# POWER COST EQUALIZATION

Report and Recommendations

Of the

Governor's Blue Ribbon Committee

February 1, 1999

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## INTRODUCTION

The Power Cost Equalization program has paid a portion of the electrical bills of rural consumers since 1985. During this period, the PCE budget has averaged about $17.5 million per year. In 1993, the State legislature established a Power Cost Equalization and Rural Electric Capitalization Fund (the "PCE Fund") with an appropriation of $66.9 million, and also enacted the following policy statement:

> Ch. 18, SLA 1993, Sec. 1. "FINDINGS AND INTENT. (a) The legislature finds that adequate, reliable, electric service at affordable rates is a necessary ingredient of a modern society and a prosperous developing economy. The legislature further finds at the current stage of social and economic development in the state, direct participation by the state is necessary to assist in the development of a regional electric transmission infrastructure and to assist in holding rates in high cost service areas to affordable levels.
>
> (b) The legislature recognizes the high cost of electric power in rural Alaska and intends that funding for power cost equalization from the general fund and from the power cost equalization and rural electric capitalization fund remain at a minimum of $17,000,000 annually through the year 2013. The legislature further intends that this long-term commitment to the power cost equalization program will permit and encourage the electric utility industry and its lenders to develop the plans, make the investments, and take other actions that are necessary or prudent to meet the utility needs of residents in rural Alaska."

Over the last several years, PCE outlays have been drawn exclusively from the PCE Fund, which will be nearly exhausted by the end of FY99. For PCE to continue beyond FY99, a renewed commitment will be needed by the 1999 legislature and by the Governor.

In anticipation of this pivotal legislative session, the Governor convened a Blue Ribbon Committee to consider and recommend an overall policy on the future of PCE as well as specific proposals to implement that policy. The Committee membership was designed to reflect a variety of institutional perspectives by including members from the legislature, the public utilities commission, the Anchorage chamber of commerce, rural consumers, rural utilities, and the State's industrial development agency. The Committee membership (in alphabetical order) is as follows:

Blue Ribbon Committee Membership

The Honorable Al Adams
Alaska State Senator

Mr. Robert Beans, Chairman
Alaska Village Electric Cooperative, Inc.

Mr. Sam Cotten, Chairman
Alaska Public Utilities Commission

Mr. Joe Griffith, Chairman
Anchorage Chamber of Commerce

Ms. Nancy James
Consumer representative from Ft. Yukon

Mr. Robert Martin Jr., (former) General Manager
Tlingit & Haida Regional Electrical Authority

The Honorable Drue Pearce
Alaska State Senator

Mr. Walter Sapp, representative
Four Dam Pool Project Management Committee

Mr. Randy Simmons, Executive Director
Alaska Industrial Development and Export Authority

Mr. Dewey Skan, President
Rural Alaska Community Action Program, Inc.

Mr. Eric Yould, Executive Director
Alaska Rural Electric Cooperative Association, Inc.

Beginning in January 1998, the Committee reviewed the history, structure, and impact of PCE, the organizational and cost structure of rural electric utilities, and proposals that have been made to reduce rural power costs. The Committee then returned to the task of developing policy and program recommendations with respect to the PCE program.

SUMMARY OF RECOMMENDATIONS

The Committee has adopted the following recommendations:

1. PCE or an alternative rate support program for high cost service areas should be extended into the future.

2. Such rate support should be available only for:

   A. A "lifeline" supply of electric power for residential consumers. A lifeline supply is defined as one-half of the statewide average consumption per household each month. While this amount varies over the course of a year, the average monthly lifeline supply would be approximately 350 kWh.

   B. Electric power for community facilities that are directly related to public health and safety.

3. A stable source of funding for PCE or an alternative rate support program should be established with the following major components:

   A. 60% of the annual debt service paid to the State by the Four Dam Pool – this would include the 40% now allocated to PCE plus the 20% now allocated to the Power Project Fund loan program.

   B. $20 million appropriated by the 1993 legislature as a loan for the Swan/Tyee intertie, based on a proposal from Ketchikan Public Utilities to forego the loan in exchange for State bonding of Swan/Tyee intertie costs.

   C. Proceeds of a universal service fund to be created from a surcharge on all electricity sold statewide by public utilities.

4. A statewide organization or agency should be designated to establish standards for rural electric utilities with respect to financial management, physical plant, and system operations. No rural electric utility should continue to receive rate support or capital project grants from the State unless it is in compliance with these standards, is making clear and continuing progress in attaining compliance, or has entered into an agreement with an existing utility or utility organization whose operation is consistent with the standards.

All Committee members recognize the challenge in gaining a consensus on future program funding as well as the amount of future benefits. For this reason, several options are presented in this report for consideration by the Governor and the legislature:

OPTION 1: Universal service fund.

1A. A lifeline supply of power is made available at 150% of the statewide average residential rate. (The 150% level is estimated at 17.0 cents per kWh.)

1B. Same as 1A except the lifeline rate is set at 100% of the statewide average residential rate. (The 100% level is estimated at 11.3 cents per kWh.)

OPTION 2: General Fund endowment / extend modified PCE through 2013.

OPTION 3: Declining general fund appropriations / extend modified PCE through 2010.

OPTION 4: Further explore the potential for federal funding of PCE or an alternative rate support program.

The potential funding options were debated at length by the Committee and ultimately put to a vote. Included in Attachment 1 are the questions included on the Committee ballot and the ballot results. Key results are as follows:

- A majority of Committee members recommend the creation of a universal service fund to provide limited rate relief in high cost service areas.
- Of the 7 members favoring a universal service fund, a majority would set the lifeline rate at 150% of the statewide average residential rate.
- Each of the options listed above is believed by a majority of the Committee members to be worthy of further consideration by the Governor and legislature.

## DISCUSSION OF RECOMMENDATIONS

Recommendation #1 – PCE or an alternative rate support program for high cost service areas should be extended into the future.

A. Economic growth and development in rural Alaska.

For many years and in many different ways, both the State and federal government have consistently carried out a policy of helping to build up and improve the basic infrastructure of Alaska's rural villages. Examples of this commitment include continuing investments in local schools, water and sanitation facilities, housing, airports, harbors, roads, health care, bulk fuel storage, communications, and a host of other public facilities. These financial commitments make sense only on the belief that rural communities will be economically viable and self-sustaining in the future. This has been the basis of State and federal policy with respect to rural Alaska for many years. To abandon PCE at this stage of development in rural Alaska would be contrary to the long-standing State and federal policy of helping rural Alaska during its difficult transition to a modern, self-sustaining economy.

