

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2666 SCOM 120 HOUSE SPEC.COMM.UTILITY RESTRUCTURING, 1999-2000

This report was prepared for the Alaska Energy Authority by the Institute of Social and Economic Research, University of Alaska Anchorage, dated June 25, 1990 (ISER 1990 Forecast). Utility electric energy requirements in these communities were projected to grow at an average annual rate of between - 3 and +4 percent per year between 1990 and 2010 from the 1988 level. Growth rates considered economic effects of the Quartz Hill mine and the Bradfield intertie, but did not include mine loads themselves. The Quartz Hill mine development did not begin operation in 1995 as predicted in the high and medium scenarios, therefore for purposes of this presentation the low growth scenario has been used.

Southeast Alaska Transmission Intertie Study - 1987 Study

The 1987 Southeast Alaska Transmission Intertie Study (1987 Study) presented three load forecasts, high, medium, and low. Load growth during the past 10 years has deviated from the predictions. Planning criteria used to guide the 1987 Study projected the most economic development would include new transmission links between (1) Snettisham and Sitka via Juneau, Green's Creek Mine, Hoonah and Tenakee Springs; (2) Petersburg, Wrangell and Ketchikan via a Tye Lake-Swan Lake intertie; and (3) the Quartz Hill Mine and B.C. Hydro at Kitsault, British Columbia. Total estimated construction cost of these three interconnections was projected to be \$153 million at the January 1987 price level.

7.4.2.1

Alaska Electric Light and Power Company

AELP a private utility, serves the City and Borough of Juneau (CBJ). The most recent information regarding AELP's system and projected future scenarios is presented in the *1990 Juneau 20-Year Power Supply Plan Update* (1990 Juneau Plan). Existing resources in 1990 totalled 152 MW. Primary sources of power are small hydroelectric projects owned and operated by AELP and the federal Snettisham/Crater Lake hydroelectric projects. Legislation was enacted to transfer Snettisham/Crater Lake to the State of Alaska; transfer proceedings are continuing as of October 1997. AELP operates and maintains Snettisham/Crater Lake. Snettisham is close to full energy utilization. During critical water years, such as 1997, it was necessary to run AELP diesels to cover hydro energy deficits. For average water years there could be as much as 60 million KWH of surplus energy during the summer and early fall months.

The Kensington Mine's annual energy requirement is 68,400,000 KWH (pg. 2-26 Environmental Impact Statement dated August

Action Plan

1997). The annual energy requirement for the Jualin Mine is unknown.

The 1990 Juneau Plan identified demand side management (DSM) as having the greatest potential to reduce need for new capital investment in generation. Results of implementing DSM measures to date have been mixed. Projections in the 1990 Juneau Plan, including a projected 2.0% load growth rate over the period 1998 - 2018 were employed in preparing this SYSTEM Plan. However, if the state oil revenues continue to decline and potential mining activity does not materialize, AELP may not need future sources of generation.

7.4.2.2

Alaska Power & Telephone Co.

Alaska Power & Telephone Co. (AP&T) currently provides energy to the following communities of Craig, Klawock, Hollis, Hydaburg, Coffman Cove, and Whale Pass, on Prince of Wales Island; and the communities of Haines and Skagway in the Upper Lynn Canal Region. AP&T recently acquired Haines Light & Power (HLP). AP&T has developed future plans to serve Thorne Bay and Naukati on Prince of Wales Island and Klukwan and Chilkat Valley in the Upper Lynn Canal Region. Detailed information on AP&T's system was not made available to Acres.

7.4.2.3

City of Kake

The City of Kake is located on the northwestern tip of Kupreanof Island in Southeast Alaska. Electric service is currently provided to the 700 residents by the Tlingit-Haida Regional Electrical Authority (THREA) using 2,230 KW of installed diesel generation. THREA's electrical system is isolated from other communities and alternative sources of supply. Peak demand in 1994 was 1,020 KW and total energy generation was 4,248 MWH. Ratepayers in Kake pay the highest rate for electric service identified in this study. The proposed SYSTEM interconnections would significantly reduce power costs and would be expected to enhance potential for future economic development and related load growth.

7.4.2.4

City of Ketchikan - Ketchikan Public Utilities (KPU)

Ketchikan, located on Revilligedo Island, is Alaska's fourth largest city. Electric power is generated by hydroelectric plants at Swan Lake, Ketchikan Lakes and Lake Silvis/Beaver Falls with occasional back-up provided by the Bailey diesel plant. Ketchikan has experienced significant growth in electrical demand over the past decade. Residential use per KPU customer increased at an average annual rate of .4% between 1969 and 1987. Commercial use increased at a higher rate.

In recent years KPU has not been able to meet demand with hydroelectricity and has been forced to rely on the more expensive and less dependable power provided by aging diesel plant and surplus power from the Ketchikan Pulp Company (KPC). In October 1996, KPC announced that it would close its pulp mill and related electric generating facility in March 1997. (Initial Draft Power Supply Planning Study - Foreword) Loss of the pulp mill will affect 465 employees and eliminate a power source; if KPC continues to operate its sawmill about 150 jobs would be retained and a new electric load would occur.

7.4.2.5

Metlakatla Power & Light

Metlakatla is located on Annette Island approximately 15 miles southwest of Ketchikan within the Annette Islands Indian Reservation. Metlakatla's economy is fairly stable and is primarily supported by timber and fishing industries. Royalty payments for timber harvest through 1987 were \$5 million; an additional \$3 million is projected if the entire resource is harvested. Fisheries activities provide approximately 93 jobs. A community-owned sawmill operated by KPC under a long term lease provides 110 full-time, year-round jobs, and an additional 30 jobs are associated with longshoring activities. KPC has recently opened a second sawmill at Ward Cove near Ketchikan. The KPC-Annette Island sawmill lease ends in 2004. The sawmill consumes about 6,000 MWH/year (1989 data), or about 40% of Metlakatla's total sales. MP&L's hydroelectric plant cannot respond quickly enough to the second-by-second fluctuation and resulting load variation. MP&L is forced to run a 3,500 KW diesel generator loaded to 1,000 KW in order to respond to the sawmill load and maintain system reliability. Residential electricity use averages 17,250 KWH due to use of electricity for space and water heating and poorly insulated homes.

7.4.2.6

City of Petersburg - Petersburg Municipal Power & Light (PMP&L)

Petersburg Municipal Power & Light (PMP&L) serves approximately 1,860 consumers within the city limits and Mitkof Island. POWER Engineers, Inc. prepared a draft 20-Year Plan to define additions and modifications for PMP&L's system in April 1997. PMP&L has three sources of generation: Tyee Hydro Project, Crystal Lake Hydro Project, and downtown Diesel Plant. Crystal is base loaded with the remaining generation provided by Tyee; backup power is provided by the Downtown Diesel Plant.

Petersburg has historically relied on the ocean fishery and logging for its economic activity. Petersburg's system peaks in summer from fish plants' demands, but are starting to level out between winter and

summer. PMP&L energy requirements in 1995 were 37,400 MWH and peak demand was 9.2 MW. Current peak load for the PMP&L system is approximately 8.7 MW and available backup capability is 7.2 MW. Total PMP&L load growth has averaged 4.7% per year between 1984 and 1995. Petersburg states that it is preparing a new load forecast. Load curtailment occurs during peak demand hours if the Tyee source is lost. Tyee power is delivered to Petersburg at the 69-25 KV Petersburg Substation owned by the State of Alaska and operated by Thomas Bay Authority. PMP&L's 20 Year Plan evaluates five diesel scenarios for added generation on Mitkof Island.

7.4.2.7

City and Borough of
Sitka - Sitka Electric
Department

The Sitka Electric Department (SED) serves consumers on Baranof Island and Japonski Island. Past and projected future rate of population growth is 0.5% and employment growth is 0.55%. Major industries include: fish processing currently growing at an annual rate of 1.3 %; and tourism projected to increase at 5.0 % through 2001 and 2.5 % thereafter. The APC pulp mill, once a major source of employment, is no longer in operation. Plant closure and site redevelopment are expected to occur. The former APC site is attractive for commercial or industrial development as it enjoys direct access to open water and municipal utility infrastructure is in place.

In the medium ISER forecast, power requirements in Sitka are assumed to remain at the current level through 2000 and increase at 0.55 per year through 2010. Future energy system losses are assumed to equal 7%. System peak demand levels are based on assumed future system annual load factor of 56.6%. System peak demand is projected to increase to 23.8 MW in 2010. Electric rates are projected at the current level through 2000 and to increase at a 3.0% rate of inflation through 2010. The percentage of all-electric homes is projected to increase at a 40% rate in the medium scenario. Thompson Harbor facility is projected to double in size and fill up by 2003. Sitka is currently proposing to add a new diesel generation station this year.

7.4.2.8

Tlingit-Haida Regional
Electric Authority

The THREA is a generation and distribution electric utility incorporated in 1977 to provide electric generation and distribution service to five Tlingit and Haida villages located in Southeast Alaska: Angoon, Hoonah, Kake, Kasaan, and Klawock, located on islands in the Alexander Archipelago. Chilkat Valley, THREA's sixth village, was added in 1994. A seventh village, Klukwan, part of the original study in 1976, has elected to join THREA.

Load growth is attributed to one-time events such as new housing and adding new communities to the system. Predicting new load growth has always been difficult. THREA serves no large power (1,000 KW or larger) loads. Village economies are primarily dependent on timber, fishing, government and service industries. Villages receive assistance through the Power Cost Equalization (PCE) program and are concerned that the State of Alaska address the potential demise of PCE in 1999. The timber industry has been most responsible for economic growth in the communities over the past ten years. Village and regional corporations will soon exhaust their private timber reserves and there is grave concern among community leaders that this will result in a loss of jobs. The fishing industry is cyclical with prices fluctuating considerable during the fishing season. It is difficult to justify the economics of a fish processing plant in rural village communities where energy costs are higher than other locations in Southeast Alaska.

Construction of the planned 8-mile intertie from Chilkat to Haines will allow THREA to access lower cost power from AP&T's Goat Lake Project for the Chilkat Valley and Klukwan. Southern Energy, an independent power producer, has started construction of a 500 KW run-of-river hydro plant with the goal of serving property owned by Southern Energy and selling excess power to THREA and HLP.

7.4.2.9

Wrangell Municipal Light & Power

Wrangell Municipal Light & Power (WML&P) is dependent on fishing and tourism for much of its economic base. Wrangell also benefits from a sawmill and is enjoying a new life as a staging area for mining activity just across the Canadian border, largely as a demand for airport and logistical services. Wrangell's recent loads were not significantly different than forecasted in the 1990 ISER Base Case.

7.5

Environmental and Regulatory Procedures

The environmental and regulatory review and related issuance of approvals in the form of licenses and permits often requires a long lead time in order to commence with construction and complete facilities on a timely and cost-effective basis. Issuance of a federal license or permit triggers environmental review requirements under a number of statutes, including the National Environmental Policy Act. Facilities envisioned in this SYSTEM Plan involve actions that will require federal licenses and permits including:

- permits to cross navigable waterways and wetlands, or to allow dredge and fill activities;

Action Plan

- preparation of a Special Use Authorization to occupy Tongass National Forest lands; and
- Hydropower projects and primary transmission lines jurisdictional under the Federal Power Act are required to be licensed by the Federal Energy Regulatory Commission (FERC).

Based on prior experience, time periods to complete regulatory approvals involving NEPA review are:

- Hydropower licenses for major unconstructed projects: 5 - 12 years; and
- Approvals for transmission line segments located on federal lands: 2 - 5 years.

7.5.1

Reconnaissance Level Review - "Fatal Flaw Analysis"

A "fatal flaw" environmental assessment for each of the selected line segment is typically performed concurrently with engineering feasibility investigations to determine whether an environmental issue of significant magnitude would preclude construction and operation of a line segment, even though reasonable mitigation measures could be implemented. Tasks involved in this assessment include:

- Reconnaissance review of the proposed project area to identify any critical habitat for aquatic and terrestrial species; fish and wildlife populations; navigable waterways; wetlands; listed cultural, archaeological, or historic properties; recreational use areas; and scenic vistas.
- Literature search to identify any resources and areas that will require significant enhancement or mitigation measures.
- Review of licensing, permitting and other approvals that will be required to design, construct, and operate facilities.
- Preliminary consultations with federal and state resource management agencies with authority over use and occupancy of lands, waters, and resources in the proposed project area.

7.5.2

Formal Licensing and Permitting Requirements

Once project feasibility is confirmed, the formal permitting and licensing procedures are accomplished. These include:

Action Plan

- formal consultations with state, federal, and local agencies and other governmental authorities; non-governmental organizations; and other interested parties;
- environmental data gathering and studies;
- applications for approval by regulatory authorities; and
- environmental protection and enhancement plans.

The Swan Lake - Lake Tyee Intertie development process provides insight into the potential environmental investigations that will be required to receive permits and other regulatory approvals in order to construct additional segments of an interconnected SYSTEM. The environmental and regulatory review follow in tandem with route selection and engineering feasibility and design. The recent FERC licensing of the proposed Goat Lake Project provides insight into environmental, engineering, and economic/financial investigations associated with applying for and receiving a FERC license.

Typical licensing and permitting requirements for transmission lines (T) and hydropower facilities (H) are listed in the Table 7.7.

Table 7.7
Typical Licensing and Permitting Requirements for Transmission Lines and Hydropower Projects

Column "T" identifies transmission requirements; Column "H" identifies hydropower facilities requirements.

T	H	PERMITS AND APPROVALS
X		Corps of Engineers Individual Section 10 Permit for each crossing of navigable waters
X	X	Corps of Engineers Section 404 Permit where facilities affect wetlands or involve dredge and fill
X	X	USFS Special Use Permit to construct and operate facilities on National Forest lands
	X	FERC License to construct and operate hydropower facilities jurisdictional under the Federal Power Act
X	X	Alaska Coastal Management Program Certificate of Consistency issued by Division of Governmental Coordination
X	X	Certification that proposed facilities can be constructed and operated in compliance with State Water Quality Standards and the Federal Clean Water Act (401 Certificate) issued by Alaska Department of Environmental Conservation
X	X	Spill Prevention Containment and Counter Measure (SPCC) Design/Plan required by EPA to comply with the Federal Clean Water Act
X	X	Local government building permits and zoning requirements
X	X	Lease agreements with Native Corporations to cross corporation lands

7.5.3 Environmental Protection, Enhancement, and Mitigation Requirements

A significant element of the environmental approval process is determining environmental protection measures and enhancements, and any potential environmental mitigation measures, that may be required and assessing their effects on project feasibility. These requirements may significantly affect project costs during construction and through the life of the project. Under current federal law, a number of federal agencies and state agencies with delegated authority from federal statutes may prescribe mandatory terms and conditions. State and federal agencies can also impose terms and conditions through issuance of permits. Local jurisdictions may require certain measures through zoning and other local requirements. Table 7.8 presents typical environmental requirements associated with transmission and hydroelectric projects.

Action Plan

Table 7.8
Typical Environmental
Protection, Enhancement
and Mitigation
Requirements Transmission
Line Segments and
Hydropower Projects

Typical environmental protection, enhancement, and mitigation are listed in Table 7.8. Column "T" identifies transmission requirements; Column "H" identifies hydropower facilities requirements.

T	H	ENVIRONMENTAL PROTECTION, ENHANCEMENT & MITIGATION MEASURES
	X	Water quality monitoring
X	X	Fish and wildlife Scheduling construction activities to avoid adverse impacts Habitat protection and enhancement Avoid direct effects on anadromous fish streams
X	X	Soil and erosion control measures
X	X	Measures to avoid adverse project-related effects on threatened and endangered species
X		Raptor protection measures
X	X	Cultural, Historic, and Archaeologic Resources Surveys Avoid adverse impacts Management plans where eligible or listed resources are present
X	X	Scenic and Aesthetic Resource Protection Avoid areas of primary concern Revegetation and landscaping Treatment of facilities
X	X	Recreational Resources Surveys Avoid areas of primary concern Develop, operate, and maintain new facilities
X	X	Assess project-related effects on local services and facilities - schools, hospitals, police, etc., during construction and operation May require payment for services or development of new facilities

7.5.4

Review of Existing Reports - Environmental and Regulatory Procedures

We reviewed a number of reports and interviewed utilities, state government officials, and consultants to identify sources of available information regarding proposed transmission line segments and hydroelectric projects in Southeast Alaska. Reports relied on in preparing this report include the following:

- Alaska Power Authority, *Southeast Alaska Transmission Interline Study*, October 1997;
- Department of Community and Regional Affairs, Division of Energy, *Kake-Petersburg Interline Feasibility Study*, January 1996;

Action Plan

- *USDA Forest Service, Land and Resource Management Plan, Tongass National Forest, 1997;*
- *USDA Forest Service, Swan Lake - Lake Tye Intertie, Final Environmental Impact Statement Summary, August 1997;*
- *USDA Forest Service, Swan Lake - Lake Tye Intertie, Record of Decision, August 1997; and*
- *USDA Forest Service, Tongass Land Management Plan Revision, Final Environmental Impact Statement, January 1997.*

Table 7.1, Level of Assessment for Proposed Transmission Segments, lists primary environmental issues identified and states the existing level of review performed to date. **Table 7.9** presents for each phase, the level of investigation performed on the proposed transmission segments and hydroelectric projects. A complete list of reports reviewed is included in Appendix B and is available from the Southeast Conference.

Table 7.9
Level of Investigation
Performed as of November
1997 Proposed
Transmission Segments
and Hydroelectric Projects

Phase	Proposed Intertie Segments & Hydro Projects	Status Environmental Review Approvals
I	Swan Lake - Lake Tye Intertie	EIS and USFS Record of Decision Issued - 8/97
	Ketchikan - Metlakatla Intertie	Reconnaissance level - 1987
II	Petersburg - Kake Intertie	"Fatal flaw" review - 1996
	Kake - Sitka Intertie	Reconnaissance level - 1987
III	Juneau - Sitka Intertie	Appraisal level - 1987
	Lake Dorothy Hydro Project	FERC Preliminary Permit - Preliminary review - 1996
	Swan Lake Hydro Project	Appraisal level - 1965
IV	Juneau - Skagway Intertie	Reconnaissance level - 1987
	Takatz Lake Hydro Project	Reconnaissance level - 1965
V	Ketchikan - Prince of Wales	Reconnaissance level - 1987
	Scenery Lake Hydro Project	Appraisal level - 1965

7.6

Recommendations

The general evolution of analyses presented in the 1987 Intertie Study is entirely appropriate for the purpose of progressively narrowing down the options to find the optimal development sequence. However, we identified a number of specific concerns that should be questioned in further analyses, and identified the need to elaborate on some of the cost functions used in the comparison of proposed line segments. The main issue in developing an integrated electrical system is optimal timing of transmission extensions, and ultimately the timing of future generation additions. Specific concerns identified include:

- ▶ suitability of assumed generation dispatch assumptions;
- ▶ appropriateness of adopted reserve margins;
- ▶ improved reliability of supply could not be quantified based on the 1987 analysis; and
- ▶ stated "Benefit-Cost" ratios are really the ratio between the Net Present Value of the cost of the Base Case Diesel development and the Net Present Value of the costs of the subject expansion plan.

General recommendations include:

- ▶ update relevant study results to a consistent basis;
- ▶ prepare a least-cost planning analysis; and
- ▶ evaluate cost-effective demand-side management programs options on a sub-regional basis.

Due to the passage of time since the release of the 1987 Intertie Study, we identified a range of concerns regarding the study findings:

- ▶ different base year;
- ▶ different base loads and growth rates, and later terminal year leads to changes in forecast of replaceable diesel consumption at each community, and more demanding load conditions for designed transmission elements;
- ▶ different diesel fuel price projections
- ▶ different transmission and substation costs;
- ▶ different system losses due to different system load conditions; and
- ▶ recent commitments to selected grid extensions.

