of $213 per line. Nontraffic-sensitive costs are high for Dobson, according to the vice president, because of the low density of subscribers per route mile. Dobson's interstate subscriber plant factor is approximately 37 percent, which is above the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

Dobson's vice president of finance said that in general he expected regulatory changes to result in both a reduction in the quality of service and increased costs to the subscriber. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

The net effect in 1993 of the subscriber plant factor phase-down to 25 percent and the Universal Service Fund will be increased revenues for Dobson. The vice president estimated that in 1993 Dobson would lose $9.20 per month per line from the phase-down while gaining $16 per month per line from the Universal Service Fund because its nontraffic-sensitive costs were above the national average. The net impact on Dobson in 1993 will be additional revenues of about $6.80 per loop per month. He noted, however, that recent information from NECA indicated his revenues from the fund might not be as much as prior NECA estimates.

Dobson was concerned about a major regulatory policy under discussion at the state utility commission on intrastate toll settlements. Southwestern Bell had proposed a new method for intrastate toll settlements. Dobson's vice president noted that this method was similar to the originating responsibility plan being implemented in New Mexico (see apps. VII and VIII), but he did not believe its implications for small telephone companies in Oklahoma would be as severe. Southwestern Bell's proposal could create pressure to deaverage intrastate toll rates.

Increased Regulatory and Administrative Burdens

The vice president said that regulatory changes had created a burden for his company. Administrative costs had increased by an estimated $75,000 annually, or $1.57 per month per subscriber, as a result of (1) increases in data requests from various organizations; (2) the need to comment on regulatory proposals, such as FCC proceedings; (3) negotiations with AT&T over billing and collection activities; and (4) requirements resulting from state actions. To cope with the increased administrative requirements caused by regulatory changes, Dobson had hired consultants as well as increased its accounting personnel. The vice president did not foresee a reduction in administrative costs for Dobson.

The vice president was also concerned about the financial effect of recent events on maintaining current accounting records. He said the company's income statements might not reflect actual revenues for up to 24 months because of the time it takes the industry, NECA, and Southwestern Bell to complete the toll settlements process.

Potential for Increased Rural Long-Distance Rates

Dobson's vice president said it was too early to tell what the impact of toll rate deaveraging in Oklahoma might be on toll rates for rural subscribers. The impact would depend on the specific toll settlements plan adopted by the state utility commission and the telephone industry's reactions. Dobson, for example, would be hesitant to raise toll rates for its subscribers.

Competitive Long-Distance Services in Rura Areas

Competition with AT&T in the Dobson area was unlikely because of the service area's low population density. Local competition with Dobson was also unlikely for the same reason.

Although the vice president believed the Indiana Switch concept was a good idea, he did not have any plans to participate in an "Oklahoma Switch" operation because of the state's poor economic conditions. In

addition, independents in Oklahoma had such a small market share that the benefits of an Oklahoma Switch would not be as significant as in other states. (The vice president of finance estimated that the Bell company provided local exchange service to about 93 percent of the state's subscribers.)

Technological Improvements in Rural Telephone Service

Microwave, radio telephone, fiber optics, and the Indiana Switch concept were all possible new technologies for reducing costs in rural areas. However, since Dobson's digital equipment was in good condition, the company was not considering adopting new technologies.

Response and Future Plans

Dobson was awaiting the resolution of various FCC and state decisions and considering how these decisions would affect the company's rates. Dobson's monthly charge was low, but the company's stockholders were reluctant to pursue a rate increase. Although Dobson did not have a request before the state utility commission to increase rates, the vice president said future rate increases were likely. He estimated that local rates could double in a few years, depending upon federal and state regulation.

Because the industry is changing and local exchange telephone companies might have a limited future, Dobson was also considering diversifying into related businesses. It might acquire other telephone companies and enter communications-related businesses. The vice president said Dobson might stay in the telephone business because it knew how to run a local telephone company, which has been profitable. He stressed that Dobson's plans were still in the decision-making stage. Finally, the vice president noted that the uncertain environment caused by the poor economy in the Midwest, the increased competition in the industry, and the many regulatory changes at both the state and federal levels precluded long-range planning. Moreover, Dobson's initiatives were heavily influenced by Southwestern Bell because of its dominance in Oklahoma.