B. Affordable power is a necessity.

The Committee believes that electric power is a necessity which should be available and reasonably affordable to everyone living in an established community. For example, new housing units financed by the federal Department of Housing and Urban Development (HUD), which are increasingly common throughout rural Alaska, are essentially uninhabitable without electric power to keep pipes from freezing, to run fans and pumps for space heat, and to operate other housing essentials such as refrigerators, freezers, and lights. In addition, new public infrastructure projects financed by State and federal governments are equally dependent on electric power – pumps for water and sewer facilities, pumps for fuel transfers and dispensing, or heating and lighting systems for local schools. Very little of this makes sense if electric power is not available and affordable throughout the expected life of these facilities.

But in most of rural Alaska, electricity is not reasonably affordable because the cost of service is high while average cash incomes are low. There are three approaches the State can take to help make rural power more affordable:

1. Increase personal income through economic development or increased transfer payments. The Committee assumes, however, that a major advance in economic development on a broad scale is not something that the State can quickly bring about and that significant increases in transfer payments are not likely to occur.

2. Reduce rates directly through PCE or an alternative rate support program.

3. Reduce the actual cost of generating and distributing power. Among the possible cost reduction strategies are the following:

   a. Utility mergers to create economies of scale.

   b. Consolidated fuel purchasing to reduce fuel costs.

   c. Increase the efficiency of diesel generators.

   d. Upgrade distribution systems to reduce line losses.

   e. Replace diesel with alternative energy where warranted.

   f. End use conservation.

   A working paper prepared for the Panel entitled "Options for Reducing Rural Power Costs" is included as Attachment 2. A number of these options continue to hold promise for long-term reduction in power costs, and the Committee believes that aggressive efforts to pursue them should accompany any extension of a rate support program.

   The Committee is also aware, however, that none of these cost reduction strategies are new and that all have practical limitations. For example:

   - Utility mergers. The data suggest that electricity rates for a single-village utility are likely to go up initially rather than down if it merges with a multi-village system, despite the benefit of administrative economies of scale. This is because the multi-village utility is more likely to budget for such fundamentals as plant depreciation, preventive maintenance, and insurance. In addition, the multi-village utility is more likely to finance needed investments in physical plant, and to recover the associated debt service in its rates, while the single-village utility is more likely to obtain

government grants when equipment replacement can no longer be postponed.

- Consolidated fuel purchasing. If this were to reduce delivered fuel costs for a given utility by 25 cents per gallon – a generous assumption on fuel cost savings – and if the diesel generating efficiency for the utility were 12 kWh per gallon – roughly the average for all PCE utilities – then the reduction in the cost of power would be about 2 cents per kWh. While certainly valuable, savings of this magnitude would have a relatively small impact on the power cost differential between urban and rural Alaska.

- Alternative energy. While established alternatives such as small hydro should be pursued where favorable prospects exist, and while developing technologies such as wind and fuel cells should be further tested and improved, there is little evidence that these alternatives will reduce power costs in the near future on an unsubsidized basis. In those limited cases where alternative energy projects can result in lower rates, the reason can most often be traced to the use of government grants or other favorable project financing.

The Committee concludes that there is no utility cost reduction program that can begin to provide the near-term impact that PCE has on utility rates. For power to be widely affordable in rural Alaska within the foreseeable future, there is no practical alternative to direct rate reduction through PCE or an alternative rate support program.

C. Eliminating PCE would create financial hardship.

There is an additional reason for the Committee's basic recommendation eliminating PCE would create financial hardship for many rural families. If further budget reductions are needed to match sustainable revenues, the State should avoid targeting the population that, overall, is least able to afford it. At the present time, the average PCE benefit per residential customer is about $550 per year.

The Committee retained Prof. Scott Goldsmith of ISER to examine the likely impact on rural consumers, rural utilities, and village economies if PCE were eliminated and no other program were established to take its place. The Executive Summary of his report, "The Economic Significance of the Power Cost Equalization Program," is included in Attachment 3, and the full report is available under separate cover. Key findings from the report are as follows:

- All but 8 of the 190 communities that receive PCE have populations below 1,000. The median population size is 264.

- For the median (or "typical") community, average household income is $35,203 compared with $65,054 for non-PCE communities.

- The cost of electricity in the typical PCE community is $.42 per kWh compared with about $.10 per kWh in Anchorage. After accounting for PCE assistance, residential customers in PCE communities still pay about $.20 per kWh – roughly twice the Anchorage cost.

- Average residential consumption in the typical PCE community is 3,921 kWh per year, or 51% of the Anchorage average.

- Eliminating PCE would immediately result in higher electricity prices. Higher prices would cause a reduction in electricity usage. Lower usage would lead, in turn, to additional rate hikes as utilities try to cover fixed costs with a smaller sales base.

- For a representative village like Elim – population 281 – eliminating PCE would be expected to have the following impacts:

    i. The residential price of electricity would increase 190 percent – from $.19 to $.55.

    ii. Average residential consumption would fall by 38 percent – from 4,202 kWh per year to 2,608 kWh per year.

    iii. The average monthly residential bill would increase by 80% – from $66 to $119.

- The financial viability of rural electric utilities without PCE depends on how sensitive electricity sales are to price increases:

    i. If doubling the price led to a 20% decrease in consumption, most rural utilities are projected to survive although with much higher prices and lower sales.

    ii. If doubling the price led to a 30% decrease in consumption, utilities in half the communities now served by PCE are projected to become financially insolvent.

Recommendation #2 – Limit rate support to "lifeline" residential usage equal to one-half of the statewide average consumption per household each month, and to community facilities that are directly related to public health and safety.

The Committee recommends that future rate support be limited only to the most essential uses of electric power. The reasons for this are both philosophical and practical:

- Although electric power is a necessity that should be affordable in every established community, a key principle of economic efficiency and of utility regulation is that prices should vary in proportion to actual costs. Excessive rate support sends the wrong price signals to consumers and reinforces dependence on continuing subsidy.