Recommended investigations and analyses to complete this SYSTEM Plan include:

- ▶ update information available and relied on in preparing this Report as noted above;

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- ▶ review basic designs for transmission lines and substations presented in existing reports for adequacy. Develop a level of detail adequate to provide a stronger foundation for developing refined cost estimates;
- ▶ develop generic designs for stand-alone diesel generation supply stations and for backup generating stations. Use stand-alone stations in refined Base-Case development plan; assume standby installation as grid is extended to each community;
- ▶ conduct a "fatal flaw" environmental assessment for each of the selected line segments concurrent with engineering feasibility investigations to determine whether an environmental issue of significant magnitude would preclude construction and operation of a line segment, even though reasonable mitigation measures could be implemented;
- ▶ update economic parameters and assumptions used in evaluating alternatives presented in the 1987 Study and apply in future analyses regarding the proposed Southeast Alaska Electrical Intertie SYSTEM.;
- ▶ prepare revised load forecasts for participating systems recognizing phased development identified in this SYSTEM Plan. Identify potential new large loads and determine each potential new large load's energy plan with regard to self-generation and interconnection with local utility to provide backup. Identify conservation program actions to be implemented by potential new large loads.
- ▶ investigate economies of scale available through multiple use corridors:
 - electricity transmission
 - communications and fibre optics
 - transportation

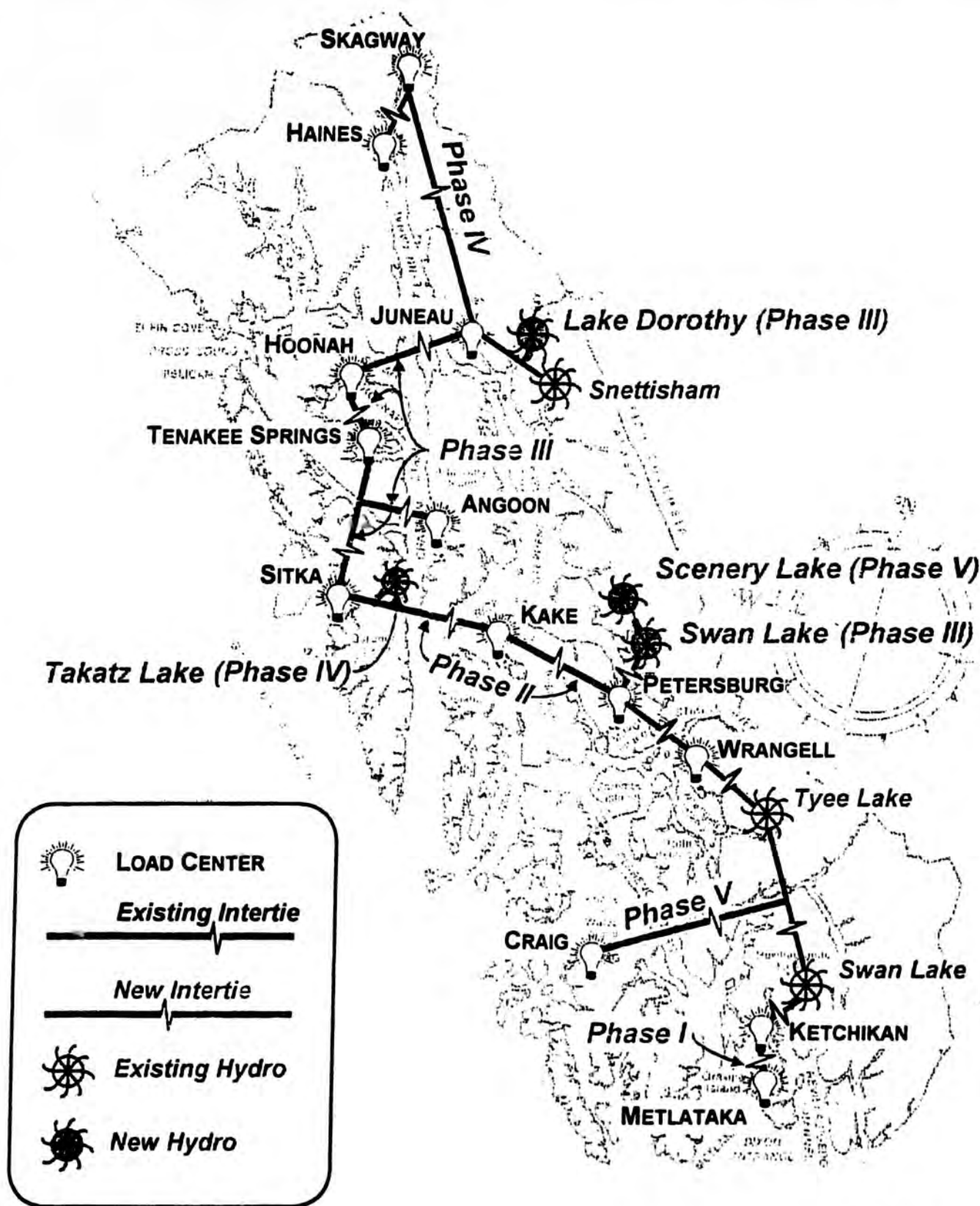


Figure 1

**Southeast Alaska Utilities
ELECTRICAL INTERTIE SYSTEM PLAN**



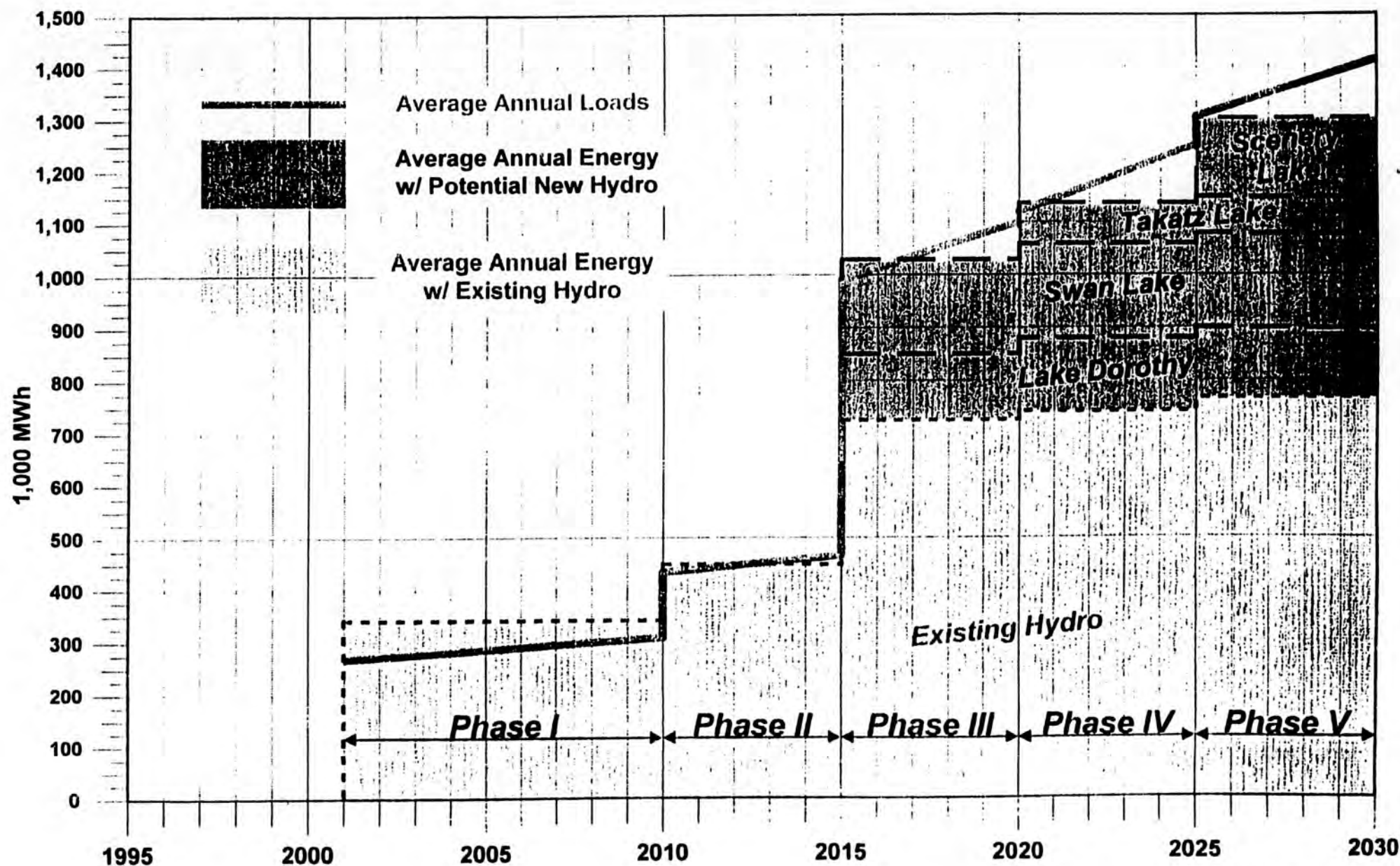


Figure 2

Southeast Alaska Utilities
ELECTRICAL INTERTIE SYSTEM PLAN : LOADS AND RESOURCES



**References and
List of Preparers**

References Cited and List of Preparers

8.1

References Cited

The following documents were used in preparing this report. A full list of literature pertaining to topics covered in this report is located in Appendix B. Copies of Appendices are available upon request from the Southeast Conference.

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8.2

List of Preparers

Nan A. Nalder, MPA, Project Manager. Project Descriptions, Economics and Demographics, Environmental, Geography, Policy, Regulatory, Research, and Report Editor. Acres International Corporation, Seattle, Washington.

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A. Richard Griffith, PE, Hydroelectric Projects. Acres International Corporation, Seattle, Washington.

Kenneth Salmon, P.Eng, Electrical Equipment and Systems. Acres International Limited, Vancouver, B.C.

Jeffrey Spence, PE, Electrical Distribution and Transmission Review.
Elektron, Beaverton, Oregon.



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December 9, 1998

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RE: Audit of the Alaska Public Utilities Commission and Request for Assistance

Gentlemen:

Thank you for the opportunity to present my view on how the operation of the Alaska Public Utilities Commission might be improved.

The enclosed was presented to the legislature during the prior sunset review. It remains timely because none of the problems outlined therein have been addressed. In fact the problem of ex-par-te contact between Commissioners and staff has become more pervasive as the work load of the APUC increases. While there is no suggestion that either the Commissioners or their staff are not well meaning and ethical people, the structure of the existing commission, in and of itself, creates the problem.

The suggested restructuring of the APUC would allow for an improved advocacy for the public interest and a much more fair environment for the utilities to make their case.

Please feel free to contact me if there are any questions.

Sincerely,

Jack H Rhyner
President

THE ALASKA PUBLIC UTILITIES COMMISSION

A New Structure

In the course of the sunset review of the Alaska Public Utilities Commission (APUC), two facts became clear: There is a continuing need for the existence of the Commission and there is a need to change the manner in which it operates. This white paper will discuss the APUC's mission and its organizational structure.

Mission:

There is a need to focus on the mission statement of the APUC as laid out in statute. There are two basic functions to be served by the APUC. One is to protect the public interest; the other to assure the continued viability of the utilities.

In the case of the former, the APUC should have the mandate of assuring that utility rates are just, fair and reasonable. In the process of carrying out this mandate, they must determine appropriate rate of return, either on an industry or an individual company basis. To do so, they must make a determination of the costs of providing service, establish what is used and useful in rate base and be assured that management practices are prudent.

The latter function is equally important. If utilities are not financially viable, then service will be eroded and if carried to the absurd, service could become unavailable. It is in the public interest to protect the viability of the utilities.

As the APUC carries out these two functions, it must be mindful of the appropriate economies. They must, in other words, accomplish these two mandates by use of the most efficient and economical means possible to assure that the cost of regulation is not a major contributor to the cost of service. It is in neither the public interest nor that of the utilities for the staff of the APUC to engage the utility in a proceeding, the cost of which is ten to twenty times more than the cost or rate in question within that proceeding.

Structure:

There is a need to address the structure of the APUC using the Federal Communications Commission (FCC) as a model. Restructuring the APUC in this manner will provide for a more efficient operation and eliminate certain inequities which now exist.

The current structure of the Commission has staff moving back and forth in two roles. On the one hand, they are often party to dockets, representing the public interest. On the other hand, they serve in an advisory capacity to the Commission. To put the situation into context, the Commission serves as a quasi judicial body. Allowing the staff to move back and forth as both party to and advisors to the Commission in the same docket is much the same as allowing either

the plaintiff or defendant in a legal proceeding to advise the judge on his final decision, rather than just presenting evidence for the record.

Utilizing the FCC model, that portion of the staff designated as representative of the public interest would be established separate from the Commission itself. This "Staff" would serve under the direction of the commission's executive director and would be party to dockets as appropriate. Their participation in dockets would be as an autonomous party and they would be subject to the same rules regarding ex parte contact with the Commission as are other parties to dockets.

The commissioners, on the other hand, should have personal staff, as well as their own counsel, to assist them in research, writing orders and, in general, filling an advisory role.

As commissioners serve in the role of judges, they should not launch investigations or open dockets on their own motion. They should not issue notices of inquiry or engage in writing regulations. These functions should be the sole purview of "Staff".

The designated seats concept should be eliminated. The designated seats (accountant, legal and engineering) originated in the early days of statehood when the Commission was a part time body with no staff. In those days, it was necessary to have an engineer, a lawyer and an accountant on the Commission because they had no staff with such expertise. The two consumer seats were added in the mid seventies in the mistaken belief that the three assigned seats were charged with representing their special vocational interests. The fact is that the commissions must be neutral judges and should not be representing any special interest group. Under the structure outlined above, "Staff" would represent the public interest. To further emphasize the separation of "Staff" and the Commission, it must be clearly understood that the executive director will be in charge of the "Staff". *The "Staff" positions must be designated as exempt to allow the hiring of truly qualified people in these positions, who can be held accountable for the quality of work they produce.*

Doing away with the assigned seats on the Commission will also require language to make it clear that candidates for the Commission must be professional with some knowledge of utilities. There must also be a restriction which allows no more than one commissioner from anyone vocation.

Included here are examples of organizational structures.....

Current Operating Authority:

As a final note, one other amendment to current statute is proposed. AS 42. 05. 141(1) must be amended to eliminate the language "...the powers of the commission shall be liberally construed to accomplish its stated purpose." This language has become one of the most obvious barriers in relating to the Commission. The commissioners and the staff have used this language to offer differing interpretations of regulations and statute on a case by case basis.

The phrase has also allowed the Commission to state that it does not set precedent. Both utility management and the general public are placed in a precarious situation when they are unable to rely on past decisions of the Commission to determine proper conduct in relation to any particular issue because the Commission feels free to develop differing interpretations to similar conditions on a case by case basis. As a quasi judicial body, the Commission must be held accountable to its own decisions and interpretation.

DISTRICT OF COLUMBIA PUBLIC SERVICE COMMISSION

Office - 450 5th Street, NW, Washington, DC 20001, Area Code (202) 626-5100

Commissioners appointed by the Mayor and confirmed by the Council for four-year staggered terms.

Jurisdiction: Electric (private); gas (private); telephone; radio common carriers; telegraph; enforcement of blue sky laws; securities.

COMMISSIONERS

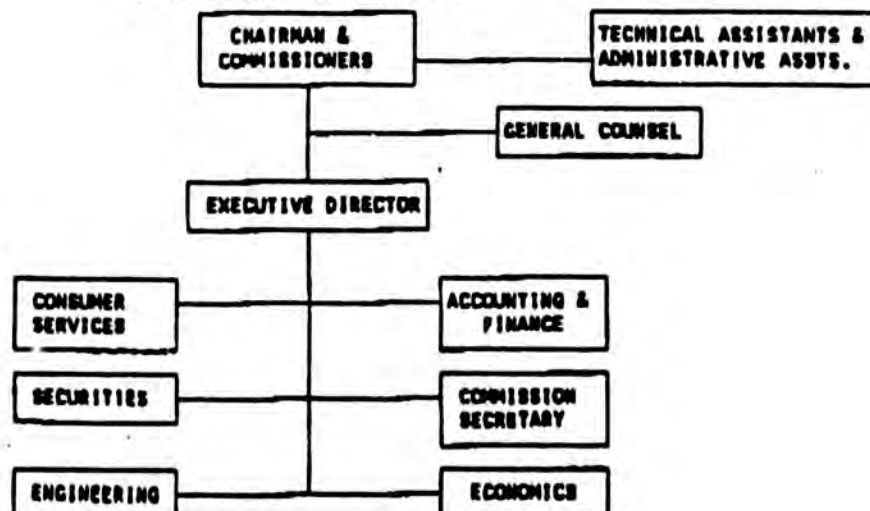
Patricia M. Worthy, Chairperson, 626-5110: Democrat; born May 28, 1944, in Fort Benning, Georgia; Brooklyn College (BA), Howard University (JD); private law practice, Deputy Assistant Secretary for US Department of Housing and Urban Development (1977-80), Adjunct Professor at Howard University Law School, Chair of Washington Metropolitan Area Transit Commission; assumed Commissionership August 1, 1980, current term ends June 30, 1991.

Wesley H. Long, Commissioner, 626-5125: Democrat; born May 6, 1932, in Boston, Massachusetts; University of Michigan (BA in Math, MA and PhD in Economics); Economics Professor at Bowdoin College (1963-66) and at Pennsylvania State University (1966-71), US Department of Commerce (1971-80) with final position as Deputy Director of Office of Industrial Economics; assumed Commissionership March 30, 1980, current term ends June 30, 1990.

Belva Newsome, Commissioner, 626-5114: Democrat; born August 7, 1952 in Wilmington, North Carolina; Duke University (BA Political Science/Black Studies), Georgetown University Law Center (JD, LL.M); private law practice, Chairperson of DC Rental Housing Commission (1985-89); assumed Commissionership December 15, 1989, current term ends June 30, 1992.

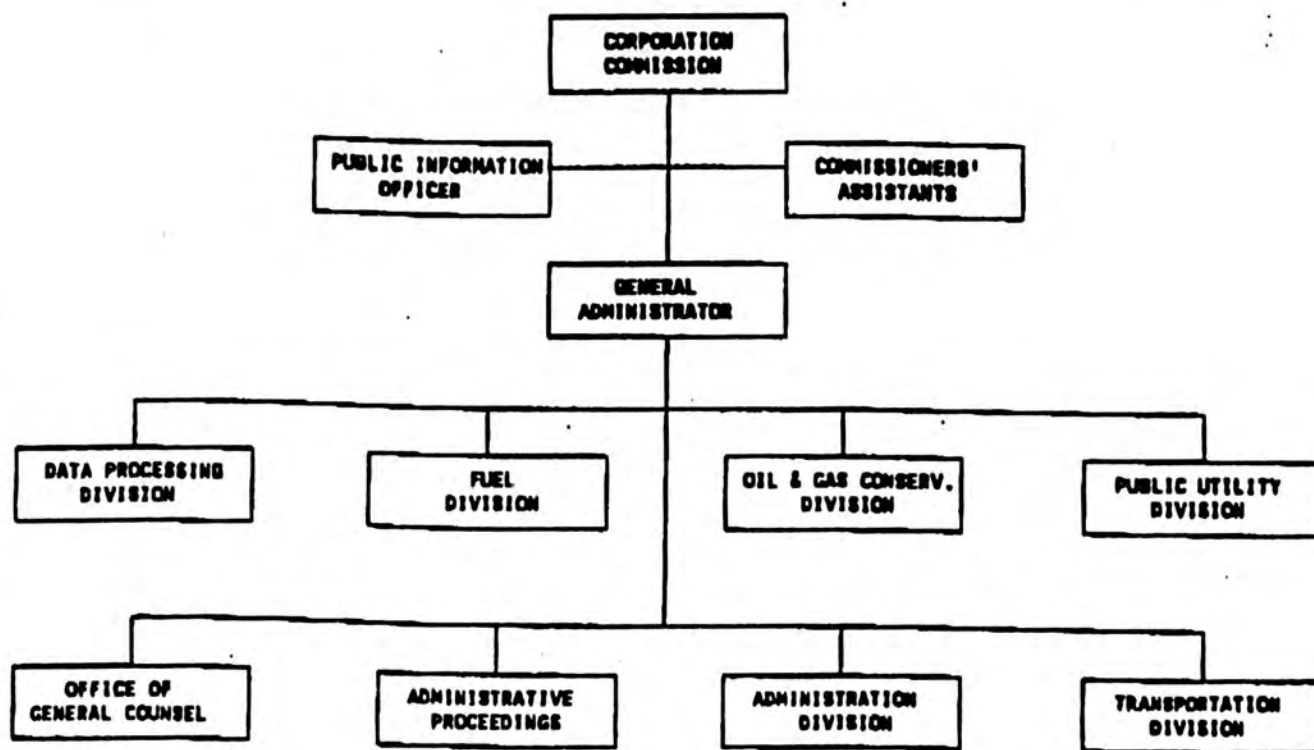
Name of Division	Number of Personnel	Name of Division Head
Office of the Chairman	5	Patricia M. Worthy
Office of the Commissioner	3	Ruth Hankins-Nesbitt
Office of the Commissioner	3	Wesley H. Long
Office of the General Counsel	18	Howard C. Davenport
Office of the Executive Director	9	James E. Kerr
Office of the Commission Secretary	8	Mary B. Jordan
Office of Consumer Services	5	Vivian A. Jordan-Webb
Office of Economics	6	Dr. Phylcia Fauntleroy
Office of Engineering and Pipeline Safety	5	Richard D. Huriaux
Office of Accounting & Finance	11	Norman Reiser
Office of Securities	6	James Whitescarver, Jr.
TOTAL	79	

ORGANIZATION CHART



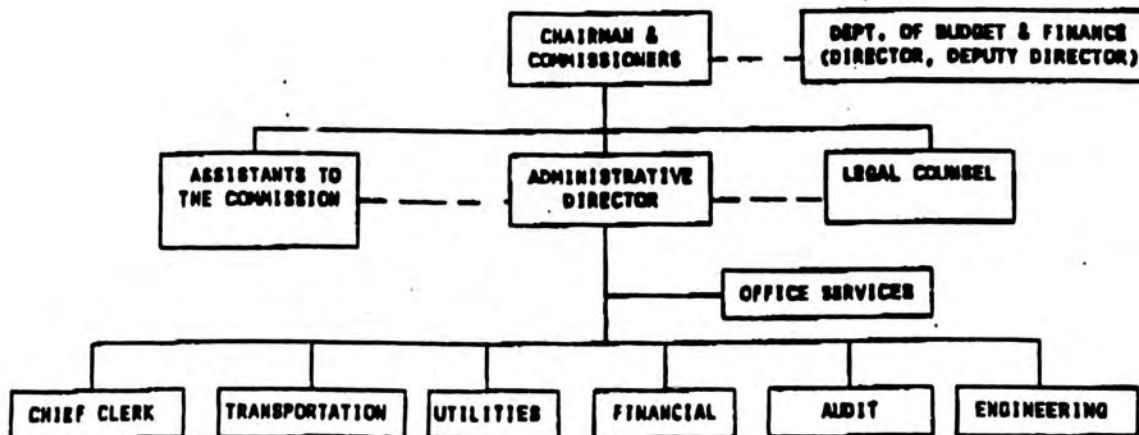
OKLAHOMA CORPORATION COMMISSION
(Continued)

ORGANIZATION CHART



HAWAII PUBLIC UTILITIES COMMISSION
(Continued)

ORGANIZATION CHART

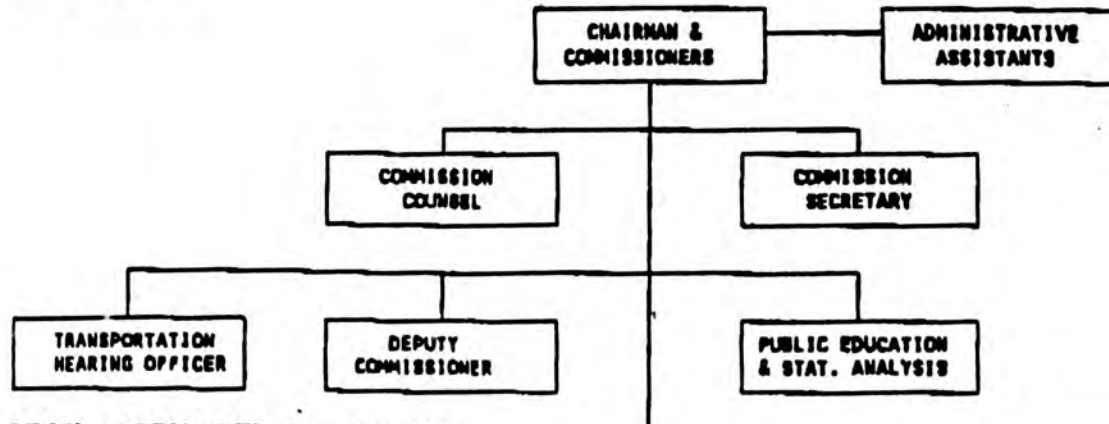


NEVADA PUBLIC SERVICE COMMISSION
(Continued)