The vice president believed that small telephone companies would have difficulty surviving in the coming years, and he had seen predictions that the 1,400 independent telephone companies would be reduced to about 700. The 700 survivors would be companies with an excess of 20,000 lines. (Dobson and McLoud combined had about 10,000 lines.)

McLoud Telephone Company McLoud, Oklahoma

Background

McLoud Telephone Company is a privately owned corporation formed in 1955 to provide rural telephone service where needed. McLoud has been able to provide quality service to its subscribers, according to the vice president of finance, because (1) the availability of low-cost REA loans enabled it to develop service while keeping local rates low and (2) it received a large percentage of toll revenues through the settlements process. In addition, strong metropolitan growth toward McLoud's Newalla exchange had enabled the company to increase subscribership. In October 1984 McLoud was acquired by the Dobson Telephone Company. Since the acquisition, McLoud has submitted an $8 million loan application to REA to replace its outdated equipment with all digital switching equipment.

The company has approximately 30 employees who operate two exchanges (Newalla and McLoud), which provide telephone service to Cleveland, Oklahoma, Pottawatomie, and Lincoln counties. McLoud's service area covers 185 square miles in the outlying areas of Oklahoma City, Oklahoma.

According to the vice president, the dominant industry in McLoud's service area is farming, which was doing poorly. However, about 25 percent of Newalla's subscribers were employed by a nearby air force base and automobile plant. These two employers provided some stability to the Newalla exchange area, although employment at the automobile plant could fluctuate.

Service and Rates

McLoud served 5,564 subscribers at the end of 1985 and had a density of 12.46 subscribers per mile of telephone cable. The company maintained about 500 miles of telephone cable. Subscribership, moreover, had been growing steadily from 2,488 subscribers in 1976 to its 1985 level, an increase of 124 percent.

All of McLoud's subscribers received single-party service. The vice president estimated that over 90 percent of households within the service area had telephones.

McLoud had not raised rates since 1977. It charged a basic rate of $5.35 per month for residential service and $11 for business service. The Newalla exchange subscribers paid an additional $6 per month for extended service into the Oklahoma City area. With extended area service, Newalla subscribers can call into Oklahoma City without paying a toll call. The vice president of finance estimated that with extended area

service Newalla subscribers can call an additional 500,000 other subscribers toll-free. Newalla subscribers did not have a choice on obtaining extended area service. McLoud exchange subscribers, however, did not have extended area service available to them, although company officials had been meeting with subscribers in the exchange area to explore the possibility. McLoud's subscribers could reach about 1,800 other subscribers in the exchange without incurring a toll charge.

Subscribers also pay a federal subscriber line charge (an additional $2 for residential and single-line business subscribers and $6 per line for multi-line business subscribers) and a $.65 telephone rental fee for subscribers who do not own their own telephone. The company did not offer any discount to low-income subscribers. McLoud charged a basic rate of $25 to install new service.

The vice president of finance estimated that subscribers spent an average of $40 per month for telephone services, $25 of which was spent on long-distance calls—$14 on intrastate and $11 on interstate.

Financial Information

According to the vice president of finance, the company was in good condition, despite a deficit in 1984. Net income in 1985 was nearly $88,000, or almost $16 per subscriber, a substantial improvement from the $109,018 lost in 1984. The company received about 47 percent of its operating revenues of $2.8 million in 1985 from intrastate toll traffic, 40 percent from local telephone traffic, and 12 percent from interstate toll traffic. Between 1976 and 1985, local revenues and toll revenues increased by 376 and 371 percent, respectively. As a proportion of assets, the company's long-term debt was 83 percent.