  Limiting rate support to essential usage cuts a middle path between these two objectives: power is available at a lower price for necessities but is otherwise priced at its full cost. Because consumers will more often be faced with full cost power at the margin of use, incentives will be strengthened both for end-use conservation by consumers and for cost reduction by utility management.

- In view of the expected decline in oil revenues, it will be increasingly difficult to obtain rate support funding for discretionary electrical usage. It is the Committee's judgment that continued funding for PCE or an alternative rate support program will require that all such assistance be focused on the most basic power requirements in high cost service areas.

Implementing this recommendation would require the following changes to the existing PCE program:

| | Estimated Annual Reduction In PCE Requirement |
|---|---|
| • Remove commercial customers from program eligibility. | $2.6 million |
| • Reduce the monthly cap for eligible usage from 700 kWh to one-half of the statewide average consumption per household each month. | $3.7 million |
| • Limit the definition of community facilities to those that are directly related to public health and safety. | $1.0 million |
| Total Estimated Reduction | $7.3 million |

A. Remove commercial customers

PCE benefits are currently paid for residential customers, commercial customers, and community facilities that are owned and operated by local government. The Committee believes that residential customers and community facilities should have priority:

i. Residential customers are the core of the program, representing about 70% of all electrical consumption that is presently eligible for PCE assistance. Affordable power for lights, heating systems, and refrigeration in residential housing is the most basic need that the program addresses.

ii. When costs such as the electrical bill go up, most commercial customers can try to increase revenue by raising prices. However, residential customers in rural villages do not have a comparable method to raise household income. Local governments with no taxing authority have some options to raise revenue by adjusting prices and fees for local services, but still fall short of the revenue-raising capability of commercial entities.

iii. Because schools are typically not owned and operated by the local government, they are considered "commercial facilities" for purposes of the PCE program and account for about 10% of the PCE-eligible electrical consumption in the commercial category. Like all such institutions, rural schools are always facing budget limitations. But relative to other institutions in rural Alaska, schools operate with relatively large budgets and have greater capability than most to absorb an increase in electricity prices. Schools are not heavily dependent on continuation of PCE benefits since PCE now provides assistance for only the first 700 kWh per month, which is much less than schools typically consume. On average, school districts are presently entitled to approximately $100 per month in PCE benefits per community.

iv. For other commercial customers, FY97 statistics indicate an average PCE benefit of about $34 per month (or about $400 per year). The Committee does not minimize the significance of this benefit to many rural businesses but concludes that, overall, commercial customers can tolerate a cut-off of PCE benefits with less difficulty than either residential customers or local governments.

B. Reduce the monthly cap for residential customers from 700 kWh to one-half of the statewide average consumption per household each month. While this amount would vary each month, the average monthly limit over the course of a year would be approximately 350 kWh.

Program statistics indicate that residential customers received PCE assistance for an average of 340 kWh per month in FY96. This is about half of the average monthly residential consumption in the southern Railbelt region. The Committee believes that a major reduction in the monthly cap for PCE eligibility is a key measure to ensure that PCE benefits are paid only for a very basic level of usage.

Although it is difficult to define where "necessary" power consumption leaves off and "discretionary" begins, adopting this recommendation would clearly address any concern that PCE is subsidizing discretionary usage. The program would no longer purport to equalize power costs for residential consumers in urban and rural Alaska – it would focus on providing affordable power for a much lower level of consumption than is typical in Anchorage, Fairbanks, and Juneau.

Included in Attachment 4 is recent monthly data on residential electricity usage in southcentral Alaska. Based primarily on this data, the following estimates are provided on the monthly kWh limits that would initially define a lifeline supply of power under the Committee's proposal:

| | |
|---|---|
| January | 461 kWh |
| February | 419 |
| March | 376 |
| April | 343 |
| May | 312 |
| June | 284 |
| July | 301 |
| August | 277 |
| September | 290 |
| October | 318 |
| November | 358 |
| December | 394 |

These limits average 344 kWh per month over the course of an entire year. The Committee's concept is intended to ensure that households have access to a "lifeline" supply of affordable power – i.e. enough to run essential lights, heating pumps, refrigeration, and other basic elements of household maintenance. Attachment 5 shows how 326 kWh could be used in a typical village home in an average month.

C. Limit community facilities to public health and safety.

Only those community facilities that are directly related to health and safety are proposed to remain eligible for rate subsidy, including water and sewer projects, health clinics, public safety office, street lights, and washeteria. Other community facilities such as community halls or recreation halls would no longer be eligible. This measure is expected to reduce rate support for community facilities by roughly 25% overall.

Recommendation #3 – Program funding from 60% of Four Dam Pool debt service, $20 million Swan-Tyee intertie loan, and enactment of universal service fund.

Rural electric utilities need financial stability before long-term planning and investment can succeed on a broad scale. Financial stability will depend, in turn, on a stable source of funding for an effective rate support program.

The Committee believes that continued reliance on State general fund appropriations is inconsistent with this need for long-term financial stability. As a result, the Committee's recommended option is based on alternative sources of revenue:

A. 60% of Annual Four Dam Pool Debt Service

The starting point is the revenue stream that has already been established for the PCE program. The 1993 legislature enacted a revenue allocation plan whereby the annual debt service paid to the State by the Four Dam Pool is used as follows:

- 40% for PCE.
- 40% for the "Southeast Energy Fund," the initial purpose of which is to help fund the Tyee-Swan intertie.
- 20% for the "Power Project Fund," a loan fund administered by the Division of Energy to help finance small power projects, bulk fuel storage facilities, and potable water supply.

In a typical year and for the remaining term of the existing power sales agreement, annual Four Dam Pool debt service is estimated at $11.0 - $11.5 million. Of this amount, the existing 40% allocation would supply roughly $4.4 million per year for PCE. Four Dam Pool debt service is scheduled to be paid to the State annually through the year 2030.

The Committee is aware of the vulnerability of these funds to the "self-help" provision of the Four Dam Pool power sales agreement. That provision allows the utilities to withhold debt service that would otherwise be due the State if the funds are needed to repair certain project deficiencies. It is presently expected that $1.6 million will be withheld by the utilities in FY2000 under this provision, and unknown additional amounts could be withheld after that.