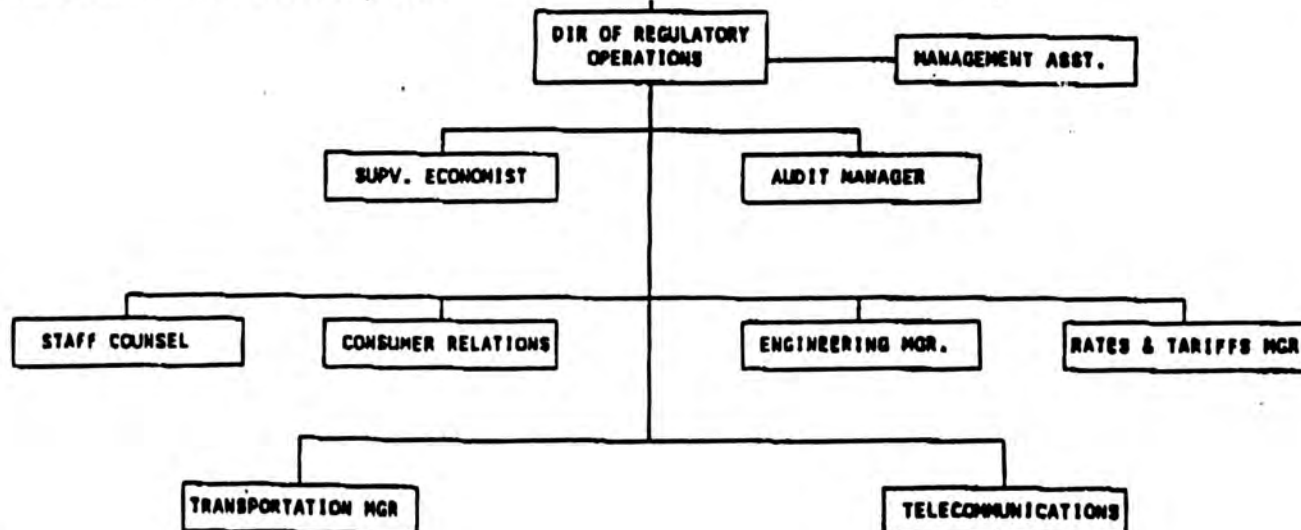
ORGANIZATION CHART

Effective December 31, 1989

POLICY STAFF



REGULATORY OPERATIONS STAFF



PROPOSED ORGANIZATIONAL CHART STATE OF ALASKA

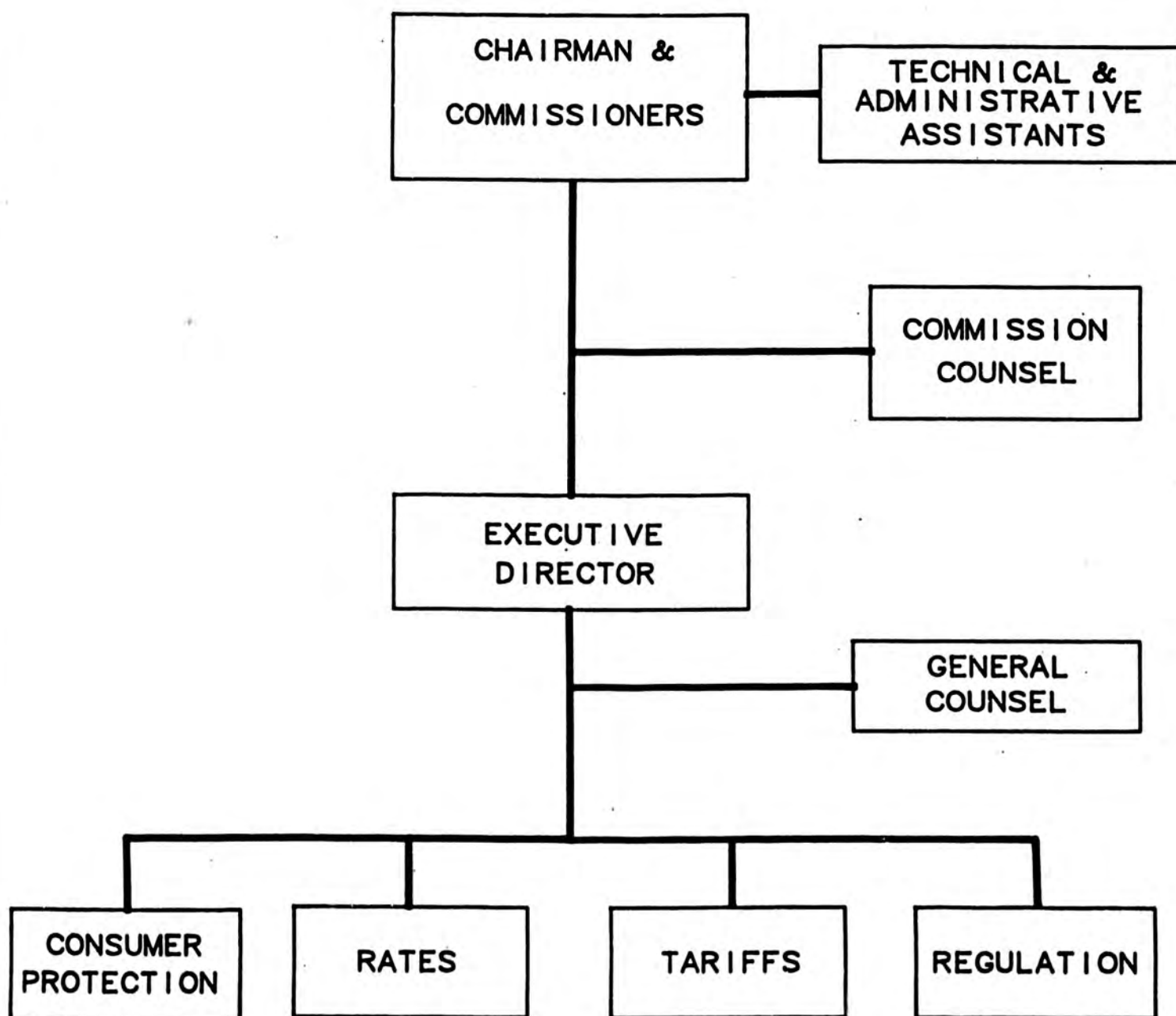


Table of Contents Statistical Information

 [Return to front page of APUC Annual Report](#) [Next](#)

Table of Contents

List of Certificated Entities

Areas Served by Certificated Utilities

Financial Information for Fully Regulated Utilities

Rate Changes Granted

Electric Utilities

- * **Electric Utilities Certificated**
- * **Gross Operating Revenues**
- * **1995 Kilowatt-Hour Sales-Regulated Electric Utilities**
- * **Sample Monthly Residential Electric Rates**
- * **Power Cost Equalization**

Gas Utilities

- * **Gas Utilities Certificated**
- * **Gross Operating Revenues**
- * **Sample Monthly Residential Gas Rates**

Refuse Utilities

- * **Refuse Utilities Certificated**
- * **Gross Operating Revenues**
- * **Sample Monthly Residential Refuse Rates**

Sewer Utilities

- * **Sewer Utilities Certificated**
- * **Gross Operating Revenues**
- * **Sample Monthly Residential Sewer Rates**

Steam Utilities

- * **Steam Utilities Certificated**

Telecommunications Utilities

- * **Cable Television Utilities Certificated**
- * **Gross Operating Revenues-Cable Television**
- * **Intrastate Interexchange Carriers Certificated**
- * **Local Exchange Carriers Certificated**
- * **Gross Operating Revenues-Interexchange and Local Exchange Carriers**
- * **Sample Monthly Residential Telephone Rates**
- * **Telecommunications Relay Services Certificated**
- * **Pay Telephone Providers Certificated**

Water Utilities

- * **Water Utilities Certificated**
- * **Gross Operating Revenues**
- * **Sample Monthly Residential Water Rates**

Pipeline Carriers

- * **Pipeline Carriers Certificated**
- * **Gross Operating Revenues**
- * **Financial Information for Fully Regulated Oil Pipeline Carriers**

Results of Utility Deregulation Elections



[APUC table of contents](#)



[Next](#)



[Top of page](#)



[APUC home page](#)



Table of Contents

 [Return to front page of APUC Annual Report](#)

 [Cover Letter](#)  [Next](#)

Table of Contents

The APUC at a Glance

- * [Mission Statement](#)
- * [The Commissioners of the APUC](#)
- * [Message from the Chairman](#)
- * [Biographies](#)
- * [Former Commissioners](#)
- * [APUC Roster](#)
- * [Commission Organization Chart](#)
- * [Staff Responsibilities](#)

Key Issues

- * [Overview](#)
- * [Operating Budget](#)
- * [Regulation and Economic Development](#)
- * [FY98 Plan](#)
- * [The Telecommunications Act of 1996](#)

Significant Events

- * [Telecommunication Service](#)
- * [Electric Service](#)
- * [Natural Gas Service](#)
- * [Water and Sewer Service](#)
- * [Refuse Service](#)
- * [Pipelines](#)

Utility and Pipeline Operating Results

- * [Fully Regulated Utilities Financial Data](#)
- * [Oil Pipeline Carrier Financial Data](#)

Consumer Protection

- * [Informal Complaints](#)

Agency Filings and Proceedings

- * [Certification Proceedings](#)
- * [Orders](#)
- * [Tariff Revisions](#)
- * [Formal Proceedings](#)
- * [Open Dockets](#)
- * [Summary of Filings](#)
- * [APUC Orders on Appeal](#)
- * [Court Cases Resolved in FY97](#)

Legal Authority

- * [Statutes](#)
- * [Regulations](#)

 [APUC table of contents](#)  [Next](#)  [Top of page](#)
 [APUC home page](#) 

Local Exchange Carriers Certificated

 [Previous](#)  [Next](#)

Prepared by Stacy A. Moon

Alascom, Inc. d/b/a AT&T Alascom (A subsidiary of AT&T Corporation)

Provides service to Anchorage, Girdwood and Hope.

Alaska Telephone Company(A subsidiary of Alaska Power & Telephone)

Provides service to Chisana, Craig, Dot Lake, T'na Bay, Healy Lake, Hollis, Hydaburg, Meyers Chuck, Naukati, S way, Tanacross, Tetlin, Tok and Whale Pass.

Arctic Slope Telephone Association Cooperative, Inc.

Provides service to Anaktuvuk Pass, Atkasuk, Barrow, Deadhorse, Kaktovik, Nuiqsut, Point Hope, Point Lay, Prudhoe Bay, and Wainwright.

Bettles Telephone, Inc.(A subsidiary of Alaska Telephone Company)

Provides service to Bettles and Evansville.

Bristol Bay Telephone Cooperative, Inc.

Provides service to Ekwok, Igiugig, King Salmon, Koliganek, Levelock, Naknek, and New Stuyahok.

Bush-Tell, Incorporated

Provides service to Aniak, Anvik, Crooked Creek, Grayling, Holy Cross, Lower Kalskag, Red Devil, Shageluk, Sleetmute, Stony River, and Upper Kalskag.

Copper Valley Telephone Cooperative, Inc.

Provides service to Cnistochina, Chitina, Copper Center, Gakona, Glennallen, Gulkana, Kenny Lake, Mentasta, McCarthy, Nelchina, Paxson, Slana, Tatitlek, and Valdez.

*** Cordova Telephone Cooperative, Inc.**

*** Fairbanks Municipal Utilities System, City of Fairbanks d/b/a**

Provides service to College, Fairbanks, and Fox.

GCI Communication Corp. d/b/a General Communication, Inc. d/b/a GCI

Provides service to Anchorage, Bird, Girdwood, Hope, and Indian.

GTE Alaska Incorporated (A subsidiary of GTE Corporation)

Provides service to Barrow, Bethel, Chilkat Valley, Etolin Island, Haines, Hyder, Klukwan, McGrath, Metlakatla, Moose Pass, Nome,

Petersburg, Seward, Unalakleet, and Wrangell.

Interior Telephone Company (A subsidiary of TelAlaska, Inc.)

Provides service to Cold Bay, Cooper Landing, Dutch Harbor, Fort Yukon, Galena, Iliamna, King Cove, Newhalen, Port Lions, Sand Point, Squaw Harbor, and Unalaska.

*** Ketchikan, City of**

Provides service to Clover Pass, Ketchikan, Saxman, and Ward Cove.

Matanuska Telephone Association, Inc.

Provides service to Anderson, Big Lake, Cantwell, Chickaloon, Chugiak, Clear, Eagle River, Eklutna, Healy, Houston, Kantishna, Knik, McKinley Park, Palmer, Peters Creek, Petersville, Point MacKenzie, Sutton, Talkeetna, Tyonek, Usibelli, Wasilla, and Willow.

Mukluk Telephone Company, Inc.

Provides service to Brevig Mission, Council, Elim, Golovin, Koyuk, Little Diomed, Saint Michael, Shaktoolik, Shishmaref, Stebbins, Teller, Wales, and White Mountain.

Municipality of Anchorage d/b/a Anchorage Telephone Utility a/k/a ATU Telecommunications

Provides service to Anchorage, Bird, Girdwood, Hope, and Indian.

*** North Country Telephone Company (A subsidiary of Alaska Telephone Company)**

Provides service to Eagle and Eagle Village.

Nushagak Telephone Cooperative, Inc.

Provides service to Aleknagik, Clark's Point, Dillingham, Ekuk, and Manokotak.

OTZ Telephone Cooperative, Inc.

Provides service to Ambler, Buckland, Candle, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, and Shungnak.

Summit Telephone Company, Inc., The Summit Telephone & Telegraph Company of Alaska d/b/a

Provides service to Chatanika, Chena Hot Springs, and Cleary Summit.

Telephone Utilities of Alaska, Inc.(A subsidiary of Pacific Telecom, Inc.)

Provides service to Douglas, Eielson AFB, Fort Wainwright, and Juneau.

Telephone Utilities of the Northland, Inc. (A subsidiary of Pacific Telecom, Inc.)

Provides service to Akhiok, Akutan, Alatna, Allakaket, Anchor Point, Angoon, Atka, Bartlett Cove, Birch Lake, Border City, Chatham, Chignik, Chignik Lagoon, Chignik Lake, Chiniak, Clam Gulch, Coffman Cove, Cube Cove, Delta Junction, Egegik, Elfin Cove, English Bay, False Pass, Fort Greely, Gustavus, Halibut Cove, Hobart Bay, Homer, Hoonah, Hughes, Huslia, Ivanof Bay, Kachemak, Kaguyak, Kake, Kalifonsky, Kaltag, Karluk, Kasaan, Kasilof, Kazakof Bay, Kenai, Keyes Point, Kiawock, Klawock Airport, Kodiak, Kokhanok, Koyukuk, Larsen Bay, Long Island, Meshik, Mount Edgecumbe, Nelson Lagoon, Nenana, Nikiski, Nikolaevski, Nikolski, Ninilchik, Nondalton, North Pole, Northway, Nulato, Old Harbor, Ouzinkie, Pedro Bay, Pelican, Perryville, Pilot Point, Point Baker, Port Alexander, Port Alsworth, Port Graham, Port Moller, Port Protection, Portage Creek, Saint George, Saint Paul, Salamatof, Seldovia, Sitka, Soldotna, Sterling, Tenakee Springs, Thorne Bay, Womens Bay, and Yakutat.

United Utilities, Inc. (A subsidiary of United Companies, Inc.)

Provides service to Akiachak, Akiak, Alakanuk, Arctic Village, Atmauthluak, Beaver, Birch Creek, Central, Chalkyitsik, Chuathbaluk, Chefnak, Chevak, Circle Hot Springs, Eek, Emmonak, Gambell, Goodnews Bay, Hooper Bay, Kasigluk, Kipnuk, Kongiganak, Kotlik, Kwethluk, Kwigillingok, Lake Minchumina, Lime Village, Livengood, Manley Hot Springs, Marshall, Mekoryuk, Minto, Mountain Village, Napakiak, Napaskiak, New Chenega Bay, Newtok, Nightmute, Nikolai, Nunapitchuk, Oscarville, Pilot Station, Pitkas Point, Platinum, Quinhagak, Rampart, Russian Mission, Saint Marys, Savoonga, Scammon Bay, Sheldon Point, Stevens Village, Takotna, Telida, Togiak, Toksook Bay, Tuluksak, Tuntutuliak, Tununak, Twin Hills, and Venetie.

Yukon Telephone Company, Inc.

Provides service to Ruby, Tanana, and Whittier.

*** Not regulated by Alaska Public Utilities Commission as to rates and service.**

 [APUC table of contents](#)  [Next](#)  [Top of page](#)
 [APUC home page](#) 

Telecommunications Utilities Gross Operating Revenues

 Previous  Next

(Interexchange & Local Exchange Carriers)

1996 Calendar Year Prepared by Parker Nation

<u>Revenues I</u>				
Utility	Net Plant	Gross Revenue	Net Income	Customers
Gross Operating Revenue \$5,000,000 or Greater				
Alascom, Inc.	\$352,099,672	\$265,087,449	\$16,677,599	Not Reported
Anchorage Telephone Utility Municipality of Anchorage d/b/a	241,554,442	104,743,934	13,857,268	215,077
Copper Valley Telephone Cooperative, Inc.	17,414,463	6,337,359	133,647	5,533
General Communication Inc.	136,751,000	164,894,000	7,462,000	Not Reported
GTE Alaska Inc.	15,064,842	10,658,031	1,726,076	19,805
Interior Telephone Company	14,152,252	8,440,950	1,076,104	4,297
Matanuska Telephone Association, Inc.	113,155,861	46,614,191	6,736,110	41,908
Telephone Utilities of Alaska, Inc.	23,686,569	16,329,041	1,812,222	28,133
Telephone Utilities of the Northland, Inc.	84,136,889	53,874,829	9,803,150	56,779
United Utilities, Inc.	19,466,536	11,761,078	1,308,302	5,073
Subtotal	\$1,017,392,526	\$688,740,862	\$60,592,478	376,605
Gross Operating Revenue Greater Than \$1,000,000 but Less Than \$5,000,000				
Alaska Telephone Company	\$5,436,763	\$3,985,508	\$1,078,642	3,871
Arctic Slope Telephone Association Cooperative, Inc.	Deregulated 1996			
Bristol Bay Telephone Cooperative, Inc.	3,063,520	2,081,047	42,950	1,958
Bush-Tell, Inc.	4,657,199	2,163,617	137,986	814
Mukluk Telephone Company, Inc.	3,804,094	2,061,634	71,409	1,040
Nushagak Telephone Cooperative, Inc.	3,630,147	1,969,694	265,981	2,220
OTZ Telephone Cooperative, Inc.	5,555,767	2,986,088	140,731	3,044
Subtotal	\$26,147,490	\$15,247,588	\$1,737,699	12,947

Gross Operating Revenues Less Than \$1,000,000				
ATU Long Distance, Inc.	\$3,790	\$2,000	(\$542,282)	Not Reported
Betiles Telephone, Inc.	\$291,763	\$237,700	\$42,040	77
Circle Telephone Company	58,738	93,299	70,351	35
North Country Telephone Company	213,146	211,938	19,250	179
Summit Telephone Co., Inc., Summit Telephone & Telegraph Co. of Alaska, Inc. d/b/a	773,359	598,769	123,440	124
Yukon Telephone Company, Inc.	1,016,244	1,092,107	205,373	471
Subtotal	\$2,357,040	\$2,235,813	(\$81,828)	886
TOTAL	\$1,045,897,056	\$706,224,262	\$62,248,350	390,438
1. Revenue classes per 3 AAC 48.277.				

[APUC table of contents](#)
[Next](#)
[Top of page](#)
[APUC home page](#)
[WebSite](#)

Telephone Rates Sample Monthly Residential

 Previous  Next

As of March 31, 1997 Prepared by Mary J. Vittone

Community	Single-Party Access Line Monthly Rate*	Utility Serving Community
Akiok	\$16.42	Telephone Utilities of the Northland, Inc.
Akiachak	\$19.37	United Utilities, Inc.
Akiak	\$19.37	United Utilities, Inc.
Akutan	\$16.42	Telephone Utilities of the Northland, Inc.
Alakanuk	\$19.37	United Utilities, Inc.
Aleknagik	\$14.10	Nushagak Telephone Cooperative, Inc.
Allakaket	\$16.42	Telephone Utilities of the Northland, Inc.
Ambler	\$15.95	OTZ Telephone Cooperative, Inc.
Anchor Point	\$16.42	Telephone Utilities of the Northland, Inc.
Anchorage	\$9.77	Anchorage Telephone Utility
Anderson	\$8.96	Matanuska Telephone Association, Inc.
Angoon	\$16.42	Telephone Utilities of the Northland, Inc.
Aniak	\$21.65	Bush-Tell, Incorporated
Anvik	\$21.65	Bush-Tell, Incorporated
Arctic Village	\$19.37	United Utilities, Inc.
Atka	\$16.42	Telephone Utilities of the Northland, Inc.
Atmautluak	\$19.37	United Utilities, Inc.
Barrow	\$11.78	GTE Alaska Incorporated
Bartlett Cove	\$16.42	Telephone Utilities of the Northland, Inc.
Beaver	\$19.37	United Utilities, Inc.
Bethel	\$10.88	GTE Alaska Incorporated
Bettles	\$27.90	Bettles Telephone Company, Inc.
Big Lake	\$8.96	Matanuska Telephone Association, Inc.
Birch Creek	\$19.37	United Utilities, Inc.
Birch Lake	\$16.42	Telephone Utilities of the Northland, Inc.
Bird	\$9.77	Anchorage Telephone Utility
Border City	\$16.42	Telephone Utilities of the Northland, Inc.
Bornite	\$15.95	OTZ Telephone Cooperative, Inc.
Brevig Mission	\$14.30	Mukluk Telephone Company, Inc.
Buckland	\$15.95	OTZ Telephone Cooperative, Inc.
Candle	\$15.95	OTZ Telephone Cooperative, Inc.
Cantwell	\$8.96	Matanuska Telephone Association, Inc.
Central	\$19.37	United Utilities, Inc.
Chalkyitsik	\$19.37	United Utilities, Inc.
Chatanika	\$20.14	Summit Telephone Company
Chatham	\$16.42	Telephone Utilities of the Northland, Inc.
Chefornak	\$19.37	United Utilities, Inc.
Chena Hot Springs	\$20.14	Summit Telephone Company
Chevak	\$19.37	United Utilities, Inc.
Chicago Creek	\$15.95	OTZ Telephone Cooperative, Inc.
Chickaloon	\$8.96	Matanuska Telephone Association, Inc.
Chignik	\$16.42	Telephone Utilities of the Northland, Inc.
Chignik Lagoon	\$16.42	Telephone Utilities of the Northland, Inc.

Chignik Lake	\$16.42	Telephone Utilities of the Northland, Inc.
Chiniak	\$16.42	Telephone Utilities of the Northland, Inc.
Chisana	\$17.62	Alaska Telephone Company
Chistochina	\$11.38	Copper Valley Telephone Cooperative, Inc.
Chitina	\$14.10	Copper Valley Telephone Cooperative, Inc.
Chuathbaluk	\$19.37	United Utilities, Inc.
Chugiak	\$13.90	Matanuska Telephone Association, Inc.
Circle Hot Springs	\$19.37	United Utilities, Inc.
Clam Gulch	\$16.42	Telephone Utilities of the Northland, Inc.
Clarks Point	\$21.40	Nushagak Telephone Cooperative, Inc.
Clear	\$8.96	Matanuska Telephone Association, Inc.
Cleary Summit	\$20.14	Summit Telephone Company
Coffman Cove	\$16.42	Telephone Utilities of the Northland, Inc.
Cold Bay	\$19.99	Interior Telephone Company
Cold Foot	\$20.14	Summit Telephone Company
Cooper Landing	\$19.99	Interior Telephone Company
Copper Center	\$11.38	Copper Valley Telephone Cooperative, Inc.
Council	\$14.30	Mukluk Telephone Company, Inc.
Craig	\$8.66	Alaska Telephone Company
Crooked Creek	\$21.65	Bush-Tell, Incorporated
Cube Cove	\$38.67	Telephone Utilities of the Northland, Inc.
Deering	\$15.95	OTZ Telephone Cooperative, Inc.
Delta Junction	\$16.42	Telephone Utilities of the Northland, Inc.
Dillingham	\$14.10	Nushagak Telephone Cooperative, Inc.
Dot Lake	\$11.03	Alaska Telephone Company
Douglas	\$9.49	Telephone Utilities of Alaska, Inc.
Dutch Harbor	\$19.99	Interior Telephone Company
Eagle	\$12.09	North Country Telephone
Eagle River	\$13.90	Matanuska Telephone Association, Inc.
Eagle Village	\$12.09	North Country Telephone
Edna Bay	\$17.62	Alaska Telephone Company
Eek	\$19.37	United Utilities, Inc.
Egegik	\$16.42	Telephone Utilities of the Northland, Inc.
Eielson AFB	\$9.49	Telephone Utilities of Alaska, Inc.
Eklutna	\$13.90	Matanuska Telephone Association, Inc.
Ekuk	\$21.40	Nushagak Telephone Cooperative, Inc.
Ekwok	\$17.07	Bristol Bay Telephone Cooperative, Inc.
Elfin Cove	\$16.42	Telephone Utilities of the Northland, Inc.
Elim	\$14.30	Mukluk Telephone Company, Inc.
Emmonak	\$19.37	United Utilities, Inc.
English Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Evansville	\$27.90	Bettles Telephone Company, Inc.
False Pass	\$16.42	Telephone Utilities of the Northland, Inc.
Fort Greely	\$16.42	Telephone Utilities of the Northland, Inc.
Fort Richardson	\$9.77	Anchorage Telephone Utility
Fort Wainwright	\$9.49	Telephone Utilities of Alaska, Inc.
Fort Yukon	\$19.99	Interior Telephone Company
Gakona	\$11.38	Copper Valley Telephone Cooperative, Inc.
Galena	\$19.99	Interior Telephone Company
Gambell	\$19.37	United Utilities, Inc.
Girdwood	\$9.77	Anchorage Telephone Utility
Glennallen	\$11.38	Copper Valley Telephone Cooperative, Inc.
Golovin	\$14.30	Mukluk Telephone Company, Inc.
Goodnews Bay	\$19.37	United Utilities, Inc.