As table X.1 shows, the company's financial condition fluctuated over the 10-year period. During 1977 and 1978, net income per subscriber and the rate of return on net worth declined while the accrual ratio rose to 100 percent. In 1979 and 1980, the company's financial condition improved but then steadily worsened from 1981 to 1984. But in 1985, the financial picture again improved. Between 1979 and 1983, the accrual ratio was under 100 percent but exceeded 100 percent in 1984. An accrual ratio in excess of 100 percent indicates that a company's operating expenses and fixed costs exceed its operating revenues. In 1985 the accrual ratio was under 100 percent while the rate of return on net worth rose to almost 26 percent.

Table X.1: Selected Financial Statistics, 1976-85

Year	Net income per subscriber	Rate of return on net worth (percent)	Accrual ratio (percent)
1976	$31 38	11 0	88 2
1977	4 36	1 7	100 4
1978	13	0 1	100 5
1979	33.43	13 5	91 3
1980	85.07	51 7	82 1
1981	45 72	26 2	90 4
1982	8 14	6 0	98 5
1983	5 14	5 2	99 8
1984	(20 73)	NA	109 4
1985	15 96	25 9	97 9

In 1985, McLoud's nontraffic-sensitive cost per line was $292, above the national average of $213. McLoud's interstate subscriber plant factor was 19 percent, which was below the FCC's intended maximum of 25 percent.

Impact of Regulation and Competition

McLoud's vice president said regulatory and industry changes had created a burden for his company. He expected the regulatory changes to result in both a reduction in the quality of telephone service and increased costs to the subscriber. He discussed the impact of the five issues we identified on his company.

Recovery of Nontraffic-Sensitive Costs

McLoud's vice president estimated that the net effect of the subscriber plant factor phase-down to 25 percent and the Universal Service Fund will be additional revenue for McLoud in 1993. Since the company's subscriber plant factor was less than 25 percent, it will not lose revenue from the phase-down.

In 1993, McLoud would receive an estimated $16 per year per telephone line from the Universal Service Fund, or $1.33 per month per loop. However, recent information from NECA indicated that revenues from the Universal Service Fund might not be as much as prior NECA estimates.

McLoud was monitoring a major regulatory policy under discussion at the state utility commission concerning how to handle intrastate toll settlements. Southwestern Bell had proposed a new method for intrastate

toll settlements. This method was similar to the originating responsibility plan being implemented in New Mexico (see apps. VII and VIII), but the vice president did not believe its implications for small telephone companies in Oklahoma would be as severe. Southwestern Bell's proposal, according to the vice president, could create pressure to deaverage intrastate toll rates.

Increased Regulatory and Administrative Burdens

Administrative costs had increased by about $50,000 annually, or $.75 per month per subscriber, because of (1) data requests from various organizations; (2) the need to hire consultants and specialists; (3) the need to comment on regulatory proposals; (4) negotiations with AT&T concerning billing and collection activities; and (5) state requirements. McLoud was also incurring additional expenses from increased travel.

McLoud was also concerned about the difficulty of maintaining current accounting records since the Bell system divestiture. The vice president said, for example, that income statements might not reflect actual revenues for up to 24 months because of the amount of time it requires the industry to "true up" (reconcile actual amounts with estimates) its toll settlements process as operated by NECA.

Potential for Increased Rural Long-Distance Rates

It was too early to tell what the impact of toll rate deaveraging in Oklahoma might be on toll rates for rural subscribers. The impact would depend on the specific toll settlements plan adopted by the state utility commission and the telephone companies' reaction. For example, McLoud would be reluctant to raise toll rates for its subscribers.

Competitive Long-Distance Services in Rural Areas

Competition from MCI and US Sprint were likely in McLoud's service area near Oklahoma City. The vice president also noted that McLoud was adversely affected by toll resellers in the Newalla exchange area, who have enabled McLoud subscribers to obtain a local dial tone in Oklahoma City and then gain access to a long-distance carrier. Through this process the reseller avoided carrier access payments to McLoud.