Despite the uncertainty in any given year created by the "self-help" provision of the power sales agreement, Four Dam Pool debt service still provides an important long-term source of recurring energy revenues. The Committee proposes to re-allocate to PCE, or to an alternative rate support program, the 20% share of these revenues that now goes to the Power Project Fund loan program. This would add approximately $2.2 million per year to the revenue stream allocated to rate support, bringing the total annual contribution from Four Dam Pool debt service to about $6.6 million.

The Power Project Fund was converted to a revolving loan fund in 1993 legislation, with principal and interest payments from prior loans now coming back to the Fund where they augment the balance available for new loans. At present, these repayments are sufficient to meet the demand for new loans. While loan demand may increase in the future, the Committee believes that continuing rate support for essential needs serves a more critical purpose.

B. $20 Million Swan-Tyee Intertie Loan

The 40% allocation of Four Dam Pool debt service to the Southeast Energy Fund was enacted by the legislature in 1993 as part of an overall, statewide "package" on energy projects, policies, and funding, and must be understood in that context. The Committee does not recommend altering this percentage – however, the Committee does recommend that $20.0 million appropriated by the 1993 legislature as a 3% loan for the Swan/Tyee intertie be re-appropriated to the PCE Fund. The City of Ketchikan, which is the primary intertie proponent, has suggested that it is willing to forgo the $20.0 million loan in exchange for State bonding of Swan/Tyee intertie costs. Depending on the final project cost, most or all of the debt service associated with such bonds would be paid from the 40% share of Four Dam Pool debt service allocated to the Southeast Energy Fund.

C. Universal Service Fund

The Committee recommends that the legislature enact a universal service fund for electric utility service, similar to the universal service fund already authorized for telephone service. Funding would be provided by a monthly surcharge on all electric utility bills statewide. The proceeds of the fund would be used solely to ensure that a lifeline supply of power will be available in all established communities at a designated "lifeline rate." The Committee considered setting the lifeline rate at either 100% or 150% of the statewide average residential rate. At 100%, a lifeline supply of power would be made available at approximately 11.3 cents per kWh. At 150%, a lifeline supply would be made available at approximately 17.0 cents per kWh.

The financial implications of these alternatives are as follows:

- At 150%, the estimated cost of the lifeline program is $14.7 million per year. With 60% of Four Dam Pool debt service providing $6.6 million in program revenue during a typical year, the annual amount needed from the universal service fund is estimated at $8.1 million. Based on estimated electric utility sales of 5.0 billion kWh per year statewide, the required surcharge would be about 0.16 cents per kWh. This would cost an average residential customer in the Railbelt about $14 per year.

  The $14.7 million estimated program cost is comparable to the estimated cost of PCE given the program changes recommended above. The estimated PCE cost net of recommended changes is as follows:

| | |
|---|---|
| $23,000.0 | Preliminary estimate – full funding of PCE in FY 2000. |
| - 2,600.0 | Remove commercial customers from eligibility. |
| - 3,700.0 | Cut eligible kWh (residential) from 700 per month to one-half the monthly statewide average. |
| - 1,000.0 | Limit community facilities to public health and safety. |
| $15,700.0 | FY 2000 PCE cost following proposed amendments. |

  Spreadsheets included in Attachment 6 show the estimated annual payments to utilities under three scenarios:

i. The "lifeline rate" program benchmarked at 17.0 cents per kWh (i.e. 150% of the statewide average residential rate).

ii. The "lifeline rate" program benchmarked at 11.3 cents per kWh (i.e. 100% of the statewide average residential rate).

iii. The existing PCE program.

At the 17.0 cent per kWh benchmark, the lifeline rate program would cost an estimated $14.7 million per year. A summary spreadsheet of Option 1A (the "150% option") is included in Attachment 7.

Only one additional community would be added to the program that is not currently eligible for PCE – Glennallen. A lower benchmark rate would add more communities.

- If the lifeline rate were set at 100% of the statewide average (11.3 cents rather than 17.0 cents), the initial year program cost would be approximatley $22.9 million, $16.3 million of which would come from the universal service fund. This would require a surcharge of about 0.32 cents per kWh on all electric utility bills statewide, and would cost an average residential consumer in the Railbelt about $27 per year.

  The "100% option" would add several communities to the list of those receiving benefits under the rate support program – communities which are not presently eligible for PCE but whose residential rates exceed 11.3 cents. One or more of these communities could be relatively large and might therefore be entitled to a relatively large payment for community facilities. (Presently, the maximum kWhs each month that can be claimed for community facilities is equal to the community population times 70.) If the 100% option were adopted, the Committee would recommend limiting the community population to 1,000 for purposes of this calculation based on the premise that the local tax base of larger communities can better support the operating costs of public facilities.

  The concept of the 100% option more closely approximates the original concept of the PCE program, which was to "equalize" rural power costs with average rates in Anchorage, Fairbanks, and Juneau. In actual practice, however, PCE has not equalized rates – average rural rates for PCE-eligible usage are still about twice as

high as urban rates. A summary spreadsheet of Option 1B (the "100% option") is included in Attachment 8.

The Committee is aware of the natural resistance that will develop to any proposal that will increase rates. However, there are many precedents for cost pooling in which the benefits of lower cost enjoyed by some consumers are shared to a limited extent with those whose cost of service is higher. It occurs within any service territory that has standard rates and occurs on a larger scale within such structures as the Four Dam Pool. The Committee believes that the proposed level of surcharge, particularly at the 150% level, is an acceptable amount to ensure that a lifeline supply of power is available to all households and essential public facilities at a reasonably affordable price.

Recommendation #4 – A statewide organization or agency should be designated to establish rural utility operating standards. State support should be withheld from rural utilities unless the standards are met or are in the process of being met.

The Committee resolved that, in exchange for continuing public support of rural electricity lifeline rates, effective measures must be taken to ensure that small, single-village utilities are properly managed and that they become, as much as possible, self-reliant. This will require a combination of operating standards, assistance in meeting these standards, and enforcement of sanctions if utility management does not make satisfactory progress. An enforceable commitment to improved utility management must be part of any recommendation to continue providing public financial support.