Grayling	\$21.65	Bush-Tell, Incorporated
Gulkana	\$11.38	Copper Valley Telephone Cooperative, Inc.
Gustavus	\$16.42	Telephone Utilities of the Northland, Inc.
Haines	\$6.55	GTE Alaska Incorporated
Haines Highway	\$9.97	GTE Alaska Incorporated
Halibut Cove	\$16.42	Telephone Utilities of the Northland, Inc.
Healy	\$8.96	Matanuska Telephone Association, Inc.
Hobart Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Hollis	\$17.62	Alaska Telephone Company
Holy Cross	\$21.65	Bush-Tell, Incorporated
Homer	\$16.42	Telephone Utilities of the Northland, Inc.
Hoonah	\$16.42	Telephone Utilities of the Northland, Inc.
Hooper Bay	\$19.37	United Utilities, Inc.
Hope	\$9.77	Anchorage Telephone Utility
Houston	\$8.96	Matanuska Telephone Association, Inc.
Hughes	\$16.42	Telephone Utilities of the Northland, Inc.
Huslia	\$16.42	Telephone Utilities of the Northland, Inc.
Hydaburg	\$8.66	Alaska Telephone Company
Hyder	\$2.92	GTE Alaska Incorporated
Igiugig	\$17.07	Bristol Bay Telephone Cooperative, Inc.
Iliamna	\$19.99	Interior Telephone Company
Indian	\$9.77	Anchorage Telephone Utility
Ivanof Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Juneau	\$9.49	Telephone Utilities of Alaska, Inc.
Kachemak	\$16.42	Telephone Utilities of the Northland, Inc.
Kaguyak	\$16.42	Telephone Utilities of the Northland, Inc.
Kake	\$16.42	Telephone Utilities of the Northland, Inc.
Kalifornsky	\$16.42	Telephone Utilities of the Northland, Inc.
Kalskag, Lower	\$21.65	Bush-Tell, Incorporated
Kalskag, Upper	\$21.65	Bush-Tell, Incorporated
Kaltag	\$16.42	Telephone Utilities of the Northland, Inc.
Karluk	\$16.42	Telephone Utilities of the Northland, Inc.
Kasaan	\$16.42	Telephone Utilities of the Northland, Inc.
Kasigluk	\$19.37	United Utilities, Inc.
Kasilof	\$16.42	Telephone Utilities of the Northland, Inc.
Kazakof Bay	\$32.28	Telephone Utilities of the Northland, Inc.
Kenai	\$16.42	Telephone Utilities of the Northland, Inc.
Kenny Lake	\$11.38	Copper Valley Telephone Cooperative, Inc.
Kiana	\$15.95	OTZ Telephone Cooperative, Inc.
King Cove	\$19.99	Interior Telephone Company
King Salmon	\$18.68	Bristol Bay Telephone Cooperative, Inc.
Kipnuk	\$19.37	United Utilities, Inc.
Kivalina	\$15.95	OTZ Telephone Cooperative, Inc.
Klawock	\$16.42	Telephone Utilities of the Northland, Inc.
Klukwan	\$6.55	GTE Alaska Incorporated
Knik	\$8.96	Matanuska Telephone Association, Inc.
Kobuk	\$16.06	OTZ Telephone Cooperative, Inc.
Kodiak	\$16.42	Telephone Utilities of the Northland, Inc.
Kokhanok	\$16.42	Telephone Utilities of the Northland, Inc.
Koliganek	\$17.07	Bristol Bay Telephone Cooperative, Inc.
Kongiganak	\$19.37	United Utilities, Inc.
Kotlik	\$19.37	United Utilities, Inc.
Kotzebue	\$15.95	OTZ Telephone Cooperative, Inc.
Koyuk	\$14.30	Mukluk Telephone Company, Inc.

Koyukuk	\$16.42	Telephone Utilities of the Northland, Inc.
Kwethluk	\$19.37	United Utilities, Inc.
Kwigillingok	\$19.37	United Utilities, Inc.
Lake Minchumina	\$19.37	United Utilities, Inc.
Larsen Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Levelock	\$17.07	Bristol Bay Telephone Cooperative, Inc.
Lime Village	\$19.37	United Utilities, Inc.
Little Diomede	\$14.30	Mukluk Telephone Company, Inc.
Livengood	\$19.37	United Utilities, Inc.
Long Island	\$16.42	Telephone Utilities of the Northland, Inc.
Manley Hot Springs	\$19.37	United Utilities, Inc.
Manokotak	\$21.40	Nushagak Telephone Cooperative, Inc.
Marshall	\$19.37	United Utilities, Inc.
McCarthy	\$14.10	Copper Valley Telephone Cooperative, Inc.
McGrath	\$10.88	GTE Alaska Incorporated
McKinley Park	\$8.96	Matanuska Telephone Association, Inc.
Mekoryuk	\$19.37	United Utilities, Inc.
Mentasta	\$14.10	Copper Valley Telephone Cooperative, Inc.
Meshik	\$16.42	Telephone Utilities of the Northland, Inc.
Metlakatla	\$7.40	GTE Alaska Incorporated
Meyers Chuck	\$17.62	Alaska Telephone Company
Minto	\$19.37	United Utilities, Inc.
Moose Pass	\$9.11	GTE Alaska Incorporated
Mount Edgecumbe	\$16.42	Telephone Utilities of the Northland, Inc.
Mountain Village	\$19.37	United Utilities, Inc.
Naknek	\$18.68	Bristol Bay Telephone Cooperative, Inc.
Naknek, South	\$18.68	Bristol Bay Telephone Cooperative, Inc.
Napakiaak	\$19.37	United Utilities, Inc.
Napaskiak	\$19.37	United Utilities, Inc.
Naukati	\$17.62	Alaska Telephone Company
Nelchina	\$11.38	Copper Valley Telephone Cooperative, Inc.
Nelson Lagoon	\$16.42	Telephone Utilities of the Northland, Inc.
Nenana	\$16.42	Telephone Utilities of the Northland, Inc.
New Chenega Bay	\$19.37	United Utilities, Inc.
New Stuyahok	\$17.07	Bristol Bay Telephone Cooperative, Inc.
Newhalen	\$19.99	Interior Telephone Company
Newtok	\$19.37	United Utilities, Inc.
Nightmute	\$19.37	United Utilities, Inc.
Nikiski	\$16.42	Telephone Utilities of the Northland, Inc.
Nikolaevski	\$16.42	Telephone Utilities of the Northland, Inc.
Nikolai	\$19.37	United Utilities, Inc.
Nikolski	\$16.42	Telephone Utilities of the Northland, Inc.
Ninilchik	\$16.42	Telephone Utilities of the Northland, Inc.
Noatak	\$15.95	OTZ Telephone Cooperative, Inc.
Nome	\$7.40	GTE Alaska Incorporated
Nondalton	\$16.42	Telephone Utilities of the Northland, Inc.
Noorvik	\$15.95	OTZ Telephone Cooperative, Inc.
North Pole	\$16.42	Telephone Utilities of the Northland, Inc.
Northway	\$16.42	Telephone Utilities of the Northland, Inc.
Nulato	\$16.42	Telephone Utilities of the Northland, Inc.
Nunapitchuk	\$19.37	United Utilities, Inc.
Old Harbor	\$16.42	Telephone Utilities of the Northland, Inc.
Oscarville	\$19.37	United Utilities, Inc.
Ouzinkie	\$16.42	Telephone Utilities of the Northland, Inc.

Palmer	\$8.96	Matanuska Telephone Association, Inc.
Paxson	\$11.38	Copper Valley Telephone Cooperative, Inc.
Pedro Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Pelican	\$16.42	Telephone Utilities of the Northland, Inc.
Perryville	\$16.42	Telephone Utilities of the Northland, Inc.
Peters Creek	\$13.90	Matanuska Telephone Association, Inc.
Petersburg	\$9.11	GTE Alaska Incorporated
Petersville	\$8.96	Matanuska Telephone Association, Inc.
Pilot Point	\$16.42	Telephone Utilities of the Northland, Inc.
Pilot Station	\$19.37	United Utilities, Inc.
Pitkas Point	\$19.37	United Utilities, Inc.
Platinum	\$19.37	United Utilities, Inc.
Point Baker	\$16.42	Telephone Utilities of the Northland, Inc.
Point MacKenzie	\$8.96	Matanuska Telephone Association, Inc.
Port Alexander	\$16.42	Telephone Utilities of the Northland, Inc.
Port Alsworth	\$16.42	Telephone Utilities of the Northland, Inc.
Port Graham	\$16.42	Telephone Utilities of the Northland, Inc.
Port Lions	\$19.99	Interior Telephone Company
Port Moller	\$16.42	Telephone Utilities of the Northland, Inc.
Port Protection	\$16.42	Telephone Utilities of the Northland, Inc.
Portage Creek	\$16.42	Telephone Utilities of the Northland, Inc.
Quinhagak	\$19.37	United Utilities, Inc.
Rampart	\$19.37	United Utilities, Inc.
Red Devil	\$21.65	Bush-Tell, Incorporated
Ruby	\$17.12	Yukon Telephone Company, Inc.
Russion Mission	\$19.37	United Utilities, Inc.
Saint George	\$16.42	Telephone Utilities of the Northland, Inc.
Saint Marys	\$19.37	United Utilities, Inc.
Saint Michael	\$14.30	Mukluk Telephone Company, Inc.
Saint Paul	\$16.42	Telephone Utilities of the Northland, Inc.
Salamatof	\$16.42	Telephone Utilities of the Northland, Inc.
Sand Point	\$19.99	Interior Telephone Company
Savoonga	\$19.37	United Utilities, Inc.
Scammon Bay	\$19.37	United Utilities, Inc.
Selawik	\$15.95	OTZ Telephone Cooperative, Inc.
Seldovia	\$16.42	Telephone Utilities of the Northland, Inc.
Seward	\$9.11	GTE Alaska Incorporated
Shageluk	\$21.65	Bush-Tell, Incorporated
Shaktolik	\$14.30	Mukluk Telephone Company, Inc.
Sheldon Point	\$19.37	United Utilities, Inc.
Shishmaref	\$14.30	Mukluk Telephone Company, Inc.
Shungnak	\$15.95	OTZ Telephone Cooperative, Inc.
Sitka	\$16.42	Telephone Utilities of the Northland, Inc.
Skagway	\$5.59	Alaska Telephone Company
Slana**	\$11.38	Copper Valley Telephone Cooperative, Inc.
Sleetmute	\$21.65	Bush-Tell, Incorporated
Soldotna	\$16.42	Telephone Utilities of the Northland, Inc.
Stebbins	\$14.30	Mukluk Telephone Company, Inc.
Sterling	\$16.42	Telephone Utilities of the Northland, Inc.
Stevens Village	\$19.37	United Utilities, Inc.
Stony River	\$21.65	Bush-Tell, Incorporated
Sutton	\$8.96	Matanuska Telephone Association, Inc.
Takotna	\$19.37	United Utilities, Inc.
Talkeetna	\$8.96	Matanuska Telephone Association, Inc.

Tanana	\$17.12	Yukon Telephone Company, Inc.
Tatitlek	\$14.10	Copper Valley Telephone Cooperative, Inc.
Telida	\$19.37	United Utilities, Inc.
Teller	\$14.30	Mukluk Telephone Company, Inc.
Tenakee Springs	\$16.42	Telephone Utilities of the Northland, Inc.
Tetlin	\$11.03	Alaska Telephone Company
Thorne Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Togiak	\$19.37	United Utilities, Inc.
Tok	\$11.03	Alaska Telephone Company
Toksook Bay	\$19.37	United Utilities, Inc.
Tuluksak	\$19.37	United Utilities, Inc.
Tuntutuliak	\$19.37	United Utilities, Inc.
Tununak	\$19.37	United Utilities, Inc.
Twin Hills	\$19.37	United Utilities, Inc.
Tyonek	\$8.96	Matanuska Telephone Association, Inc.
Unalakleet	\$10.88	GTE Alaska Incorporated
Unalaska	\$19.99	Interior Telephone Company
Usibelli	\$8.96	Matanuska Telephone Association, Inc.
Valdez	\$9.32	Copper Valley Telephone Cooperative, Inc.
Venetie	\$19.37	United Utilities, Inc.
Wales	\$14.30	Mukluk Telephone Company, Inc.
Wasilla	\$8.96	Matanuska Telephone Association, Inc.
Whale Pass	\$17.62	Alaska Telephone Company
White Mountain	\$14.30	Mukluk Telephone Company, Inc.
Whittier	\$17.12	Yukon Telephone Company, Inc.
Willow	\$8.96	Matanuska Telephone Association, Inc.
Wiseman	\$20.14	Summit Telephone Company
Women's Bay	\$16.42	Telephone Utilities of the Northland, Inc.
Wrangell	\$9.11	GTE Alaska Incorporated
Yakutat	\$16.42	Telephone Utilities of the Northland, Inc.

*This rate includes the Regulatory Cost Charge of .712% where applicable.

**Customers served by radio service paid an additional monthly charge of \$26.65.

 [APUC table of contents](#)  [Next](#)

 [Top of page](#)

 [APUC home page](#)

 [Previous page](#)

Financial Information for Fully Regulated Utilities

 Previous  Next

1993-1996 Prepared by Parker Nation

NET PLANT	1993	1994	1995	1996
Electric	\$1,055,965,815	\$1,185,404,791	\$1,088,964,914	\$1,241,813,627
Gas	181,003,208	178,765,752	176,701,859	167,551,986
Refuse	5,908,739	5,688,489	8,273,960	9,376,672
Sewer	72,031,761	70,907,688	742,100,233	80,780,311
Telephone*	796,897,913	653,711,730	80,236,556	1,045,897,056
Water	99,315,614	96,684,429	113,948,425	112,430,180
TOTAL	\$2,211,123,050	\$2,191,162,879	\$2,210,225,947	\$2,657,849,832
TOTAL REVENUE				
Electric	\$443,414,387	\$461,804,705	\$468,541,454	\$489,229,828
Gas	111,732,587	110,405,070	103,235,041	99,606,093
Refuse	23,127,945	23,939,549	26,379,115	25,492,105
Sewer	23,582,287	24,112,695	665,980,008	24,969,771
Telephone*	679,457,405	596,908,329	24,222,602	706,224,262
Water	28,761,211	28,939,059	30,072,824	29,566,927
TOTAL	\$1,310,075,822	\$1,246,109,407	\$1,318,431,044	\$1,375,088,986
NET INCOME				
Electric	\$32,579,812	\$43,345,392	\$53,014,526	\$41,391,624
Gas	8,183,035	11,250,565	13,852,565	13,246,267
Refuse	629,820	1,259,866	642,751	(1,062,177)
Sewer	2,059,886	2,022,917	96,344,806	3,113,533
Telephone*	70,876,947	90,282,134	2,637,764	62,248,350
Water	1,819,066	1,653,414	3,052,188	3,704,882
TOTAL	\$116,148,566	\$149,814,288	\$169,544,600	\$122,642,479
CUSTOMERS				
Electric	203,160	207,008	208,442	214,087
Gas	87,153	89,056	89,004	94,000
Refuse	43,830	45,278	48,438	47,407
Sewer	45,605	48,395	335,163	46,212
Telephone*	293,292	315,709	47,704	390,438
Water	48,007	50,165	50,142	50,373
TOTAL	721,047	755,661	778,893	842,517
* Excludes wholesale customers of intrastate interexchange carriers				

in order to prevent
double-counting.

 [APUC table of contents](#)

 [Next](#)

 [Top of page](#)

 [APUC home page](#)

 [Previous](#)

Areas Served by Certificated Utilities (A-F)

 Previous  Next

[A | B | C | D | E | F] | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U |

AREA SERVED	ELECTRIC	GAS	REFUSE	SEWER	TELECOMMUNICATIONS	
					CABLE TELEVISION (CATV)	TELEPHONE
Akhiok	Akhiok					TUNI
Akiachak	ANCEC					UII
Akiak						UII
Akutan	Akutan					TUNI
Alakanuk	AVEC					UII
Aleknagik	NECI					NTCI
Allakaket/Alatna	ACES					TUNI
Ambler	AVEC					OTZ
Anaktuvuk Pass	NSPL		NSB	NSB		ASTAC
Anchor Point	HEA		PSC			TUNI
Anchorage	Chugach ML&P	ENSTAR	ARI MOA CRI PSI	AWWU Rangeview	GCICI	ATU Alascom GCI
						PC
Anderson	GVEA		Lausen's			MTA
Andreafsky	AVEC					
Angoon	T-HREA					TUNI
Aniak	ALPC		ADS		Cable Co.	Bush-Tell
Anvik	AVEC					Bush-Tell
Arctic Village						UII
Atka	AEC					TUNI
Atkasuk	NSPL		NSB	NSB		ASTAC
Atmautluak	AJU					UII
Barrow	BUECI	BUECI	NSB	BUECI	ASRC	GTE
Bartlett Cove						TUNI
Beaver	Beaver					UII
Bethel	BUCI				GCICI	GTE
Bettles	BL&P					BTI
Big Lake	MEA	ENSTAR	AAE MacKenzie VRI WRI DNT			MTA
Birch Creek						UII
Birch Lake						TUNI
Border City						TUNI
Brevig Mission	AVEC					Mukluk
Buckland	Buckland					OTZ

Candle						OTZ	
Cantwell	GVEA		Lausen's			MTA	
Central	FNUI					UUI	
Chalkyitsik						UUI	
Chatanika	GVEA					Summit	
Chatham						TUNI	
Chefornak	Naterkaq					UUI	
Chena Hot Springs			Interior			Summit	
Chevak	AVEC					UUI	
Chickaloon	MEA		VRI			MTA	
Chignik	Chignik					TUNI	
Chignik Lagoon						TUNI	
Chignik Lake	CLEU					TUNI	
Chilkat Valley	T-HREA					GTE	
Chiniak						TUNI	
Chisana						ATC	
Chistochina	APC					CVTC	
Chitina	CEI					CVTC	
Chuathbaluk	MKEC					UUI	
Chugiak/Eagle River	MEA	ENSTAR	ERRI	AWWU	GCICI	MTA	
Circle	Circle						
Circle Hot Springs						UUI	
Clam Gulch	HEA		PSC			TUNI	
Clarks Point						NTCI	
Clear	GVEA		Lausen's			MTA	
Cleary Summit	GVEA					Summit	
Clover Pass	Ketchikan				KSCI	Ketchikan	
Coffman Cove	CCUA				Coffman	TUNI	
Cold Bay	G&K					ITC	
College	GVEA		Far North	CUC	GCICF	FMUS	
Cooper Landing	Chugach		PSC			ITC	
Copper Center	CVEA		CVCC			CVTC	
Cordova	CECI		Cordova	Cordova	GCICI	CTCI	
Council						Mukluk	
Craig	APC			Craig		ATC	
Crooked Creek	MKEC					Bush-Tell	
Cube Cove						TUNI	
Deadhorse/Prudhoe Bay	AUI	Norgasco	CES NSB	NSB		ASTAC	
Deering	IEC					OTZ	
Delta Junction	GVEA		Delta		HCI	TUNI	
Dillingham	NECI		DRI	Dillingham	NTCI	NTCI	D
Diomedes (Little)	Diomedes					Mukluk	
Dot Lake	APC					ATC	
Douglas	AEL&P		Arrow	Juneau	GCICI	TUA	
Dutch Harbor	Unalaska		WSI	Unalaska	Eyecom	ITC	
Eagle/Eagle Village	EPCI					NCTC	

Edna Bay						ATC	
Eek	AVEC					UUI	
Egegik	EL&P			EGEGIK		TUNI	
Eielson AFB					GCICI	TUA	
Eklutna	MEA	ENSTAR				MTA	
Ekuk						NTCI	
Ekwok						BBTC	
Elfin Cove						TUNI	
Elim	AVEC					Mukluk	
Emmonak	AVEC					UUI	
English Bay	HEA					TUNI	
Etolin Island						GTE	
Evansville	BL&P					BTI	
Fairbanks	FMUS GVEA		Fairbanks Far North Interior Star	CUC FMUS	GCIFI Gerstein	FMUS	
False Pass	False Pass					TUNI	
Fort Greely	GVEA				GCICI	TUNI	
Fort Wainwright	GVEA				GCICI	TUA	
Fort Yukon	GZUC					ITC	
Fox	GVEA					FMUS	

[APUC table of contents](#)
[Next](#)
[Top of page](#)

[APUC home page](#)

Areas Served by Certificated Utilities (G-L)

 Previous  Next

A | B | C | D | E | F | **G | H | I | J | K | L** | M | N | O | P | Q | R | S | T | U |
V | W | X

AREA SERVED	ELECTRIC	GAS	REFUSE	SEWER	TELECOMMUNICATIONS		WATER
					CABLE TELEVISION (CATV)	TELEPHONE	
Gakona	CVEA					CVTC	
Galena	Galena			Galena	Eyecom	ITC	Galen
Gambell	AVEC				FCI	UUI	
Girdwood	Chugach	ENSTAR	PSC	AWWU	ACC	ATU	AWW
Glennallen	CVEA		CVCC	CVCC		CVTC	CVCC
Golovin	Golovin					Mukluk	
Goodnews Bay	AVEC					UUI	
Grayling	AVEC					Bush-Tell	
Gulkana	CVEA					CVTC	
Gustavus	Gustavus					TUNI	
Haines	HL&P		HSI	Haines	EDDI	GTE	Haine
Halibut Cove	HEA					TUNI	
Healy	GVEA		Lausen's		Gerstein	MTA	
Healy Lake	APC					ATC	
Hobart Bay						TUNI	
Hollis	APC					ATC	
Holy Cross	AVEC					Bush-Tell	
Homer	HEA		PSC	Homer	GCICI	TUNI	Home
Hoonah	T-HREA			Hoonah	HTHCC	TUNI	Hoona
Hooper Bay	AVEC				FCI	UUI	
Hope	Chugach		PSC			ATU Alascom GCI	
Houston	MEA	ENSTAR	VRI			MTA	
Hughes	HPLC					TUNI	
Huslia	AVEC					TUNI	
Hydaburg	APC					ATC	Hydabu
Hyder						GTE	
Igiugig						BBTC	
Iliamna	I-N-N					ITC	
Indian/Bird	Chugach		PSC			ATU	
Ivanof Bay						TUNI	
Juneau	AEL&P		Arrow	Juneau	GCIJC	TUA	Junea
Kachemak	HEA		PSC	Homer	GCICI	TUNI	
Kaguyak						TUNI	
Kake	T-HREA			Kake		TUNI	Kake
Kaktovik	NSPL		NSB	NSB		ASTAC	NSB
Kalifornsky	HEA		C&S PSC			TUNI	
Kalskag, Lower	AVEC					Bush-Tell	