McLoud did not have any plans to participate in an "Oklahoma Switch" operation. If the economy in Oklahoma were healthier, McLoud might consider participation in such a venture. Since independents in Oklahoma would have such a small market share, the benefits of participation in an Oklahoma Switch operation were not as significant in Oklahoma as in other states. (Southwestern Bell, according to the vice

president of finance, provides local exchange service to about 93 percent of the telephone subscribers in the state.)

Technological Improvements in Rural Telephone Service

McLoud's plant was old and would not handle its peak traffic load. Microwave, radio telephone, and fiber optics were all possible new technologies for reducing nontraffic-sensitive costs in rural areas. However, the only new technology the company was planning to utilize was the conversion to digital equipment.

Response and Future Plans

McLoud was awaiting the resolution of FCC and state decisions and considering how these decisions would affect the company's plans for rate increases. Although McLoud did not have a request before the state utility commission to increase rates, future rate increases were likely. Local rates could double in a few years, depending on federal and state regulatory actions.

The vice president also noted that the uncertain environment caused by the poor economy in the Midwest, the increased competition in the industry, and the many regulatory changes at both the state and federal levels precluded long-range planning. Moreover, McLoud's initiatives were heavily influenced by Southwestern Bell, which dominates Oklahoma. In other words, Southwestern Bell initiatives often put McLoud in a reactive mode. Nevertheless, McLoud had submitted an $8 million loan application to REA to upgrade its plant to meet the growth that was occurring within the service area.

Request Letter

NINETY-NINTH CONGRESS

Congress of the United States

House of Representatives

GOVERNMENT INFORMATION, JUSTICE, AND AGRICULTURE SUBCOMMITTEE
OF THE
COMMITTEE ON GOVERNMENT OPERATIONS
B-349-C RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515

November 5, 1985

The Honorable Charles A. Bowsher
Comptroller General of the
United States
General Accounting Office
441 G St., N.W.
Washington, D.C. 20548

Dear Mr. Bowsher:

The telephone industry is rapidly changing due largely to advances in technology, the breakup of the Bell System and recent FCC regulatory decisions. This change has raised serious questions about the cost of local and long distance telephone service and the ability of many Americans to pay higher telephone rates. Rural areas in particular are at risk in this changing regulatory environment, since many of them are served by small, cooperatively owned or independent telephone companies with limited resources, small customer bases, high costs, and heavy dependence on long distance revenue supplied by larger carriers.

The federal government has made legislative and financial commitments to providing rural Americans with affordable telephone service. In 1934 Congress passed the Communications Act promising all Americans reasonably priced telephone service. The financial commitment includes some $7 billion in low interest Rural Electrification Administration government loans currently outstanding to small, rural telephone companies to develop and improve rural telephone service. We are concerned that federal regulatory changes may be undermining the security of these loans and undermining the fundamental commitment to provide service in rural America.

We also understand that the FCC has set up a monitoring program to track and evaluate the effect of its regulatory decisions on telephone costs and service. We request that

The Honorable Charles A. Bowsher
November 5, 1985

you examine how well this program is designed and being carried out, especially in regard to the monitoring of rural telephone service. It is also important to ascertain how the FCC plans to insure that adequate service and reasonable rates in rural areas are not jeopardized by changes it adopts before finishing its monitoring and reevaluation. This information would be particularly useful for future hearings.

We also request that you undertake a broad review of the key issues and problems facing rural telephone companies and customers, particularly in regard to maintaining universal service at affordable prices. What are the major regulatory changes affecting rural telephone service? How are state regulatory changes impacting on federal regulation? What long-term problems need to be addressed in order to insure continued rural telephone service at reasonable prices?

The questions we have posed in this letter are obviously broad and by no means all inclusive. Our staff will be available to cooperate with GAO and further define the areas of study. Please contact Don Gray at 225-6427 and Leo Jardot at 225-3741 for further information and consultation.

We look forward to your assistance on these important issues.

Sincerely,

Mike Synar
Chairman
Subcomittee on Environment, Energy, and Natural Resources

Glenn English
Chairman
Subcommittee on Government Information, Justice, and Agriculture

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