## DISCUSSION OF ALTERNATIVE OPTIONS

As noted at the outset, the Committee believes that other options to fund PCE or an alternative rate support program should also be brought to the attention of the Governor and legislature. These options are as follows:

### OPTION 2

Option 2 would extend the modified PCE program through 2013, consistent with legislative intent enacted in 1993 to fund PCE for 20 years. In addition to the funding sources that all of the options have in common – the 60% share of Four Dam Pool debt service and the re-appropriation of the $20 million Swan/Tyee intertie loan – Option 2 requires a $75 million State general fund endowment in FY 2000 to carry the program the rest of the way. A summary spreadsheet showing Option 2 is included in Attachment 9.

To keep the size of the endowment from escalating higher, Option 2 also incorporates a $17 million annual cap on PCE expenditures:

- Since its inception, the cost of the PCE program has averaged about $17 million per year. Continuing the program at this level is therefore consistent with the State's historical level of program support.

- Although the statement of "Findings and Intent" enacted by the legislature in 1993 established $17 million per year as the minimum level of PCE funding, the Committee believes that a maximum level is what is needed as the basis for a general fund commitment. The population of rural Alaska continues to grow as does the full funding requirement for the PCE program as presently structured. The Committee believes that an open-ended funding commitment for PCE is unrealistic and unlikely to be obtained. The $17 million benchmark has already been accepted by the legislature as a reasonable level of program funding.

OPTION 3

Option 3 seeks to extend the same modified PCE program for a significant length of time without recourse to a large general fund endowment or enactment of a universal service fund. Its main features are as follows:

A. Annual PCE outlays are capped at $15 million per year.

B. General fund appropriations are required beginning with $15 million for FY 2000. These appropriations can then be reduced by $2.5 million per year, reaching zero in FY 2006. These appropriations are in addition to:

   - 60% of Four Dam Pool debt service, and

   - Re-appropriation of the $20 million Swan/Tyee intertie loan

C. Given these funding sources and expenditure caps, PCE can be extended through the year 2010.

A summary spreadsheet showing Option 3 is included in Attachment 10.

OPTION 4

The Committee investigated the possibility of obtaining federal funds to support PCE or a similar program. Although the indications to date have not been promising, the Committee suggests that discussions continue in the event that some measure of federal contribution can be obtained.

Option 1A – Transitional Funding

The spreadsheet provided in Attachment 7 shows how the Committee would envision implementation of Option 1A (Universal Service Fund / 150% benchmark). Provision for transitional funding and other explanatory notes are as follows:

A. The Committee anticipates that more than one year will be required for approval and implementation of the recommended program. As a result, the spreadsheet projections allow for a two-year transitional period (FY 2000 and 2001) during which a modified PCE program would remain in place. The recommended lifeline program would begin in FY 2002.

B. The PCE modifications recommended earlier in this report would reduce the cost of PCE to $15.7 million in FY 2000, and to $16.0 million in FY 2001 assuming 2% annual growth.

C. The modified PCE program is funded during the two-year transition period by a combination of the following three revenue sources:

   i. The PCE Fund is presently expected to have a $3.2 million balance to carry forward into FY 2000.

   ii. 60% of Four Dam Pool debt service revenues are allocated to PCE starting in FY 2000.

   iii. The $20 million Swan-Tyee loan could be re-appropriated to PCE if other elements of Swan-Tyee intertie financing are resolved.

# ATTACHMENT 1

## COMMITTEE BALLOT AND BALLOT RESULTS

# POWER COST EQUALIZATION
# BLUE RIBBON COMMITTEE
# BALLOT RESULTS

| | | Include in Committee Report | | | | | | | Designate As Best Option | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Universal Service Fund | | | | GF | Declining GF | Further Explore | Universal Service Fund | | | GF | Declining GF | Further Explore |
| | | YES | 150 & 100 | 150 only | 100 only | Endowment | Approp. | Fed Funds | YES | 150 | 100 | Endowment | Approp. | Fed Funds |
| (see note 1) | Senator Adams | X | X | | | X | | X | X | | X | | | |
| (see note 2) | Robert Beans | X | X | | | X | | X | | | | | | |
| | Sam Cotten | X | X | | | | X | | X | X | | | | |
| | Joe Griffith | X | X | | | X | X | X | X | | X | | | |
| | Nancy James | X | X | | | X | X | X | X | X | | | | |
| | Robert Martin | X | X | | | X | X | X | X | X | | | | |
| (see note 3) | Senator Pearce | X | | X | | | | X | | | | | | |
| | Walter Sapp | | | | | X | X | X | | | | X | | |
| | Randy Simmons | X | | X | | | X | X | X | X | | | | |
| | Dewey Skan | X | | | X | X | | X | X | | X | | | |
| | Eric Yould | | | | | X | X | X | | | | | X | |
| | TOTALS | 9 | 6 | 2 | 1 | 8 | 7 | 10 | 7 | 4 | 3 | 1 | 1 | |

NOTES -- The following messages were added by Committee members to their ballots:

1. Senator Adams notes that, in his view, community centers and city offices should not be excluded from the definition of "community facilities" under a revised PCE program.

2. Robert Beans does not designate a single "best option," but suggests that a combination of options may turn out to be best.

3. Senator Pearce indicates that the Universal Service Fund benchmarked at 150% of the statewide average residential rate is an option worth considering but only for residential service, not for community facilities.

2/3/99

# POWER COST EQUALIZATION
## BLUE RIBBON COMMITTEE

c/o Division of Energy
Phone: 269-4630
Fax: 269-4645

January 21, 1999

The Honorable Al Adams
Alaska State Senator
State Capitol Building, Room 417
Juneau, AK 99801-1182

DELIVERY BY FAX ONLY

Subject: Ballot on Options and Recommendations
Blue Ribbon Committee on Power Cost Equalization

Dear Senator Adams:

The PCE Blue Ribbon Committee met on January 15 to consider and vote on the final set of options and recommendations to be presented to the Governor. A number of these recommendations were unanimously approved by the members in attendance, specifically:

1. PCE or an alternative rate support program for high cost service areas should be extended into the future.

2. Such rate support should be available only for:

   A. A "lifeline" supply of electric power for residential consumers – a lifeline supply is defined as one-half of the statewide average consumption per household each month; and

   B. Electric power for community facilities that are directly related to public health and safety.

3. A stable source of funding for the program should include among its components:

   A. 60% of the annual debt service paid to the State by the Four Dam Pool – this would include the 40% now allocated to PCE plus the 20% now allocated to the Power Project Fund loan program.