Kalskag, Upper	AVEC					Bush-Tell	
Kaltag	AVEC					TUNI	
Kantishna						MTA	
Karluk						TUNI	
Kasaan	T-HREA					TUNI	
Kasigluk/Akolmut	AVEC					UII	
Kasilof	HEA		C&S PSC			TUNI	
Kazakof Bay						TUNI	
Kenai	HEA	ENSTAR Kenai	C&S PSC	Kenai	GCICI	TUNI	Kenai
Kenny Lake	CVEA					CVTC	
Ketchikan	Ketchikan		Ketchikan Tongass	Ketchikan KGB	KSCI	Ketchikan	Ketchik MPSA SSSA
Keyes Point						TUNI	
Kiana	AVEC					OTZ	
King Cove	King Cove			King Cove	KCC	ITC	King Cove
King Salmon	NEA				BCI	BBTC	
Kipnuk	Kipnuk				FCI	UII	
Kivalina	AVEC					OTZ	
Klawock	T-HREA					TUNI	Klawoc
Klawock Airport	APC					TUNI	
Klukwan						GTE	
Knik	MEA	ENSTAR	AAE VRI WRI DNT			MTA	
Kobuk	Kobuk					OTZ	
Kodiak	KEA		KIB	Kodiak	GCICI	TUNI	Kodia
Kokhanok						TUNI	
Koliganek						BBTC	
Kongiganak	PPC					UII	
Kotlik	Kotlik				Kotlik	UII	
Kotzebue	Kotzebue			KMU	GCICI	OTZ	KMU
Koyuk	AVEC					Mukluk	
Koyukuk						TUNI	
Kupreanof							
Kwethluk	KK					UII	
Kwigillingok	KWIG					UII	
Lake Louise			AAE CVCC WRI				
Lake Minchumina	Semloh					UII	
Larsen Bay	Larsen Bay					TUNI	
Levelock	LECI					BBTC	
Lime Village						UII	
Livengood						UII	
Long Island						TUNI	

[APUC table of contents](#)
[Next](#)
[Top of page](#)
[APUC home page](#)

Areas Served by Certificated Entity (M-R)

 Previous  Next

A | B | C | D | E | F | G | H | I | J | K | L | [M | N | O | P | Q | R] | S | T | U |
V | W | Y

AREA SERVED	ELECTRIC	GAS	REFUSE	SEWER	TELECOMMUNICATIONS		WATER
					CABLE TELEVISION (CATV)	TELEPHONE	
Manley Hot Springs	Manley					UUI	
Manokotak	MPC					NTCI	
Marshall	AVEC					UUI	
McCarthy						CVTC	
McGrath	MLPC		MTR		MBC	GTE	McGrath
McKinley Park	GVEA		Irwin's			MTA	
Merkoryuk	AVEC					UUI	
Mentasta	APC					CVTC	
Meshik						TUNI	
Metlakatla						GTE	
Meyers Chuck						ATC	
Minto	AVEC					UUI	
Moose Pass	Chugach		PSC			GTE	
Mount Edgumbe	Sitka		Sitka	Sitka	KSCI	TUNI	Sitka
Mountain Village	AVEC				VCC	UUI	
Naknek	NEA		Patterson		BCI	BBTC	
Napakiaak	NIPC					UUI	
Napaskiak						UUI	
Naukati						ATC	
Nelchina	CVEA					CVTC	
Nelson Lagoon	NLECI					TUNI	
Nenana	GVEA		Irwin's	Nenana	HYTEK	TUNI	Nenana
New Chenega Bay						UUI	
New Stuyahok	AVEC					BBTC	
Newhalen	I-N-N					ITC	
Newtok	UPC					UUI	
Nightmute	Nightmute					UUI	
Nikiski	HEA	ENSTAR	PSC		GCICI	TUNI	McGahan
Nikolaevski						TUNI	
Nikolai	NLP					UUI	
Nikolski	Umnak					TUNI	

Ninilchik	HEA		PSC			TUNI	
Noatak	AVEC					OTZ	
Nome	Nome		Andersen	Nome	GCICI	GTE	Nome
Nondalton	I-N-N					TUNI	
Noorvik	AVEC					OTZ	
North Pole	GVEA		Drake's	North Pole		TUNI	North Pole
Northway	NPLI		NNL			TUNI	
Nuiqsut	NSPL		NSB	NSB		ASTAC	NSB
Nulato	AVEC					TUNI	
Nunapitchuk	AVEC					UII	
Old Harbor	AVEC					TUNI	
Oscarville	BUCI					UII	
Ouzinkie	Ouzinkie				ICTV	TUNI	
Palmer	MEA	ENSTAR	MAT-SU Palmer WRI	Palmer	RCAI	MTA	Eagle Palmer
Paxson	Paxson					CVTC	
Pedro Bay						TUNI	
Pelican	PUI					TUNI	PUI
Perryville						TUNI	
Peters Creek	MEA	ENSTAR	ERRI		GCICI	MTA	
Petersburg	Petersburg		Petersburg	Petersburg	GCICI	GTE	Petersburg
Petersville						MTA	
Pilot Point	PILOT					TUNI	
Pilot Station	AVEC					UII	
Pitkas Point	AVEC					UII	
Platinum						UII	
Point Baker						TUNI	
Point Hope	NSPL		NSB	NSB		ASTAC	NSB
Point Lay	NSPL		NSB	NSB		ASTAC	NSB
Point MacKenzie			MacKenzie			MTA	
Port Alexander						TUNI	
Port Alsworth	TECI					TUNI	
Port Graham	HEA					TUNI	
Port Heiden	Port Heiden						
Port Lions	KEA				Eyecon	ITC	
Port Moller	KEA					TUNI	
Port Protection						TUNI	
Portage Creek						TUNI	
Quinhagak	AVEC				FCI	UII	
Rampart	Weisner					UII	
Red Devil	MKEC					Bush-Tell	
Ruby	RUBY				Supervision	YTC	
Russian Mission	AVEC					UII	

[APUC table of contents](#)
[Next](#)
[Top of page](#)
[APUC home page](#)

Areas Served by Certificated Entity (S-Z)

 Previous  Next

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | [S | T | U |
V | W | Y]

AREA SERVED	ELECTRIC	GAS	REFUSE	SEWER	TELECOMMUNICATIONS		WATER
					CABLE TELEVISION (CATV)	TELEPHONE	
Saint George	St. George					TUNI	
Saint Marys	AVEC				FCI	UUI	
Saint Michael	AVEC					Mukluk	
Saint Paul	St. Paul					TUNI	St. Paul
Salamatof	HEA		C&S PSC		GCICI	TUNI	
Sand Point	SPEI					ITC	
Savoonga	AVEC				FCI	UUI	
Saxman	Ketchikan			Saxman	KSCI	Ketchikan	Saxman
Scammon Bay	AVEC					UUI	
Selawik	AVEC					OTZ	
Seldovia	HEA			Seldovia		TUNI	Seldovia
Seward	Seward		JE	Seward	GCICI	GTE	Seward
Shageluk	AVEC					Bush-Tell	
Shaktoolik	AVEC					Mukluk	
Sheldon Point	Sheldon Point					UUI	
Shishmaref	AVEC				SNC	Mukluk	
Shungnak	AVEC					OTZ	
Sitka	Sitka		Sitka	Sitka	KSCI	TUNI	Sitka
Skagway	APC		Skagway	Skagway	EDDI	ATC	Skagway
Slana						CVTC	
Sleetmute	MKEC					Bush-Tell	
Soldotna	HEA	ENSTAR	C&S PSC	Soldotna	GCICI	TUNI	Soldotna
Squaw Harbor						ITC	
Stebbins	AVEC					Mukluk	
Sterling	HEA	ENSTAR	C&S PSC		GCICI	TUNI	
Stevens Village						UUI	
Stony River	MKEC					Bush-Tell	
Sutton	MEA		AAE VRI			MTA	

			WRI				
Takotna	Takotna					UUI	
Talkeetna	MEA		AAE WRI TALKEETNA	MAT-SU		MTA	MAT-SU
Tanacross	APC					ATC	
Tanana	TPC				Supervision	YTC	
Tatitlek						CVTC	
Telida						UUI	
Teller	Teller					Mukluk	
Tenakee Springs						TUNI	
Tetlin	APC					ATC	
Thorne Bay	Thorne Bay		Thorne Bay	Thorne Bay	TBTV	TUNI	Thorne Bay
Togiak	AVEC				FCI	UUI	
Tok	APC		J.D. Refuse			ATC	
Toksook Bay	AVEC				FCI	UUI	
Tuluksak						UUI	
Tuntutuliak	TCSA					UUI	
Tununak	AVEC				FCI	UUI	
Twin Hills						UUI	
Tyonek	Chugach		BESI			MTA	
Umnak Island							
Unalakleet	MEA				FCI	GTE	
Unalaska	Unalaska		WSI	Unalaska	Eyecon	ITC	Unalaska
Usibelli	GVEA		Irwin's			MTA	
Valdez	CVEA		VATI	Valdez	ACVI	CVTC	Valdez
Venetie						UUI	
Wainwright	NSPL		NSB	NSB		ASTAC	NSB
Wales	AVEC					Mukluk	
Ward Cove	Ketchikan				KSCI	Ketchikan	
Wasilla	MEA	ENSTAR	ALMA MacKenzie VRI WRI DNT	Trillium Wasilla	RCAI	MTA	MUC N.L.T. Snowshoe Swiss Castle Trillium Wasilla
Whale Pass						ATC	
White Mountain	White Mountain					Mukluk	
Whittier	Chugach	ENSTAR		Whittier	Supervision	YTC	Whittier
Willow	MEA		WRI			MTA	
Women's Bay	KEA				ICTV	TUNI	
Wrangell	Wrangell			Wrangell	ACVI	GTE	Wrangell
Yakutat	Yakutat		BOB'S			TUNI	Yakutat

[APUC table of contents](#)
[Next](#)
[Top of page](#)
[APUC home page](#)

**THE ADOPTION OF PROXY COST MODELS BY
TELECOMMUNICATIONS REGULATORS AS THE MEANS TO
CALCULATE UNIVERSAL SERVICE SUPPORT:**

WHAT IS AT STAKE FOR RURAL AMERICA?

A RUPRI Briefing Paper

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The Adoption of Proxy Cost Models by Telecommunications Regulators as the Means to Calculate Universal Service Support: What is at Stake for Rural America?

● High Level Historical Overview

- The price of basic service is set below cost to promote universal service.
- Historically, this was accomplished through implicit and explicit subsidies.
 - Rates for urban, business and access services were raised above cost to generate funds that flowed to local residential services.
 - Three explicit federal support funds were established that will provide about \$1.7 billion in 1999 to subsidize basic local service:¹
 - The high cost fund, established in 1986, was designed to offset the cost of the physical loop between the central office switch and the customer's location. In 1999, its fund size is projected to be \$864.2 million.
 - Long Term Support, established in 1989, was designed to keep interstate loop access rates uniform in urban and rural areas. In 1999, its fund size is projected to be \$469.6 million.
 - Local Switching Support, established in 1998, was designed to help keep interstate switching access rates uniform in urban and rural areas. In 1999, its fund size is projected to be \$390.8 million.
 - About eighty percent of the \$1.7 billion total goes to local exchange carriers with fewer than 100,000 lines.
- As a result of the Telecommunications Act of 1996, federal and state regulators are replacing these implicit and explicit mechanisms with new explicit funds.²
- According to Reed Hundt, the size of this new fund could be between \$4 and \$20 billion.³
- The FCC and state regulators are leaning toward using proxy models to identify customer locations eligible for support.
 - A proxy model is a simulation model that estimates the cost of providing basic local service to every customer location in the United States

¹ Proposed First Quarter 1999 Universal Service Contribution Factors and Proposed Actions, CC Docket No. 96-45 *Public Notice*, FCC 98-318 (rel. Dec. 4, 1998).

² 47 U.S.C. § 254(e).

³ Statement of Reed Hundt, Former Chair of the FCC on "Implementation of the Telecom Act of 1996" before the Subcommittee on Telecommunications and Finance, Committee on Commerce, US House of Representatives at 7 (July 18, 1996).

- It assumes one provider of basic service within a serving area.
- It employs the latest engineering practices to design the network.
- o The FCC plans to use a proxy model to calculate support for non-rural carriers beginning July 1, 1999.
- o The recent Joint Board Recommendation continues to endorse forward looking cost models to calculate support, but recommends defining the service area eligible for support to be the study area and believes that the current support mechanism should continue if a reliable forward looking cost model is not available in time for the July 1, 1999 target implementation date.⁴ Both decisions suggest that the Board is wary of adopting a proxy model for non-rural carrier support. In the same document, the Joint Board says that it does not intend that FCC rulings on forward looking cost models should be a precedent for "any potential revisions to support mechanisms for rural carriers."⁵
- o While it is focusing on using a proxy model for non-rural carriers, the FCC has organized a Rural Task Force (RTF) to determine whether a proxy model is appropriate for calculating support for rural carriers. If the RTF and Joint Board recommends and the FCC approves a model, one could be used to calculate rural LEC support beginning July, 1, 2001 at the earliest.

● **Key Policy Questions:**

It is clear from this high level overview, that if you don't know what a proxy model is and how it works, and what are its flaws, you should. In a few years, regulators may use proxy models to calculate basic local service support for rural customers.

This study is designed to help you ask the right questions about proxy models so that you can decide whether or not they are the right tool for overhauling the existing support mechanisms that keep basic local service affordable.

Toward this end, this study gives background information needed to answer the following questions:

- o What is basic local service?
- o How will it evolve?
- o Why proxy models?

⁴ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Second Recommended Decision*, FCC 98J-7 at 14-16 (Nov. 25, 1998)(*Second Recommended Decision*).

⁵ *Id.* at 15.

- Are they reliable enough to target support dollars to high cost customer locations?
- Do they calculate enough support to replace all existing implicit and explicit supports for basic service?
- Are they flexible enough to include other services that may become part of basic service?
- Are they flexible enough to incorporate new technology or more than one provider in a service area?
- What is the status of using proxy models for non-rural and rural carrier support?
- What is the status of the RTF's review of proxy models for rural carriers?

The report is divided into the following sections:

- The regulatory path leading to proxy models
 - Definition of basic local service
 - Rationale for using a proxy model
 - Requirements for an acceptable proxy model
- Common features of Competing Proxy Models
- Comparison of results from HAI and BCPM as a benchmark for evaluating future models.
- Status of proxy models for non-rural carriers
 - Adoption of a proxy model platform by the FCC
 - Recent complaints about the FCC's new platform
 - The Joint Board's Recommendations
- The "Rural Spillover"
- Status report on the RTF and State activities

Subject Area Reviews

● The Regulatory Path Leading to Proxy Models

Since AT&T's divestiture in 1984, the FCC and state regulators have increasingly relied on competition to stimulate innovation in the telephone industry. Congress put its stamp of approval on this deregulatory trend when it passed the Telecommunications Act of 1996. The Act removes barriers that have kept potential competitors out of the market. Yet, the Act also recognizes that competition does not solve all problems. People who live in remote areas, for example, may not be able to afford the going rate for service.

Section 254 of the Act states that the FCC has the duty to preserve and enhance universal telecommunications service in a manner consistent with the procompetitive purposes of the Act. To accomplish this goal, the Act directed the FCC to establish a new federal fund that would replace the existing support funding arrangements for basic local service. All implicit subsidies built into basic local service from other services had to be made explicit and portable among competing telecommunication carriers.⁶ States were also encouraged to establish a similar type of fund to promote universal service.

To gauge the size of the fund, Section 254(c)(1) required the FCC to define telecom services eligible for support. In its Universal Service Order, the FCC concluded that basic service has the following characteristics:⁷

- Voice access to the public switched network
- Local usage
- Touch tone capability
- Single party service or its equivalent
- Access to emergency services and TRS
- Access to interexchange services
- Access to directory assistance
- Toll limitation for qualifying low-income assistance

Carriers eligible for support must offer and advertise all the services supported by the federal fund throughout their service area using their own facilities or a combination of their own facilities and resale of another carrier's facilities.

⁶ Portability means that the support payments go to the carrier who wins a customer eligible for support.

⁷ See 47 C.F.R. § 54.101.

Following the Joint Board's recommendation, the FCC decided to calculate the amount of universal service support required for each rural and high cost area based on forward-looking economic cost (FLEC) of providing basic telephone services reduced by a nationwide revenue benchmark calculated on the basis of an average revenue per line.⁸ The definition of forward looking cost is the cost of constructing and operating the network facilities and functions needed to provide basic local service using the latest engineering and purchasing practices adopted as industry standards.

The Joint Board and the Commission cited several advantages of FLEC studies over those based on a company's embedded costs. First, the FLEC study could be designed to target support more accurately by calculating costs over a smaller geographic area than the cost accounting systems that the ILECs currently use, which are designed for the entire study area. Second, setting support based on embedded cost provides the wrong signals to potential entrants and exiting carriers. Companies may have the incentive to gold plate their networks to increase support. Third, the Joint Board also found that a FLEC model would not be based on any individual company's costs; therefore, it is a competitively neutral estimate of the cost of providing supported services.

The particular FLEC model that the FCC is in the process of adopting for non-rural carriers is a proxy model. This is a national simulation model that calculates the forward looking cost of basic local service to all potential subscribers in the United States and insular regions such as Puerto Rico. It is intended to approximate the cost of providing basic local service employing the least cost, most efficient technology that is currently available using incumbent LECs' existing wire centers.

The Joint Board recommended the use of a proxy model because it produces cost estimates that are independent of a company's actual cost of providing service.⁹ According to the Joint Board, proxy model cost estimates should be based on a careful analysis of network design, engineering practices, available technologies, and current technology costs

The general requirements for an acceptable proxy model are as follows:

- It must calculate forward looking costs for physical parts of the network, called network elements, such as loop, local switching, tandem switching, interoffice transport, operator services, and public telephones.
- Every network element must have a cost
- The model should estimate the cost of providing services to all businesses and households within a geographic area so that it fully reflects the economies of scale of providing basic local service.
- The model should have a reasonable allocation of joint and common costs to network elements.
- All underlying data, formulae, computations, and software should be available to all interested parties.

⁸ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Report and Order*, 12 FCC Rcd 8776 (1997) at ¶ 223.

⁹ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Recommended Decision*, 12 FCC Rcd 87 (1997) at ¶ 277.

- The model must be flexible enough to incorporate new technologies
- It must be flexible enough to include the functionalities needed for an evolving set of supported services

● **Common Features of Competing Proxy Models**

Based on these general requirements, three proxy models were developed. The latest versions of them are the Benchmark Cost Proxy Model, Version 3, sponsored by BellSouth, Sprint, and U.S. West, the HAI model, Version 5.0a sponsored by AT&T and MCI, and the Hybrid Cost Proxy Model (HCPM) developed by FCC staff.

These proxy models have many similar characteristics. They are all capable of using geocoded locations of individual customers to build their national networks. The service areas that they model are far smaller than a wire center's geographic boundary. This granularity gives them the flexibility to calculate costs for service areas of virtually any size.

The models use four basic variables that affect the design of service area networks:

- Distance of customers from the switch
- Customer density
- Terrain (soil type, slope, water depth, depth of bedrock)
- Technology

Though the type of equipment used to build the network in a particular service area will differ between a rural and an urban service area, the network diagram for these service areas will look remarkably similar. They will include the following:

- Feeder which extends from the switch to clusters of customers
- Distribution plant to each cluster of customers
- Drop wire and network interface devices to particular customers
- Switches, including remotes
- Interoffice transport of traffic
- A Signaling system.

In sparsely populated areas, digital loop carriers are used concentrate traffic. Figure 1 shows a network diagram that is representative of the BCPM and HAI models. The HCPM is available only for the loop and switching portions of the network.

Besides these major investment items, the models all have the same basic cost drivers.

- Fill factors -- the network capacity normally in use.
- Shared facilities -- network equipment such as telephone poles used by Telcos, electrical utility companies, and cable companies
- Depreciation rates
- Cost of capital
- Joint costs such as maintenance equipment used for more than one network
- Common costs such as corporate expense and other overheads.
- Repairs

- Directory assistance
- Taxes

● **Comparison of results for HAI and BCPM -- the two basic models**

While the three competing proxy models look very similar, they produce very different cost estimates for basic local service. Table A illustrates the cost per loop difference calculated by HAI and BCPM. Large differences persist despite a series of rulings by the FCC to standardize model inputs such as setting the rate of return at the FCC's authorized rate and requiring model builders to use the FCC's depreciation rate guidelines.

These large cost differences produce large differences in universal service support as shown in Table B. Assuming that support begins when the cost of residential service is above \$31 and the cost of business service is above \$51, the support level range calculated by BCPM is between \$13.7 billion to \$17.2 billion. In contrast, the support range for HAI is between \$3.4 billion to \$7.6 billion.

The support ranges for the two models show that the definition of service area is an important policy tool. Continuing the \$31/\$51 benchmark example, the lowest support level in both models is for the study area, the largest service area defined by the Act. At the study area as opposed to a cluster, which is the smallest serving area defined by the models, there is much more opportunity for pockets of high cost customers to get averaged in with low cost customers. This averaging reduces the amount of support needed at the study area level as opposed to the cluster level to keep basic service affordable. In effect, the support level shrinks as the geographic definition of a service area expands.

Despite the marked differences in costs and support generated by the two models, they both identify very similar regions and study areas as relatively high cost. Maps 1 and 2 illustrate the point for states. In both models, the Midwestern states need the highest subsidy per loop to keep basic service affordable. These states have the lowest population densities and longest distances between customers in the United States. Density and distance are the key cost drivers in all proxy models. Table C shows that the smaller study areas, as measured by line size, have the highest cost per loop in both models.

● **Status of Proxy Models for Non-Rural Carriers**

On October 28, 1998, the FCC released an order describing its two-stage plan to adopt a proxy model for non-rural carriers. The first stage, defines the model platform composed of the fixed elements of the model such as network design and engineering. The second stage selects the inputs for the model such as the cost of cables and switches.¹⁰ The FCC's goal is to have a final model ready by May 1, 1999 for July 1, 1999. This is when the proxy model will be used to calculate support for non-rural carriers.

¹⁰ Federal-State Joint Board on Universal Service and Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45 and 97-160, *Fifth Report and Order*, FCC 98-270 (rel. Oct. 28, 1998).

The FCC continued to give the states the option to develop their own FLEC mechanism as a means for estimating federal high cost support.¹¹ At the time of the Order's release, twelve states had chosen to adopt a proxy model as the means for calculating their own fund requirements. Indiana and North Carolina selected versions of BCPM to estimate their state fund sizes. Nevada and Texas chose versions of Hatfield for their funds.

In the same Order, the FCC adopted the final model platform by selecting what it considers to be the best elements from the BCPM, HAI, and HCPM. According to the FCC, its adopted platform has the flexibility "to reflect any evolution in the definition of supported services, and . . . that the model . . . will not impede rural Americans' ability to use the Internet and other advanced telecommunications and information services."¹²

Petitions for Reconsideration attacked the FCC's platform decisions for being too hasty. Commenters said they were not given enough time to analyze this "best of" model because its features kept changing and the underlying dataset supplied by PNR Associates was only available at very high cost and was masked to prevent users from testing PNR's algorithms for assigning customers that were not geocoded to service areas. GTE, for example, said that the FCC did not follow its own rules for testing models. The FCC released its platform without review. In the past, commenters had several months to evaluate BCPM and HAI.¹³

Based on its limited review of the FCC's platform, GTE produced a wide-ranging critique that covered not only the geocoding and engineering decisions, but also the reliability of proxy models as a regulatory tool. In the past, a key difficulty with proxy models was that they did not identify customer locations accurately. To test the FCC's adopted platform, GTE purchased data from PNR, the key provider of data for the proxy models, for its Pennsylvania study areas to test the reliability of PNR's geocoding of customer locations. GTE found serious problems with PNR's dataset. It was especially poor at identifying special access and single business line customers.¹⁴

GTE did not agree with the FCC that selecting the "best" features of separate models produces the best model. Each model has not only its own set of assumptions but also has modules that interact in different ways. Cobbling together modules from separate models can produce unexpectedly odd results as GTE has shown. For, example, HAI and HCPM have different structure-sharing algorithms. They define density differently. They apply annual charge factors differently. As a result, changes in one module of the FCC's model either don't flow through to another as in the case of the cost factors or lead to double counting of cost savings as occurs with structure sharing.¹⁵

¹¹ *Universal Service Order* at ¶ 248.

¹² *Id.* at 3.

¹³ See *GTE Petition for Reconsideration of Commission's Fifth Report and Order* at 7-10 (fil. Dec. 18, 1998)(*GTE Petition*).

¹⁴ See *GTE Petition* at 33 (Aff. of Michael Dippon).

¹⁵ See *GTE Petition* at 5-6 and 12 (Aff. of Jason Zhang).

Instead of using a piecemeal approach to model building, GTE recommended that the FCC use a holistic approach. The FCC should abandon its two stage approach to building its final proxy model and evaluate the platform and inputs together. The FCC should also take steps to integrate the desirable features of the models it has abstracted.¹⁶ Only a series of full-scale tests on an operational model will tell whether the FCC's proxy model is adequate for the job of calculating support.

GTE believes that even when the modules are integrated, the FCC's model will need a lot of fixing. It needs to treat company size as a variable. Instead, the model assumes one set of cost factors for companies of all sizes.¹⁷ The model also does not recognize that companies have very different peak loads, which can affect the amount of spare capacity they need.¹⁸

In the much more addressable category are a series of flawed relationships identified by GTE. The FCC's model should serve all housing units, instead off occupied dwellings because it would impose lengthy delays on new customers or those in the process of relocating. Taxes are not based on all costs, but they should, because revenue should equal total costs.¹⁹ Nor do the expense modules allow for taxes based on investment or permit any input for marketing expense. Several states require advertising of supported services.²⁰ GTE also wants the switching module revised. The FCC's model uses 24:1 line to trunk ratio when the industry standard is 6:1.²¹ The switching cost equation which relates switching costs linearly to lines is too simplistic.

The FCC's model must also calculate a cost for every network function, which it fails to do now. It does not include investment for Operation Support Systems (OSS) and testing facilities. Nor does it include capitalized labor costs for trunk installation associated with certain SS7 signaling links.

To help commenters test the model, the FCC should explain clearly how its model works. At the moment, the coding and algorithms are very hard to decipher. The interactions among the modules are unclear. Since the model is being updated, it would be useful to have a log of revisions to the model, and each update released to the public should have a "version" label.

More broadly, GTE is very concerned that the proxy model being developed does not approximate the workings of a competitive telecommunications company.²² A proxy model may be too technologically static to capture the cost of a real network. For example, the model uses outdated network assumptions such as T-1 DLC loop technology. This technology is not practical to use if the telephone company wants to deploy Asynchronous Digital Subscriber Loop

¹⁶ See *GTE Petition* at 9 (Aff. of Michael Dippon).

¹⁷ See *GTE Petition* at 30 (Aff. of Michael Dippon).

¹⁸ See *GTE Petition* at 37 (Aff. of Francis J. Murphy).

¹⁹ See *GTE Petition* at 3 (Aff. of Subhendu Roy).

²⁰ *Id.* at 10.

²¹ See *GTE Petition* at 36 (Aff. of Francis J. Murphy).

²² See also Dissent of Commissioner Harold Furchtgott-Roth to *Second Recommended Decision*.

(ADSL). This is a very promising loop technology for accessing the Internet.²³

The model assumes one monopoly provider of basic service. This is an unrealistic assumption in areas where competitive LECs (CLECs) are vying for customers.²⁴ Dividing the customer base among competing carriers will lower the opportunities for economies of scale. It can also lead to stranded investment.

As with the other proxy models, the FCC's does not minimize service cost.²⁵ It mainly uses a set of rules of thumb to build the network. GTE would like to see the model minimize net present value of investments and operating expenses.²⁶ Even where an optimization technique is used, GTE questions its value. The FCC's loop module minimizes the number of customer clusters for loop placement. Minimizing clusters assumes that fixed costs are more important than variable costs in rural areas. Whether this is a correct assumption or not has not been verified.²⁷

A key stumbling block for testing a proxy model is that there is no accepted standard for verification. GTE believes that the FCC ought to use actual costs to judge how the model approximates the costs of an efficient firm. At a minimum, Bell Atlantic says, that the FCC should compare proxy model to actual study area line counts and average loop length.²⁸ GTE suggests that the FCC should look at customer behavior to set its network assumptions. For example, IXCs want to have much larger trunking capacity than their market shares. This should affect the model's fill factors.²⁹ There is also concern about the availability and quality of data underlying the model. PNR fees are high, and its algorithms for assigning customers not geocoded is masked. As mentioned before, GTE's test of PNR's Pennsylvania data suggests that PNR's customer assignments are imprecise.³⁰ If the FCC finally adopts a model, it should satisfy all of its own criteria.³¹

Operationally, the sheer size of a proxy model is a barrier to assessing its reliability. It is designed to calculate the cost of providing basic local service to virtually every customer location in the United States. As a result, it produces huge amounts of output. Using default settings alone to run HAI or BCPM for the nation requires almost a week of run time and more than 50 gigabytes of storage space. Then if one wants to test one of these models by varying the default settings, there are hundreds of variables to choose from.

²³ See *GTE Petition* at 29 (Aff. of Francis J. Murphy).

²⁴ See *Bell Atlantic Companies Petition for Reconsideration of the Commission's Fifth Report and Order* at 12 (fil. Dec. 18, 1998) (*Bell Atlantic Petition*).

²⁵ See *GTE Petition* at 16 (Aff. of Michael Dippon).

²⁶ See *GTE Petition* at 19 (Aff. of Michael Dippon).

²⁷ See *GTE Petition* at 24 (Aff. of Michael Dippon).

²⁸ See *Bell Atlantic Petition* at 10.

²⁹ See *GTE Petition* at 39 (Aff. of Francis J. Murphy).

³⁰ See *GTE Petition* at 29 (Aff. of Michael Dippon).

³¹ See *GTE Petition* at 16.

Besides the problem of sheer size, each competing model is programmed differently. They use different programming languages, different program modules, and different coding styles. Because the FCC's model is an amalgam of these prior models, it will take great effort to truly understand the assumptions made at each level of calculation.

On November 23, 1998, one month before GTE's comments on the FCC platform, the Joint Board of State and Federal continued to endorse the FCC's modeling efforts. However, the Board expressed concern about testing the model using data that is being treated as proprietary by its supplier, PNR. In the event that the model is not completed in time for use as of July 1, 1999, the Joint Board recommends using the present method for an interim period. The Joint Board also wants the FCC to reconsider allowing states to use their own cost studies in place of the federal model for nonrural companies. As to the size of the serving area, the Joint Board initially wants to use the study area as the service area. Given the extent of local competition, the Joint Board believes that support at this geographic serving area properly measures support responsibility. To limit the financial risk of using a forward looking cost model to subsidize basic service, the Joint Board supported the FCC's commitment to states that none will receive less federal support than it does now. With respect to rural carriers, the Joint Board emphasized that using a forward looking cost model for nonrural carriers does not set a precedent for any potential revisions for rural carriers.³²

The tenor of these recommendations show that the Joint Board wants the FCC to act very cautiously before adopting proxy models as the basis for calculating nonrural carrier support. In particular, use of the study area as the service area, virtually negates one of the basic reasons for adopting proxy models. They were going to be the vehicles for shrinking the service area from the study area to something smaller. By doing so, competitors would be able to qualify as eligible carriers without having to provide service throughout a study area.

● The Rural Spillover Effect

Although most of the FCC's efforts thus far have been on adopting a proxy model for nonrural carriers that will meet the Joint Board's criteria, work is now beginning on analyzing a forward looking cost model for rural carriers. The recently selected Rural Task Force (RTF),³³ will consider "whether a forward looking economic cost (FLEC) mechanism for rural carriers should have platform design features or input values that are different from those that are appropriate for non-rural carriers." Translated, the RTF will consider whether the proxy model designed for non-rural carriers is appropriate for rural carriers. If the RTF recommends the use of a proxy model, it may be used as soon as July 1, 2001 to calculate support for rural carriers.

Use of proxy models may not be confined to calculating the size of the new universal service fund in rural carrier territories. For example, the Washington State Commission, whose commissioner heads the RTF, has petitioned the FCC for permission to use a proxy model in conjunction with shrinking the geographic size of a service area eligible for receiving universal service support from the current study area to an exchange. The Commission believes that this

³² See *Second Recommended Decision* at 10, 13-16, and 19-20.

³³ See *Federal-State Joint Board on Universal Services Announces Rural Task Force Members*, CC Docket No. 96-45, *Public Notice*, FCC 98J-1 (rel. July 1, 1998).

new definition will encourage competition because several of its rural study areas include multiple exchanges that are not contiguous. This geographical separation makes it very costly for a potential new entrant to become an eligible carrier.

● **Status of RTF's Activities³⁴**

The Rural Task Force is planning to deliver a draft recommendation to the Joint Board by December 1999. That will leave at least the first quarter of the year 2000 for public review and development of final recommendations. At its December 10-11, 1998 meeting, the Task Force adopted a mission statement, objectives, and a set of principles to guide their work over the next 15 months (see Appendix A). These principles largely draw from the Telecommunications Act of 1996, but also recognize that the ultimate system of support should not only be theoretically correct and provide a predictable and sufficient fund, but also must pass the practical test of being economically and administratively workable. Toward that end, the RTF intends a broad-based review including systems of support based on forward looking cost models and those which may continue or adapt the existing system of support.

Responding directly to the FCC Public Notice which established this Rural Task Force, the RTF plans to undertake a rigorous and systematic review of cost model platform and input options. It is entirely possible that the final report may recommend to the Joint Board a specific forward looking cost model platform and input recommendations which the RTF believe will ensure a system of support providing predictable and sufficient funding necessary to achieve the universal service goals outlined by the '96 Act as it applies to rural companies. However, the RTF will not prejudge this outcome and recognizes that it is also possible that it may not be able to responsibly make such a recommendation to the Joint Board. Consequently, the RTF plans to begin identifying and evaluating alternatives to forward looking proxy cost models which might otherwise provide predictable and sufficient funding necessary to achieve the goals outlined by the '96 Act as applied to rural companies. The RTF does not want to be in the untenable position of simply criticizing without offering a specific and workable alternative to the Joint Board.

The Rural Task Force will meet at least four times in 1999. In addition, the members plan numerous conference calls. Working groups composed of the Rural Task Force members will organize, as appropriate, around specific tasks such as identifying input and platform issues. The plan is to have an open process inviting broad-based public involvement. In this way, the RTF hopes to deliver a product to the Joint Board which not only reflects intellectual rigor and policy relevance, but also enjoys wide support. However, the group recognizes that its universal service recommendation to the Joint Board must also be a mechanism consistent with extending the benefits of a competitive telecommunications market to rural or insular areas and with the Act's principle of competitive neutrality.

³⁴ See letter dated December 22, 1998 from W. Gillis, Chair of the RTF to the Joint Board.

Appendix A

Mission Statement.

The mission of the Rural Task Force (RTF) is to review and evaluate alternative universal service support mechanisms which affect consumers in rural or insular areas served by rural telephone companies and to make recommendations to the CC 96-45 Joint Board and the Federal Communications Commission on appropriate universal service support mechanisms, methods and policies to faithfully implement the universal service provisions of the Telecommunications Act of 1996 (the Act) for these rural or insular areas.

Objectives

1. The RTF should review a broad range of options including the continuation or adaptation of the current system of support, a system of support based on forward-looking cost models and any other mechanism consistent with the universal service support and pro-competitive provisions of the Act.
2. The RTF should identify issues which are unique to carriers which serve rural or insular areas and recommend means to address those unique characteristics.
3. Where necessary, the RTF should recommend transitional mechanisms, hold harmless provisions, or modifications to minimize adverse impacts to rural or insular consumers and to facilitate investment in modern telecommunications infrastructure by service providers serving rural or insular areas.

Principles for Developing Recommendations

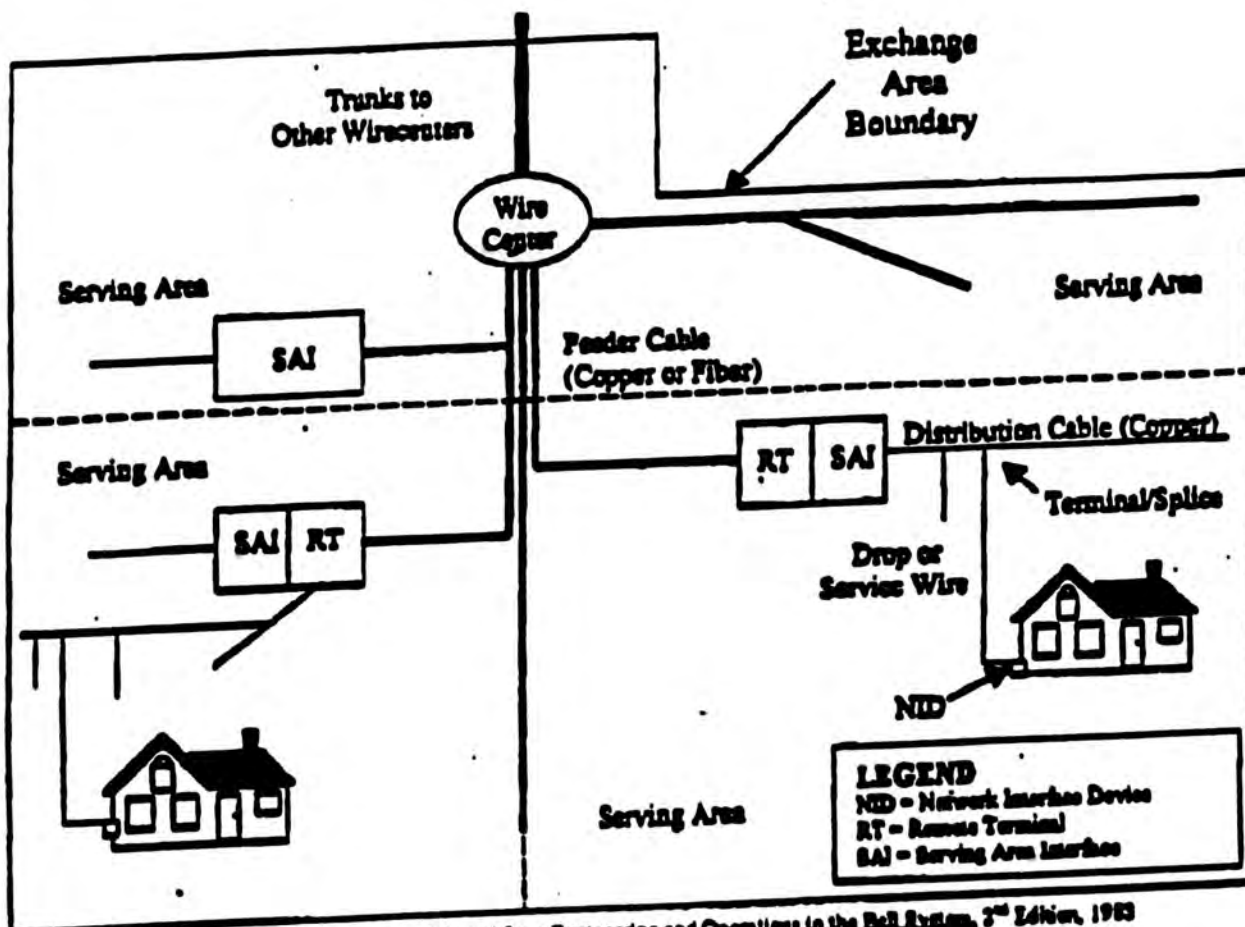
1. Any recommendation from the RTF must conform to the requirements of the Act. Requirements of the Act relating to universal service in rural and insular areas include:
 - a) quality services at just, reasonable and affordable rates;
 - b) access to advanced telecommunications and information services in all regions of the nation;
 - c) services and rates which are reasonably comparable to those provided in urban areas;
 - d) equitable and nondiscriminatory contributions from all service providers to preserve and advance universal service;
 - e) specific, predictable and sufficient federal and state mechanisms to preserve and advance universal service;

- f) access to advanced services for schools, libraries and rural health care providers;**
- g) interexchange and interstate rates which are no higher for rural subscribers than urban subscribers;**
- h) that except as provided for discounted services to schools, libraries and rural health care providers, support be payable only to eligible telecommunications carriers;**
- I) support be used only for the provision, maintenance and upgrading of facilities and service for which the support is intended;**
- j) the deployment of advanced telecommunications capability be encouraged on a reasonably timely basis;**
- k) carriers not to use services which are non-competitive to subsidize services that are subject to competition;**
- l) services which are included in the definition of universal service bear no more than a reasonable share of joint and common costs of facilities used to provide those services.**

2. Any support mechanism recommended by the RTF should be economically and administratively workable.

3. Any support mechanisms recommended by the RTF should be consistent with extending the benefits of a competitive telecommunications market to rural or insular areas and with the Act's principle of competitive neutrality.

Figure 1



Adapted from Encasement and Corrosion in the Bell System, 3rd Edition, 1963

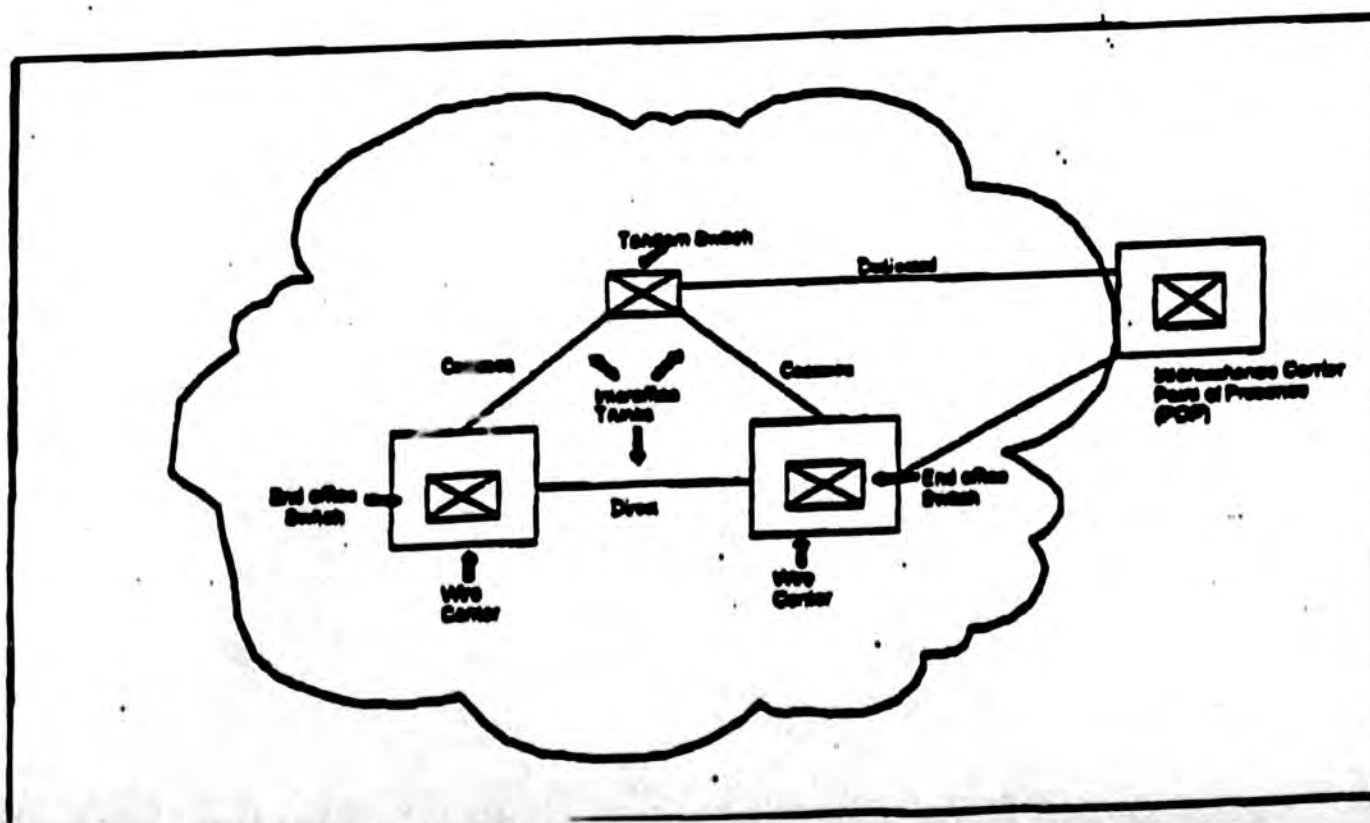


Table A

**Proxy Model
Cost Per Loop
Per Month**

	<u>BCPM 3.0</u>	<u>HAI 5.0A - FCC Defaults</u>
Ameritech	\$29.41	\$21.70
Bell Atlantic	\$28.19	\$22.41
Bell South	\$35.55	\$25.47
NYNEX	\$27.28	\$21.83
Pacific Telesis	\$26.79	\$20.03
Southwestern Bell	\$35.60	\$24.44
US West	\$36.57	\$24.94
GTE Corporation	\$42.45	\$28.20
Sprint - United	\$45.37	\$31.70
All RBOCs	\$31.20	\$23.99
Other Non-RBOC / Non-Rural	\$35.40	\$27.29
<u>Total Non-Rurals</u>	<u>\$31.98</u>	<u>\$23.46</u>
<u>Rural Telcos</u>	<u>\$65.69</u>	<u>\$44.28</u>
National Average	\$36.10	\$25.71

Table B

Basic Local Service Support Funding
(Billions)

BCPM 3.0

Benchmark: (Residence - Business)	Revenue Benchmarks			115% of Nat'l Avg. Cost per Loop @ \$41.52	150% of Nat'l Avg. Cost per Loop @ \$4.16
	@ \$21 - \$41	@ \$31 - \$51	@ \$41 - \$61		
Cluster	\$26.7	\$17.2	\$13.5	N/A	N/A
Density Zone	\$26.5	\$16.6	\$12.9	\$13.5	\$10.3
Wire Center	\$26.2	\$15.9	\$11.5	N/A	N/A
Study Area	\$25.7	\$13.7	\$8.1	N/A	N/A

HAI 5.0A - FCC Defaults

Benchmark: (Residence - Business)	Revenue Benchmarks			@ 115% of Nat'l Avg. Cost per Loop @ \$ 29.57	@ 150% of Nat'l Avg. Cost per Loop @ \$ 38.57
	@ \$21 - \$41	@ \$31 - \$51	@ \$41 - \$61		
Cluster	\$12.0	\$7.6	\$5.5	N/A	N/A
CBG	\$11.8	\$7.4	\$5.3	N/A	N/A
Density Zone	\$10.4	\$6.6	\$4.3	\$7.6	\$5.2
Wire Center	\$10.0	\$5.9	\$4.0	N/A	N/A
Study Area	\$7.7	\$3.4	\$2.1	N/A	N/A

Note 1: The Benchmarks of \$31 - \$51 were the proposed level referred to in the May 8, 1997 USF Order, paragraph 267.
The 115% and 150% Benchmarks are suggested in the November 25, 1998 Joint Board Recommendation, paragraph 43.