   B. $20 million appropriated by the 1993 legislature as a loan for the Swan/Tyee intertie, based on a proposal from Ketchikan Public Utilities to forego the loan in exchange for State bonding of Swan/Tyee intertie costs.

4. A statewide organization or agency should be designated to establish standards for rural electric utilities with respect to financial management, physical plant, and system operations. No rural electric utility should continue to receive rate support or capital project grants from the State unless it is in compliance with these standards, is making clear and continuing progress in attaining compliance, or has entered into an agreement with an existing utility or utility organization whose operation is consistent with the standards.

Since four of the eleven Committee members were absent from the meeting, the voting was inconclusive with regard to broader PCE options on which there is significant disagreement. For this reason, the Committee decided to solicit the votes of all members by means of the enclosed ballot. There are two separate issues that remain to be decided:

1. Of the options listed on the ballot, which do you believe should be included in the Committee's report as worthy of consideration by the Governor and legislature? You may vote for all of the options if you wish, or any number of them.

   Any option receiving 6 or more votes in response to Question 1 will be included in the Committee's report.

2. If you believe that one of these options should be recommended by the Committee as the single best option to pursue, which one do you support?

   A single option receiving 6 or more votes in response to Question 2 will be designated as the Committee's recommended option.

All of the options on the ballot are summarized in the attachment to this letter and are further discussed in the 12/31/98 draft report circulated to Committee members earlier this month. Please call me at 276-6222 if you would like further explanation of any of these options before casting your vote.

Since we are up against the start of the legislative session, please complete and sign your ballot as soon as possible. Your completed ballot should be faxed to Irene Tomory at the Department of Community and Regional Affairs – fax # 269-4645. The Department will ensure that the ballots are properly counted and filed and will notify all members of the results.

Sincerely,

Sam Cotten

Sam Cotten, Chairman
Blue Ribbon Committee on PCE

BLUE RIBBON COMMITTEE
POWER COST EQUALIZATION
JANUARY 21, 1999

BALLOT

| Option | QUESTION 1<br>Include in Committee Report As Worthy of Consideration? (check up to 4) | QUESTION 2<br>Designate Best Option? (check no more than 1) |
|---|---|---|
| 1. Universal service fund. | _____ | _____ |
| A. If a universal service fund should be included in the Committee report as worthy of consideration, please check only one of the following: | | |
| ☐ Both options should be included – lifeline power benchmarked at 150% and at 100% of statewide average residential rate. | | |
| ☐ Only the 150% option should be included. | | |
| ☐ Only the 100% option should be included. | | |
| B. If a universal service fund should be designated as the best option, please check only one of the following: | | |
| ☐ The 150% benchmark is recommended. | | |
| ☐ The 100% benchmark is recommended. | | |
| 2. General Fund endowment / extend modified PCE through 2013. | _____ | _____ |
| 3. Declining General Fund appropriations / extend modified PCE through 2010. | _____ | _____ |
| 4. Further explore the potential for federal funding of PCE or an alternative rate support program. | _____ | _____ |

Senator Al Adams
Committee Member

_____
Signature

Please fax completed ballot to Irene Tomory (DCRA): fax # 269-4645

January 21, 1999

# SUMMARY OF OPTIONS

The following summary is based on the subcommittee report dated December 24, 1998, that was included in the January 15, 1999 Blue Ribbon Committee packet:

**OPTION 1** would create the equivalent of an electric utility "universal service fund" with the following characteristics:

A. Similar to the universal service fund authorized for telephone service, it would be funded by a surcharge assessed on all electric utility bills statewide.

B. In combination with 60% of Four Dam Pool debt service, the universal service fund would provide enough annual revenue to support an "Electric Lifeline" program statewide without tapping the State General Fund.

C. The purpose of the Electric Lifeline program would be to provide affordable power for residential consumers and community facilities within the following limits of eligibility:

- For each residential customer in a high cost service area, rate support would be provided for up to one-half of the statewide average consumption per household each month.
- For community facilities in high cost service areas, rate support would be limited to those facilities directly related to public health and safety.

D. Creation of a universal service fund is anticipated to require a transitional period of two years during which a modified PCE program would continue to be administered:

- Gaining legislative approval of a universal service fund concept would probably require more than one session.
- For FY 2000 and 2001, the 60% share of Four Dam Pool debt service combined with re-appropriation of the $20 million Swan/Tyee intertie loan would be enough to fund PCE without additional draws from the General Fund.

For eligible electrical usage, rate support would lower the price of power to a selected "benchmark" level. Two alternatives are presented for the benchmark price:

A. 100% of the statewide average residential rate, which in 1985 was 11.3 cents per kWh. In other words, this alternative would make a lifeline supply of power available at approximately 11.3 cents per kWh.

The initial year program cost under this alternative is estimated at $22.9 million, $16.3 million of which would come from the universal

service fund. This would require a surcharge of about 0.32 cents/kWh on all electric utility bills statewide, and would cost an average residential customer in the Railbelt about $27 per year.

B. 150% of the statewide average residential rate, or about 17.0 cents per kWh. In other words, this alternative would make a lifeline supply of power available at approximately 17.0 cents per kWh.

The initial year program cost under this alternative is estimated at $14.7 million, $8.1 million of which would come from the universal service fund. This would require a surcharge of about 0.16 cents/kWh on all electric utility bills statewide, and would cost an average residential customer in the Railbelt about $14 per year.

**OPTION 2** would extend the PCE program through 2013, consistent with legislative intent enacted in 1993 to fund PCE for 20 years. In addition to the funding sources that all of the options have in common – the 60% share of Four Dam Pool debt service and the re-appropriation of the $20 million Swan/Tyee intertie loan – Option 2 requires an estimated $75 million General Fund endowment in FY 2000 to carry the program the rest of the way.

To keep the size of the endowment from escalating higher, Option 2 also incorporates a $17 million annual cap on PCE expenditures. This is approximately equal to the average annual outlay for PCE since its inception in 1985.