Note 2: BCPM contains 613,532 Clusters, 20,671 Wirecenters, and 9 Density Zones.

Note 3: Hatfield contains 217,674 Clusters, 149,404 CBGs and 20,437 Wirecenters, and 9 Density Zones.

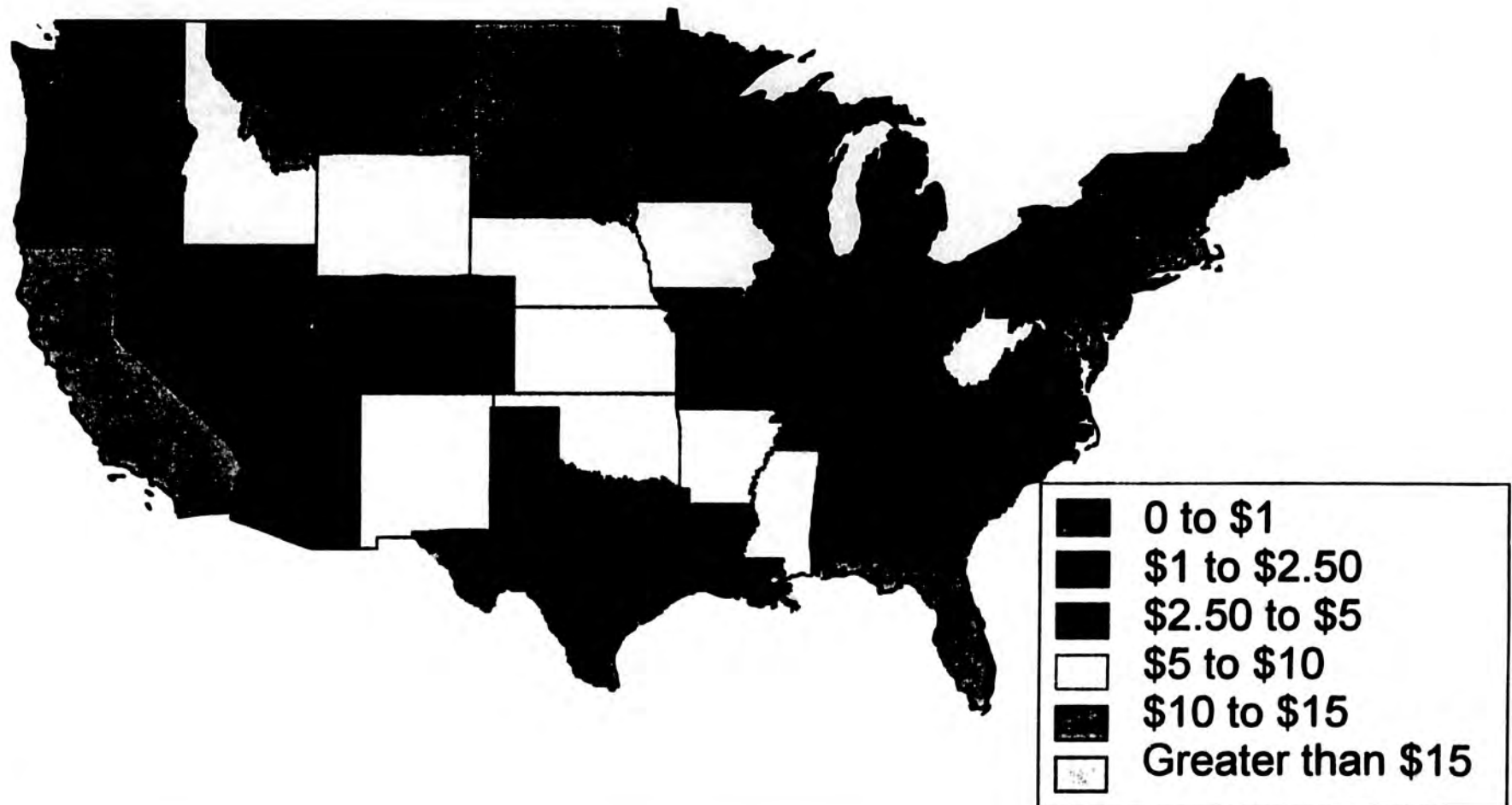
Table C

**Proxy Model
Cost Per Loop
Per Month
By Line Size**

<u>Line Size</u>	<u>BCPM 3.0</u>	<u>HAI 5.0A - FCC Defaults</u>
0 - 1,000 Lines	\$165.71	\$116.30
1,000 - 2,500 Lines	\$132.96	\$100.39
2,500 - 5,000 Lines	\$127.33	\$88.49
5,000 - 10,000 Lines	\$96.09	\$65.54
10,000 - 25,000 Lines	\$87.51	\$65.15
25,000 - 50,000 Lines	\$64.96	\$50.71
50,000 - 100,000 Lines	\$64.05	\$31.22
100,000 or More Lines	\$32.99	\$24.69
National Average	\$36.10	\$25.71

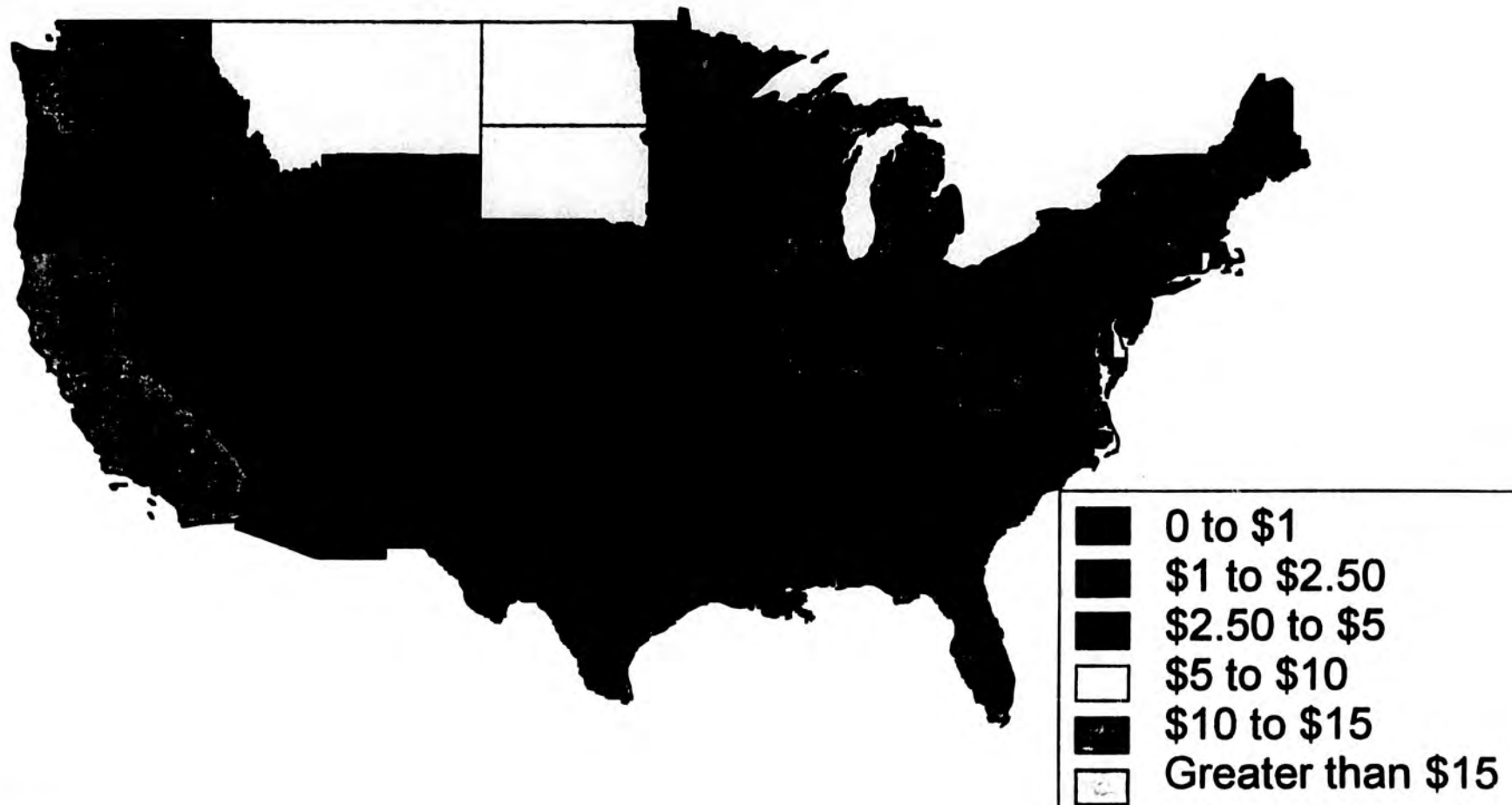
MAP 1

BCPM Monthly Support per Line @ 115% of National Average



MAP 2

HAI Monthly Support per Line @ 115% of National Average



MAP 3

BCM Support at \$31 / \$51 vs. Current Support



Understanding Support Implications Using the Proxy Model Exhibits

- The exhibits describe in much greater detail the comparison results shown in the "What is at Stake for Rural America" report.
- Many of the tables focus on the fund size and fund distribution issues.
- Alternative fund sizes are presented in the tables and maps which show Proxy Model support:
 - assuming various Residence/Business cost per line benchmarks for different size serving areas (study area, wire center, density zone, or cluster). National summaries are in Section II, Table B, Maps 3 and 4. The detailed company analyses are contained in Section V, Parts A and B.
 - assuming cost per line benchmarks equal to 115% and 150% of the national average. Data at the national level are displayed in Section II, Maps 5 and 6 and Section III, Tables XI and XII. The state summaries are contained in Section IV, Tables IX and X. The detailed company analyses are displayed in Section V, Tables V through VIII.
- Distribution of comparisons are displayed in the tables and maps which show model support and cost per loop:
 - by state (Section II, Maps 1 through 6, and Section IV).
 - by holding company (Section II, Table A and Section V, Parts G and H).
 - by study area (Section V, Parts C through F).
 - by line size (Section II, Tables C, D and E, and Section III).
- The Tables using \$31 Residence-Support/\$51 Business-Support contain historic as well as model generated support. These support figures are displayed in:
 - Section III, Table IV (National)
 - Section IV, Table III (State)
 - Section V, Table II (Study Area).
- A few key observations:
 - HAI produces a much smaller fund than BCPM. Please refer to Section II, Tables B, D and E and Maps 3 through 6.
 - With either model, the size of the USF fund shrinks when either one of the following changes are made to the program:
 1. The support benchmarks per line levels are raised or
 2. The geographic size of the service area is increased .
(i.e. moving from the wire center to the study area)
- Please refer to Section II, Table B.
- In general, rural states and study areas receive the highest support per loop. Please refer to Section II, Maps 1 and 2.

EXHIBITS - TABLE OF CONTENTS

Section I. Figure 1 - Schematic of Key Exchange Area Network Elements

Section II. National Overview Charts - Part 1

- **Table A** - Proxy Model Cost Per Loop Per Month (Also see text)
- **Table B** - Basic Local Service Support Funding (Also see text)
- **Table C** - Proxy Model Cost Per Loop Per Month By Line Size (Also see text)
- **Table D** - Basic Local Service Support Funding By Line Size
- **Table E** - Basic Local Service Support Funding (Shares by Line Size)
- **Map 1** - BCPM Monthly Support per Line @115% of National Average (Also see text)
- **Map 2** - HAI Monthly Support per Line @115% of National Average (Also see text)
- **Map 3** - BCPM Support at \$31 / \$51 vs. Current Support
- **Map 4** - HAI Support at \$31 / \$51 vs. Current Support
- **Map 5** - Support at 115% of Nat'l Avg. vs. Current Support
- **Map 6** - Support at 115% of Nat'l Avg. vs. Current Support

Section III. National Overview Charts - Part 2

Part A. BCPM Proxy Model Results

Table IV - USF Line Counts and Support Payments

- (BCPM Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table XI - USF Line Counts and Support Payments

- (BCPM Model Values) - (115% of National Average)

Table XII - USF Line Counts and Support Payments

- (BCPM Model Values) - (150% of National Average)

Part B. HAI (Hatfield) Proxy Model Results

Table IV - USF Line counts and Support Payments

- (HAI Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table XI - USF Line Counts and Support Payments

- (HAI Model Values) - (115% of National Average)

Table XII - USF Line Counts and Support Payments

- (HAI Model Values) - (150% of National Average)

Section IV. State Overview Charts

Part A. BCPM Proxy Model Results

Table III - USF Line Counts and Support Payments

- (BCPM Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table IX - USF Line Counts and Support Payments

- (BCPM Model Values) - (115% of National Average)

Table X - USF Line Counts and Support Payments

- (BCPM Model Values) - (150% of National Average)

EXHIBITS - TABLE OF CONTENTS

Part B. HAI (Hatfield) Proxy Model Results

Table III - USF Line Counts and Support Payments

- (HAI Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table IX - USF line Counts and Support Payments

- (HAI Model Values) - (115% of National Average)

Table X - USF Line Counts and Support Payments

- (HAI Model Values) - (150% of National Average)

Section V. Detailed Analyses by Study Area

Part A. BCPM Proxy Model Results

Table I - Monthly Loop Costs and Annual USF Support

- (BCPM Model Values) - (Three Support Price Scenarios)

- Study Area Calculation Level

- Wire Center Calculation Level

- Density Zone Calculation Level

- Cluster (Grid) Calculation Level

Part B. HAI (Hatfield) Proxy Model Results

Table I - Monthly Loop Costs and Annual USF Support

- (HAI Model Values) - (Three Support Price Scenarios)

- Study Area (SARCOD) Calculation Level

- Wire Center (CLLI8) Calculation Level

- Density Zone (DENSTY) Calculation Level

- CBG (CBG) Calculation Level

- Cluster (CLUSTR) Calculation Level

Part C. BCPM Proxy Model Results

Table II - USF Line Counts and Support Payments

- (HAI Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table V - Monthly Loop Costs and Annual USF Support

- (BCPM Model Values) - (115% of National Average)

Table VI - Monthly Loop Costs and Annual USF Support

- (BCPM Model values) - (150% of National Average)

Part D. HAI (Hatfield) Proxy Model Results

Table II - USF Line Counts and Support Payments

- (HAI Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Table V - Monthly Loop Costs and Annual USF Support

- (HAI Model Values) - (115% of National Average)

Table VI - Monthly Loop Costs and Annual USF Support

- (HAI Model Values) - (150% of National Average)

EXHIBITS - TABLE OF CONTENTS

Part E. BCPM Proxy Model Results

Table VII - USF Line Counts and Support Payments

- (BCPM Model Values) - (115% of National Average)
- (Support Shares at 5%, 15% and 25%)

Table VIII - USF lines Counts and Support Payments

- (BCPM Model Values) - (150% of National Average)
- (Support Shares at 5%, 15% and 25%)

Part F. HAI (Hatfield) Proxy Model Results

Table VII - USF Line Counts and Support Payments

- (HAI Model Values) - (115% of National Average)
- (Support Shares at 5%, 15% and 25%)

Table VIII - USF Lines Counts and Support Payments

- HAI Model Values) - (150% of National Average)
- (Support Shares at 5%, 15% and 25%)

Part G. BCPM Proxy Model Results

Table XIII - Operating Co. Loop Costs and Support

- (BCPM Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

Part H. HAI (Hatfield) Proxy Model Results

Table XIII - Operating Co. Loop Costs and Support

- (HAI Model Values) - (\$31 Res-Sup/\$51 Bus-Sup)

SUMMARY

1999

STATE	USF SUPPORT		
	NON RURAL	RURAL	TOTAL
ALABAMA	11,458,836	25,201,956	36,660,792
ALASKA	0	68,684,436	68,684,436
ARIZONA	2,417,928	29,227,056	31,644,984
ARKANSAS	4,340,688	69,614,544	73,955,232
C.N.M.I.	0	6,871,872	6,871,872
CALIFORNIA	17,632,632	33,387,696	51,020,328
COLORADO	2,777,832	42,370,332	45,148,164
CONNECTICUT	0	195,612	195,612
DELAWARE	0	0	0
DISTRICT OF COLUMBIA	0	0	0
FLORIDA	1,453,320	18,464,640	19,917,960
GEORGIA	2,980,956	62,477,880	65,458,836
GUAM	0	1,349,784	1,349,784
HAWAII	0	1,149,660	1,149,660
IDAHO	1,320,024	27,816,624	29,136,648
ILLINOIS	650,208	41,045,568	41,695,776
INDIANA	0	14,297,064	14,297,064
IOWA	1,352,592	29,656,512	31,009,104
KANSAS	1,836,072	59,687,844	61,523,916
KENTUCKY	1,531,656	14,869,776	16,401,432
LOUISIANA	0	64,654,500	64,654,500
MAINE	0	16,716,960	16,716,960
MARYLAND	0	114,588	114,588
MASSACHUSETTS	0	435,756	435,756
MICHIGAN	772,320	31,865,352	32,637,672
MINNESOTA	543,036	44,772,924	45,315,960
MISSISSIPPI	7,550,040	17,579,448	25,129,488
MISSOURI	8,968,776	46,183,524	55,152,300
MONTANA	1,762,620	42,448,680	44,211,300
NEBRASKA	0	22,591,812	22,591,812
NEVADA	298,956	10,210,116	10,509,072
NEW HAMPSHIRE	0	8,145,264	8,145,264
NEW JERSEY	0	1,364,556	1,364,556
NEW MEXICO	6,266,904	29,339,904	35,606,808
NEW YORK	0	36,848,112	36,848,112
NORTH CAROLINA	8,726,508	26,257,260	34,983,768
NORTH DAKOTA	377,592	23,211,204	23,588,796
OHIO	0	13,644,084	13,644,084
OKLAHOMA	282,636	57,824,172	58,106,808
OREGON	17,076	37,436,208	37,453,284
PENNSYLVANIA	236,088	21,540,864	21,776,952
PUERTO RICO	136,979,904	0	136,979,904
RHODE ISLAND	0	0	0
SOUTH CAROLINA	5,578,296	39,374,268	44,952,564
SOUTH DAKOTA	0	18,327,900	18,327,900
TENNESSEE	697,356	25,915,644	26,613,000
TEXAS	7,812,108	114,722,340	122,534,448

SUMMARY

STATE	USF SUPPORT		
	NON RURAL	RURAL	TOTAL
UTAH	0	11,689,584	11,689,584
VERMONT	1,454,568	11,098,188	12,552,756
VIRGIN ISLAND	0	20,552,484	20,552,484
VIRGINIA	1,263,000	9,756,192	11,019,192
WASHINGTON	483,312	42,258,852	42,742,164
WEST VIRGINIA	1,673,112	18,714,720	20,387,832
WISCONSIN	543,000	46,847,232	47,390,232
WYOMING	4,445,856	19,527,528	23,973,384
TOTAL	246,485,808	1,478,339,076	1,724,824,884

UNIVERSAL SERVICE FUNDING
High Cost Fund Support by Study Area
First Quarter 1999

State	SAC	Study Area Name	Rural/Non-Rural	Type	High Cost Loop Fund		Long Term Support		Local Switching Support		Total High Cost Fund Support				
					USF	Loops	Monthly	LTS	Monthly	LSS	Monthly	ETC	Monthly	Quarterly	Annual
CALIFORNIA	542311	CALIF-OREGON TEL CO	Rural	C		2,649	\$43,902	Y	\$26,891	Y	\$43,940	Y	\$114,733	\$344,199	\$1,376,796
CALIFORNIA	542313	DUCOR TELEPHONE CO	Rural	C		924	\$35,114	Y	\$18,891	Y	\$24,444	Y	\$78,449	\$235,347	\$941,388
CALIFORNIA	542315	EVANS TEL CO	Rural	C		10,622	\$72,680	Y	\$57,065	Y	\$32,514	Y	\$162,259	\$486,777	\$1,947,108
CALIFORNIA	542318	FORESTHILL TEL CO	Rural	C		2,747	\$38,906	Y	\$15,526	Y	\$26,286	Y	\$80,718	\$242,154	\$965,616
CALIFORNIA	542319	GTC OF CALIFORNIA	Rural	C		3,959,946	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
CALIFORNIA	542321	HAPPY VALLEY TEL CO	Rural	C		3,072	\$94,994	Y	\$39,305	Y	\$15,762	Y	\$150,081	\$450,183	\$1,800,732
CALIFORNIA	542322	HORNITOS TEL CO	Rural	C		591	\$31,810	Y	\$11,106	Y	\$4,121	Y	\$47,037	\$141,111	\$564,444
CALIFORNIA	542323	WINTERHAVEN TEL CO	Rural	C		1,770	\$33,798	Y	\$18,785	X	\$5,429	Y	\$58,012	\$174,036	\$696,144
CALIFORNIA	542324	KERMAN TELEPHONE CO	Rural	C		5,604	\$34,499	Y	\$18,336	X	\$13,730	Y	\$64,565	\$193,695	\$774,760
CALIFORNIA	542332	THE PONDEROSA TEL CO	Rural	C		8,518	\$258,978	Y	\$130,142	Y	\$82,600	Y	\$471,720	\$1,415,160	\$5,660,640
CALIFORNIA	542334	ROSEVILLE TEL CO	Non-Rural	C		111,074	\$89,101	Y	\$427,273	N	\$0	Y	\$516,374	\$1,549,122	\$6,196,488
CALIFORNIA	542338	SIERRA TELEPHONE CO	Rural	C		20,413	\$259,945	Y	\$137,919	X	\$63,417	Y	\$461,281	\$1,383,843	\$5,535,372
CALIFORNIA	542339	THE SISKIYOU TEL CO	Rural	C		4,613	\$131,409	Y	\$81,713	Y	\$40,351	Y	\$253,473	\$760,419	\$3,041,676
CALIFORNIA	542343	THE VOLCANO TEL CO	Rural	C		9,827	\$130,809	Y	\$67,087	Y	\$79,596	Y	\$277,492	\$832,476	\$3,329,904
CALIFORNIA	542344	WEST COAST TEL OF CA	Non-Rural	C		13,268	\$112,627	N	\$0	X	\$62,039	Y	\$174,666	\$523,998	\$2,085,992
CALIFORNIA	542346	PINNACLES TEL CO	Rural	C		243	\$14,019	Y	\$5,871	Y	\$7,580	Y	\$27,470	\$82,410	\$329,640
CALIFORNIA	543402	CITIZENS GOLDN STATE	Rural	C		14,990	\$162,162	N	\$0	X	\$59,510	Y	\$221,672	\$665,016	\$2,660,064
CALIFORNIA	544342	CITIZENS TUOLUMNE	Rural	C		5,808	\$179,608	N	\$0	X	\$22,463	Y	\$202,071	\$606,213	\$2,424,852
CALIFORNIA	545170	PACIFIC BELL	Non-Rural	C		16,838,970	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
NEVADA	552220	FILER MUTUAL TEL -NV	Rural	C		740	\$0	Y	\$0	Y	\$2,891	Y	\$2,891	\$8,673	\$34,692
NEVADA	552223	GEM STATE UTIL-NV	Rural	C		448	\$3,352	Y	\$1,640	X	\$722	Y	\$5,714	\$17,142	\$68,568
NEVADA	552233	RURAL TEL CO - NV	Rural	C		746	\$25,789	Y	\$9,148	Y	\$9,397	Y	\$44,334	\$133,002	\$532,008
NEVADA	552284	BEEHIVE TEL CO - NV	Rural	C		82	\$361	Y	\$1,334	X	\$2,643	Y	\$4,338	\$13,014	\$52,056
NEVADA	552302	CONTEL OF CALIF-NV	Rural	C		32,905	\$0	N	\$0	X	\$156,039	Y	\$156,039	\$468,117	\$1,872,468
NEVADA	552348	CENTEL OF NV	Non-Rural	C		790,515	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
NEVADA	552349	CHURCHILL COUNTY TEL	Rural	C		12,866	\$95,609	Y	\$51,712	Y	\$104,491	Y	\$251,812	\$755,436	\$3,021,744
NEVADA	552351	LINCOLN CTY TEL SYS	Rural	C		2,231	\$2,459	Y	\$9,545	Y	\$14,191	Y	\$26,195	\$78,585	\$314,340
NEVADA	552353	MOAPA VALLEY TEL CO	Rural	C		3,560	\$0	Y	\$0	Y	\$32,337	Y	\$32,337	\$97,011	\$388,044
NEVADA	552356	RIO VIRGIN TEL CO	Rural	C		5,707	\$0	Y	\$0	Y	\$26,527	Y	\$26,527	\$79,581	\$318,324
NEVADA	553304	HUMBOLDT TEL CO	Rural	C		748	\$31,814	Y	\$18,789	Y	\$17,368	Y	\$67,971	\$203,913	\$815,652
NEVADA	554431	CITIZENS-NV-NORTH	Rural	C		23,144	\$127,188	N	\$0	X	\$105,497	Y	\$232,685	\$696,055	\$2,792,220
NEVADA	554432	CITIZENS-NV-SOUTH	Non-Rural	C		2,667	\$708	N	\$0	X	\$24,205	Y	\$24,913	\$74,739	\$298,956
NEVADA	555173	NEVADA BELL	Non-Rural	C		330,523	\$0	N	\$0	N	\$0	N	\$0	\$0	\$0
DELAWARE	565010	DIAMOND STATE TEL	Non-Rural	C		532,170	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
DISTRICT OF COLUMBIA	575020	C & P TEL CO OF WASH	Non-Rural	C		919,999	\$0	N	\$0	N	\$0	N	\$0	\$0	\$0
RHODE ISLAND	585114	NEW ENGLAND TEL - RI	Non-Rural	C		653,123	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
ALASKA	613000	ANCHORAGE TEL UTIL	Non-Rural	C		163,729	\$0	Y	\$0	N	\$0	Y	\$0	\$0	\$0
ALASKA	613001	ARCTIC SLOPE TEL	Rural	C		2,276	\$37,133	Y	\$24,229	Y	\$84,980	Y	\$146,342	\$439,026	\$1,756,104
ALASKA	613002	BETTLES TEL CO INC	Rural	C		162	\$5,080	Y	\$1,402	Y	\$518	Y	\$7,000	\$21,000	\$84,000
ALASKA	613003	BRISTOL BAY TEL COOP	Rural	C		1,852	\$28,045	Y	\$18,173	Y	\$37,898	Y	\$84,116	\$252,348	\$1,009,392
ALASKA	613004	BUSH-TELL INC.	Rural	C		831	\$18,875	Y	\$20,836	Y	\$27,043	Y	\$68,754	\$200,262	\$801,048
ALASKA	613005	CIRCLE UTILITIES	Rural	A		34	\$765	Y	\$570	Y	\$4,932	Y	\$6,267	\$18,801	\$75,204
ALASKA	613006	COPPER VALLEY TEL	Rural	C		5,183	\$201,709	Y	\$105,436	Y	\$89,147	Y	\$396,294	\$1,188,882	\$4,755,528
ALASKA	613007	CORDOVA TEL COOP	Rural	C		1,847	\$19,688	Y	\$11,273	Y	\$29,559	Y	\$60,520	\$181,560	\$726,240
ALASKA	613008	PTI COMM.-ALASKA	Rural	C		34,790	\$124,354	Y	\$98,794	X	\$121,004	Y	\$344,152	\$1,032,456	\$4,129,824
ALASKA	613009	GTE ALASKA INC.	Rural	C		20,455	\$0	N	\$0	X	\$61,523	Y	\$61,523	\$184,569	\$738,276
ALASKA	613010	GLACIER STATE TEL CO	Rural	C		48,205	\$915,431	Y	\$329,433	X	\$103,985	Y	\$1,348,849	\$4,046,547	\$16,186,168
ALASKA	613011	INTERIOR TEL CO INC	Rural	C		4,437	\$136,529	Y	\$66,020	Y	\$85,068	Y	\$287,617	\$862,851	\$3,451,404
ALASKA	613012	JUNEAU & DOUGLAS TEL	Rural	C		23,646	\$0	Y	\$0	X	\$90,969	Y	\$90,969	\$272,907	\$1,091,628

UNIVERSAL SERVICE FUNDING
High Cost Fund Support by Study Area
First Quarter 1999

State	SAC	Study Area Name	Rural/Non-Rural	Type	High Cost Loop Fund		Long Term Support		Local Switching Support			Total High Cost Fund Support			
					USF	Loops	Monthly	LTS	Monthly	LSS	Monthly	ETC	Monthly	Quarterly	Annual
ALASKA	613013	KETCHIKAN PUBLIC UT	Rural	C		10,579	\$29,121	Y	\$23,622	Y	\$69,119	Y	\$121,862	\$365,586	\$1,462,344
ALASKA	613015	MATANUSKA TEL ASSOC	Rural	C		45,508	\$1,038,573	Y	\$478,939	Y	\$130,273	Y	\$1,647,785	\$4,943,355	\$19,773,420
ALASKA	613016	MUKLUK TEL CO INC	Rural	C		1,140	\$43,683	Y	\$22,405	Y	\$29,357	Y	\$95,445	\$286,335	\$1,145,340
ALASKA	613017	ALASKA TEL CO	Rural	A		4,275	\$15,531	Y	\$14,557	Y	\$20,937	Y	\$51,025	\$153,075	\$612,300
ALASKA	613018	NUSHAGAK TEL COOP	Rural	C		2,435	\$30,364	Y	\$17,491	Y	\$22,204	Y	\$70,059	\$210,177	\$840,708
ALASKA	613019	OTZ TEL COOPERATIVE	Rural	C		2,979	\$51,548	Y	\$29,097	Y	\$63,980	Y	\$144,625	\$433,875	\$1,735,500
ALASKA	613020	SITKA TELEPHONE CO	Rural	C		13,187	\$119,580	Y	\$49,666	X	\$121,845	Y	\$291,091	\$873,273	\$3,493,092
ALASKA	613022	TEL UTIL OF ALASKA	Rural	C		5,520	\$0	Y	\$0	X	\$30,863	Y	\$30,863	\$92,589	\$370,356
ALASKA	613023	UNITED UTILITIES INC	Rural	C		5,678	\$137,964	Y	\$77,785	Y	\$51,519	Y	\$267,268	\$801,804	\$3,207,216
ALASKA	613025	YUKON TEL CO INC	Rural	C		464	\$10,272	Y	\$7,432	Y	\$22,355	Y	\$40,059	\$120,177	\$480,708
ALASKA	613026	NORTH COUNTRY TEL CO	Rural	A		178	\$1,395	Y	\$1,161	Y	\$36,204	Y	\$38,760	\$116,280	\$465,120
ALASKA	613028	SUMMIT TEL & TEL -AK	Rural	C		146	\$14,185	Y	\$6,743	Y	\$3,530	Y	\$24,458	\$73,374	\$293,496
HAWAII	623021	SANDWICH ISLES COMM	Rural	C		346	\$20,938	Y	\$13,091	Y	\$33,360	N	\$67,389	\$202,167	\$808,668
HAWAII	623100	GTE HAWAIIAN TEL CO	Non-Rual	C		707,649	\$0	N	\$0	N	\$0	Y	\$0	\$0	\$0
HAWAII	623205	TELHAWAII	Rural	C		0	\$0	Y	\$8,008	Y	\$20,408	N	\$28,416	\$85,248	\$340,992
PUERTO RICO	633200	P R T C - CENTRAL	Non-Rual	C		153,132	\$1,839,386	Y	\$871,413	N	\$0	Y	\$2,710,799	\$8,132,397	\$32,529,588
PUERTO RICO	633201	PUERTO RICO TEL CO	Non-Rual	C		1,103,514	\$1,986,284	Y	\$6,670,848	N	\$0	Y	\$8,657,132	\$25,971,396	\$103,885,584
PUERTO RICO		CENTENNIAL PCS OPER	Non-Rual			4,873	\$8,771		\$29,482		\$0	Y	\$38,253	\$114,759	\$459,036
PUERTO RICO		LAMBDA OPERATIONS	Non-Rual			1,122	\$2,020		\$6,788		\$0	Y	\$8,808	\$26,424	\$105,696
VIRGIN ISLANDS	643300	VIRGIN ISLANDS TEL	Rural	C		60,902	\$1,300,479	Y	\$412,228	N	\$0	Y	\$1,712,707	\$5,138,121	\$20,552,484
C.N.M.I.	653700	MICRONESIAN TELECOMM	Rural	C		20,639	\$398,898	N	\$0	X	\$173,758	Y	\$572,656	\$1,717,968	\$6,871,872
GUAM	663800	GUAM TEL AUTH	Rural	C		73,185	\$29,214	Y	\$83,268	N	\$0	Y	\$112,482	\$337,448	\$1,349,784

1438 ILEC STUDY AREAS
5 CLEC SERVING AREAS

NATIONAL TOTALS	MONTHLY	\$72,019,032	\$39,135,913	\$32,580,462	\$143,735,407	N/A	N/A
	QUARTERLY	N/A	N/A	N/A	N/A	\$431,206,221	N/A
	ANNUAL	N/A	N/A	N/A	N/A	N/A	\$1,724,824,884

PER USE PAYMENT

High Cost Fund Support by Study Area
First Quarter 1999

State	SAC	Study Area Name	Rural/Non-Rural	Type	High Cost Loop Fund		Long Term Support	Local Switching Support		ETC	Monthly	Total High Cost Fund Support			
					USF Loops	Monthly		Monthly	LSS			Monthly	Quarterly	Annual	Per USF Loop
PUERTO RICO	833201	PUERTO RICO TEL CO	Non-Rural	C	1,103,514	\$1,986,284	Y	\$6,670,848	N	\$0	Y	\$8,657,132	\$25,971,398	\$103,885,584	94.14
PUERTO RICO	833200	P R T C - CENTRAL	Non-Rural	C	153,132	\$1,839,386	Y	\$871,413	N	\$0	Y	\$2,710,799	\$8,132,397	\$32,529,588	212.43
COLORADO	462185	EAGLE TELECOMMUN INC	Rural	C	74,088	\$1,542,252	Y	\$774,534	N	\$0	Y	\$2,316,788	\$8,950,358	\$27,801,432	375.35
WASHINGTON	522408	TEL UTIL OF WA INC	Rural	C	164,871	\$1,212,274	Y	\$631,900	N	\$0	Y	\$1,844,174	\$5,532,522	\$22,130,088	134.23
VIRGIN ISLANDS	643300	VIRGIN ISLANDS TEL	Rural	C	60,902	\$1,300,479	Y	\$412,228	N	\$0	Y	\$1,712,707	\$5,138,121	\$20,552,484	337.47
ALASKA	613015	MATANUSKA TEL ASSOC	Rural	C	45,508	\$1,038,573	Y	\$478,939	Y	\$130,273	Y	\$1,647,785	\$4,943,355	\$19,773,420	434.50
TEXAS	442084	UTC OF TEXAS INC	Rural	C	148,438	\$1,594,301	N	\$0	N	\$0	Y	\$1,594,301	\$4,782,903	\$19,131,612	128.89
LOUISIANA	270434	CENTURY-EVANGELINE	Rural	C	34,223	\$957,905	Y	\$312,798	Y	\$94,290	Y	\$1,364,991	\$4,094,973	\$16,379,892	478.66
OREGON	532361	TEL UTIL OF OREGON	Rural	C	72,485	\$908,734	Y	\$444,898	N	\$0	Y	\$1,351,632	\$4,054,898	\$16,219,584	223.78
ALASKA	813010	GLACIER STATE TEL CO	Rural	C	46,205	\$915,431	Y	\$329,433	X	\$103,985	Y	\$1,348,849	\$4,046,547	\$16,186,188	350.31
ARKANSAS	401691	ALLTEL ARKANSAS INC	Rural	C	99,889	\$791,637	Y	\$490,690	N	\$0	Y	\$1,282,327	\$3,846,981	\$15,387,924	154.39
ILLINOIS	340985	CENTEL OF ILLINOIS	Rural	C	77,749	\$1,218,758	N	\$0	N	\$0	Y	\$1,218,758	\$3,656,268	\$14,625,072	188.11
KANSAS	411317	UNITED OF EASTERN KS	Rural	C	55,978	\$881,018	N	\$0	N	\$0	Y	\$881,018	\$2,643,054	\$10,572,216	188.86
GEORGIA	220386	STANDARD TEL CO	Rural	C	87,889	\$557,022	Y	\$278,148	N	\$0	Y	\$835,170	\$2,505,510	\$10,022,040	147.62
ARKANSAS	402080	GTE SOUTHWEST INC-AR	Rural	C	83,107	\$781,041	N	\$0	N	\$0	Y	\$781,041	\$2,343,123	\$9,372,492	112.78
CALIFORNIA	542308	CITIZENS UTIL OF CA	Non-Rural	C	103,807	\$778,348	N	\$0	N	\$0	Y	\$778,348	\$2,335,038	\$9,340,152	89.98
ARKANSAS	401705	CENTURY OF ARKANSAS	Rural	C	17,731	\$507,005	Y	\$184,884	Y	\$78,891	Y	\$770,780	\$2,312,340	\$9,249,360	521.65
OKLAHOMA	432018	PIONEER TEL COOP INC	Rural	C	48,926	\$305,656	Y	\$298,032	Y	\$158,332	Y	\$762,020	\$2,286,080	\$9,144,240	186.90
MISSOURI	421885	ALLTEL MISSOURI	Rural	C	55,876	\$503,188	Y	\$249,390	N	\$0	Y	\$752,578	\$2,257,734	\$9,030,938	181.62
TEXAS	442109	LUFKIN-CONROE TEL EX	Rural	C	101,217	\$412,123	Y	\$314,445	N	\$0	Y	\$728,568	\$2,179,704	\$8,718,816	86.14
IDAHO	472416	GTE NORTHWEST INC-ID	Rural	C	128,088	\$701,718	N	\$0	N	\$0	Y	\$701,718	\$2,105,154	\$8,420,616	85.75
KANSAS	411842	UTC OF KANSAS	Rural	C	74,450	\$688,925	N	\$0	N	\$0	Y	\$688,925	\$2,068,775	\$8,027,100	107.82
ARKANSAS	401730	CONTEL AR DBA GTE AR	Rural	C	101,853	\$860,060	N	\$0	N	\$0	Y	\$860,060	\$1,980,180	\$7,920,720	77.77
GEORGIA	220357	ALLTEL GEORGIA INC	Rural	C	58,703	\$454,355	Y	\$198,012	N	\$0	Y	\$652,367	\$1,957,101	\$7,828,404	133.36
OKLAHOMA	431965	ALLTEL OKLAHOMA INC	Rural	C	14,837	\$417,391	Y	\$157,063	X	\$59,999	Y	\$634,453	\$1,903,359	\$7,613,438	513.14
LOUISIANA	270423	CENTURY-CENTRAL LA	Rural	C	17,855	\$425,739	Y	\$153,965	Y	\$45,419	Y	\$625,123	\$1,875,369	\$7,501,478	420.13
MISSISSIPPI	285184	SO CENTRAL BELL-MS	Non-Rural	C	1,236,080	\$611,648	N	\$0	N	\$0	Y	\$611,648	\$1,834,944	\$7,339,776	5.94
TEXAS	442088	EASTEX TEL COOP INC	Rural	C	27,250	\$324,800	Y	\$215,228	Y	\$57,516	Y	\$597,544	\$1,792,632	\$7,170,528	263.14
NEW MEXICO	492282	ENMR TEL COOP INC-NM	Rural	C	11,661	\$272,898	Y	\$137,580	Y	\$187,086	Y	\$597,364	\$1,792,092	\$7,168,368	614.73
OHIO	300597	THE CHILLICOTHE TEL	Rural	C	34,141	\$318,276	Y	\$202,139	X	\$71,909	Y	\$592,324	\$1,778,972	\$7,107,888	206.19
WISCONSIN	330950	CENTURY TEL-NW WI	Rural	C	16,488	\$346,309	Y	\$124,711	Y	\$120,962	Y	\$591,982	\$1,775,948	\$7,103,784	430.85
ALABAMA	250293	GTE SOUTH INC - AL	Non-Rural	C	158,996	\$591,616	N	\$0	N	\$0	Y	\$591,616	\$1,774,848	\$7,099,392	45.22
ARIZONA	454426	CITIZENS-ARIZONA	Rural	C	35,582	\$381,702	N	\$0	X	\$206,203	Y	\$587,905	\$1,763,715	\$7,054,880	198.27
KENTUCKY	280410	CONTEL KY DBA GTE KY	Rural	C	92,589	\$583,869	N	\$0	N	\$0	Y	\$583,869	\$1,751,607	\$7,008,428	75.89
WYOMING	512251	RANGE TEL COOP - WY	Rural	C	17,031	\$338,106	Y	\$129,237	Y	\$113,395	Y	\$580,738	\$1,742,214	\$6,968,856	409.19
C N M I	653700	MICRONESIAN TELECOMM	Rural	C	20,839	\$398,898	N	\$0	X	\$173,758	Y	\$572,656	\$1,717,988	\$6,871,872	332.98
PENNSYLVANIA	170161	COMMONWEALTH TEL ENT	Rural	A	256,674	\$0	Y	\$589,579	N	\$0	Y	\$589,579	\$1,708,737	\$6,834,948	26.63
TEXAS	442039	BIG BEND TEL CO INC	Rural	C	4,745	\$330,234	Y	\$140,717	Y	\$82,689	Y	\$553,640	\$1,660,920	\$6,643,680	1,400.14
MISSOURI	421186	GTE NORTH INC - MO	Non-Rural	C	124,607	\$538,813	N	\$0	N	\$0	Y	\$538,813	\$1,616,439	\$6,465,756	51.89
MONTANA	482255	3-RIVERS TEL COOP	Rural	C	16,421	\$301,354	Y	\$134,784	Y	\$87,736	Y	\$523,674	\$1,571,622	\$6,286,488	382.83
WEST VIRGINIA	200271	CITIZENS-MT STATE	Rural	C	23,697	\$417,168	N	\$0	X	\$104,658	Y	\$521,826	\$1,565,478	\$6,261,912	264.25
CALIFORNIA	542334	ROSEVILLE TEL CO	Non-Rural	C	111,074	\$89,101	Y	\$427,273	N	\$0	Y	\$518,374	\$1,549,122	\$6,196,468	55.79
SOUTH CAROLINA	240520	FARMERS TEL COOP	Rural	C	52,017	\$285,015	Y	\$230,326	N	\$0	Y	\$515,341	\$1,546,023	\$6,184,092	118.89
IDAHO	474427	CITIZENS TELECOMM-ID	Rural	C	19,980	\$393,572	N	\$0	X	\$111,874	Y	\$505,446	\$1,516,338	\$6,065,352	303.88
KANSAS	411826	RURAL TEL SERVICE CO	Rural	C	8,988	\$254,539	Y	\$178,207	Y	\$72,498	Y	\$505,244	\$1,515,732	\$6,082,928	676.06
WISCONSIN	330956	CENTURY-NORTHERN WI	Rural	C	12,369	\$304,145	Y	\$121,824	Y	\$75,463	Y	\$501,432	\$1,504,296	\$6,017,184	486.47
MICHIGAN	310702	CENTURY OF MICHIGAN	Rural	C	55,636	\$328,626	Y	\$167,781	N	\$0	Y	\$496,407	\$1,489,221	\$5,956,884	107.07
MICHIGAN	310671	CENTURY TEL MIDWEST	Rural	C	28,595	\$308,941	Y	\$127,226	X	\$52,920	Y	\$489,087	\$1,467,261	\$5,869,044	205.25
NORTH CAROLINA	230483	LEXINGTON TEL CO	Rural	C	31,909	\$305,366	Y	\$139,156	X	\$35,219	Y	\$479,741	\$1,439,223	\$5,756,892	180.42
MONTANA	482246	MID-RIVERS TEL COOP	Rural	C	10,397	\$286,055	Y	\$119,439	Y	\$67,331	Y	\$472,825	\$1,418,475	\$5,673,900	545.72
CALIFORNIA	542332	THE PONDEROSA TEL CO	Rural	C	8,518	\$258,978	Y	\$130,142	Y	\$82,600	Y	\$471,720	\$1,415,160	\$5,660,640	664.55
SOUTH CAROLINA	245194	SOUTHERN BELL-SC	Non-Rural	C	1,405,838	\$464,658	N	\$0	N	\$0	Y	\$464,658	\$1,394,574	\$5,578,298	3.97
CALIFORNIA	542338	SIERRA TELEPHONE CO	Rural	C	20,413	\$259,945	Y	\$137,919	X	\$63,417	Y	\$461,281	\$1,383,843	\$5,535,372	271.17
MONTANA	482247	NEMONT TEL COOP-MT	Rural	C	13,748	\$180,561	Y	\$116,285	Y	\$163,851	Y	\$460,697	\$1,382,091	\$5,528,364	402.18