**OPTION 3** seeks to extend the same modified PCE program for a significant length of time without recourse to a large General Fund endowment or enactment of a universal service fund. Its main features are as follows:

A. Annual PCE outlays are capped at $15 million per year.

B. General Fund appropriations are required beginning with $15 million for FY 2000. These appropriations can then be reduced by $2.5 million per year, reaching zero in FY 2006. These appropriations are in addition to:

- 60% of Four Dam Pool debt service, and
- Re-appropriation of the $20 million Swan/Tyee intertie loan.

C. Given these funding sources and expenditure caps, PCE can be extended through the year 2010.

**OPTION 4** is a recommendation to further explore the potential for federal funding of PCE or an alternative rate support program, and was added to the list at the Committee's January 15, 1999 meeting.

# ATTACHMENT 2

## OPTIONS FOR REDUCING RURAL POWER COSTS
## WORKING PAPER – PCE BLUE RIBBON COMMITTEE
## FEBRUARY 1998

# OPTIONS FOR REDUCING RURAL POWER COSTS
# WORKING PAPER – PCE BLUE RIBBON COMMITTEE
# FEBRUARY 1998

The primary options can be organized into three categories:

1. Reduce non-fuel operating costs.

2. Reduce fuel costs.

3. Replace diesel generation with alternative energy.

<u>Reduce non-fuel operating costs</u>

Significant measures to reduce non-fuel operating costs per kWh involve either switching to a different mode of power generation such as hydro, or enhancing economies of scale. Alternative energy strategies are discussed in a later section of this paper. Economies of scale may be sought in either of the following ways:

1. Increase power sales. The problem is that this is not a realistic option in most rural villages.

2. Utility mergers. For example, a single-village utility could join a multi-village utility. Savings could be realized in administration, billing, and volume purchasing of parts, equipment, and fuel. Scale economies also allow for the employment of technical staff whose cost and expertise can be shared throughout the multi-village utility, and whose contribution can result in improved maintenance, longer equipment life, and fewer costly emergencies.

As noted during our initial meeting, the multi-village utilities generally do not have a record of lower rates. For example, AVEC residential rates throughout their 50-village system exceed 40 cents/kWh. Residential rates in the 6 villages served by Tlingit-Haida Regional Electrical Authority exceed 30 cents/kWh although all 6 are located in the relatively low cost region of southeast Alaska.

It may be that the main effect of joining a multi-village system is not to reduce consumer rates but rather to improve reliability, safety, and environmental protection. Further, it may be that operating cost economies are realized but that the savings are then used to "purchase" a safer and more reliable system. Overall:

1. Joining a multi-village utility to enhance economies of scale is not likely to produce significant rate reductions for the consumer.

2. Joining a multi-village utility could lead to development of a power system that is more reliable, better built, and better maintained. It is a difficult strategy to implement, however, since single-village utilities typically exist where the desire for local control is relatively high.

3. Joining a multi-village utility could lead to lower overall costs of operation and greater self-reliance even if such cost reduction is not reflected in consumer rates. Single-village utilities are more likely to seek and obtain government grants for plant replacement and emergency repairs, while multi-village utilities are more likely to finance their plant requirements and recover the associated debt service through consumer rates and PCE.

Reduce fuel costs

As discussed in the Committee's initial packet of materials, fuel costs are one reason for high rates in rural villages although the impact of fuel costs is less important than often assumed:

1. The average price of diesel fuel in 1995 for utilities in the Power Cost Equalization program was $1.01 per gallon, and the average efficiency of diesel generators for these same utilities was 12.9 kWh per gallon. The average fuel cost per kWh was therefore 7.8 cents.

2. Because the price of Cook Inlet natural gas is very favorable, the fuel cost per kWh for Anchorage area utilities is approximately 2.0 cents.

3. Therefore, the cost of fuel accounts for roughly 5.8 cents per kWh of the difference in power costs between Anchorage and the average rural Alaska community. When trying to explain power cost differentials of 20 to 30 cents or more per kWh, the fuel cost issue is important but is not a dominant factor.

Options for reducing the fuel cost component can be grouped in the following categories: increase the efficiency of power generation, increase the efficiency of power distribution, and look for ways to reduce the delivered price of fuel.

1. Increasing the fuel efficiency of power generation is typically accomplished by purchasing new diesel units that are more efficient than the old ones, by carefully matching the size of the new units with the

village demand for power, and by operating the units so that each one operates as close to maximum load as possible.

a. Like the gradual substitution of more fuel efficient cars in the nation's vehicle fleet, the widespread installation of fuel efficient diesel generators in rural Alaska has most likely been aided by government regulation but is also pushed by market forces as old equipment is periodically replaced by new.

In the case of motor vehicles, the "corporate average fuel efficiency" standards imposed by the federal government appears to have hastened the move to more fuel efficient cars. Fuel efficiency standards have also been adopted in PCE regulations. If the actual efficiency of a PCE utility is less than the standard, then the PCE subsidy rate is calculated as though the efficiency standard were met.

These standards, which have been in effect since 1993, range from 8 kWh sold per gallon for the smallest utilities to 12 kWh sold per gallon for the largest. By tying the efficiency standard to kWh sold (rather than kWh generated), the regulation encompasses both generation and distribution efficiency. Somewhat different standards pertain to those few PCE utilities that do not rely entirely on diesel generation.

A question that the Committee may wish to consider is whether any change is now warranted in the PCE efficiency standard.

b. When the opportunity arises to replace a diesel generator, it is already the policy of most utilities and of the State to select a generator size that is best matched to the power requirements of the community. This makes sense because diesel generators are most efficient when operated at or near the top of their output range.

An emerging development is the production of diesel generators designed to maintain a high level of fuel efficiency throughout a wide range of output levels. AVEC is one utility known to the Division that has been working with a manufacturer on these units and is continuing to purchase them. To the extent they are successful, the importance of carefully matching generator size with community load and the importance of operating units as close as possible to maximum load, will both decline.

2. Increasing the efficiency of power distribution means upgrading distribution systems to reduce line losses, i.e. energy lost in transit between the power plant and the consumer. Because the useful life of a distribution system can often be extended for many years with periodic repairs and piecemeal replacements, upgrades resulting in higher efficiency are not as "automatic" as they tend to be with generator equipment. There are still substantial opportunities in rural Alaska to improve fuel efficiency by upgrading distribution systems, upgrades that might not occur for many more years in the absence of government funding.

3. While the base price of fuel is largely unaffected by the actions of individual consumers, there are purchasing strategies that electric utilities can adopt to help keep the delivered price as low as possible. The key principle that operates in favor of the consumer is competition among fuel suppliers which can be encouraged as follows:

   a. By pooling together the fuel requirements of multiple consumers, the purchase order volume is increased. Higher purchase volumes generate greater competitive interest among fuel suppliers.

   b. Bids are widely and aggressively solicited for the combined purchase order.

   However, as noted by the AVEC representative at the initial Committee meeting, consolidated purchasing must not be taken so far as to eliminate suppliers from the market and end up reducing competition rather than enhancing it. AVEC's approach is to package enough of its villages in combined fuel orders to gain advantage from higher volumes without driving fuel supply competitors out of the market.

   Fuel purchasing cooperatives can be formed among electric utilities and other fuel purchasers who presently arrange for their fuel supplies independently:

   a. The "Western Alaska Fuel Group" is an informal alliance of the following electric utilities:

      Kotzebue Electric Association
      Nome Joint Utilities
      Naknek Electric Cooperative
      Nushagak Electric Cooperative (Dillingham)

Iliamna-Newhalen-Nondalton (INN) Electric Cooperative

Attached is a chart showing:

1. Average fuel prices paid by each member over the last 7 years, and

2. Average fuel prices paid by a selection of other, roughly comparable rural utilities over the same period.

Within each group, coastal communities and interior communities are shown separately to provide a somewhat better comparison. Because a number of factors determine the fuel price paid by any single utility, the average price difference between the Western Alaska Fuel Group and the selected utilities in the comparison group cannot be taken as proof that cooperative buying works. Probably the best evidence in its favor is that all of the utilities in the Western Alaska Fuel Group have chosen to remain a part of it for over 10 years.

In FY95 the combined fuel usage of the members of the Western Alaska Fuel Group was just over 6.0 million gallons. Assuming for illustration a savings from coordinated purchasing of $0.05 per gallon, the total savings are about $300,000 per year.

b. Although Nunat Uquutiit Cooperative, Inc. (NUCI) presently owns only two operational tank farms, it has 42 members located in 26 villages. In 1996 NUCI bundled together the volume requirements of about half its members and purchased fuel on their behalf at $1.27 per gallon.

Although the level of savings from the 1996 purchase is difficult to judge, the consolidated purchase was apparently viewed as a success by NUCI members since, in 1997, 39 of the 42 members chose to participate in the joint purchase. The average price obtained by NUCI in 1997 was $1.20 per gallon.

<u>Replace diesel generation with alternative energy</u>

Most alternative energy concepts are unproven in rural Alaska in terms of durability, reliability, and cost. For example:

1. Wind energy. There were many experiments with wind generators in rural Alaska 10-15 years ago, none of which were successful on a utility scale or over a significant period of time. We are experimenting now with the latest generation of wind technology in Kotzebue and Wales, but it will be several years of testing and evaluation before the Division of Energy could recommend wind energy for rural utilities on a broad scale.

2. Small-scale natural gas development. Economic and geophysical assessments carried out by the State on natural gas or coal bed methane development in rural Alaska have not been promising. Our information suggests that suitable deposits are not likely to be found in close proximity to rural communities, and that the cost of development for gas that is found is not likely to be competitive. While exceptions may yet be found, there is no basis to predict that natural gas will emerge as a competitive fuel source for a significant number of rural villages.

3. The Division has evaluated power plants fueled with biomass in various forms but we have yet to identify a rural community in which this option appears to be competitive.

4. The two main alternative energy technologies with a proven track record in rural Alaska are small hydro and electric energy conservation:

   a. Hydro prospects are limited in number and unevenly distributed: most are found near the arc that extends from southeast Alaska to the Aleutians. Still, undeveloped prospects remain that could serve rural Alaska communities. The Division is presently involved in the following:

      i. Pyramid Creek in Unalaska and Old Harbor on Kodiak Island. Federal grant funds have already been appropriated to help finance the Old Harbor project.

      ii. Power Creek near Cordova. The Division is financing preconstruction costs of licensing and design. Federal grant funds have also been provided to help finance Power Creek

   It is unusual to find a rural hydro project that can support market financing and still result in rate reductions for the affected community. Most of the financial benefit of these projects is therefore tied to the amount of grant or low interest loan financing they are able to attract from the State and federal government. As an alternative for reducing rural power costs, small hydro can often

be effective not because its actual cost is low relative to diesel energy but because it can serve as a tangible, one-time vehicle for attracting government subsidy that can then reduce consumer costs throughout the extended life of the project.

b. Electric energy conservation is a form of alternative energy that can pay for itself when the cost to conserve a unit of energy is less than the cost to produce it. The following are among the relevant issues when considering conservation in rural Alaska:

   i. Because the cost to produce a kWh of energy is relatively high, electric energy conservation should be exceptionally cost-effective in this environment.

   ii. Because the present level of electricity consumption in rural villages is already very low, the remaining opportunities for conservation may be limited.

   iii. While the cost of energy for residential consumers is often considered to be the highest priority, it is most difficult to design and implement an effective energy conservation program for this segment of consumers because there are so many of them, each consuming a relatively small amount of power.

   iv. Rural utilities are typically not supportive of energy conservation programs except for the purpose of customer relations. Because much of the utility's cost is fixed, lower power sales often means upward pressure on rates. The conserving customer may still benefit, but the utility and its other customers may be left to share higher fixed costs. From the rural utility's perspective, conservation goes in the opposite direction of the utility's effort to increase sales and thereby enhance economies of scale.

# THE ECONOMIC SIGNIFICANCE OF THE POWER COST EQUALIZATION PROGRAM

## EXECUTIVE SUMMARY

### WHAT IS THE PROGRAM ?

In FY 1996 the Power Cost Equalization (PCE) Program provided $19.202 million of financial assistance to electric utilities in 190 rural Alaska communities where the cost of electric power is greater than urban Alaska because of small market size, dependence on expensive fuel oil for generation, and the high cost of doing business in remote areas.

The PCE program is designed to pay a portion, currently 95 percent, of the legitimate electric generation costs between a floor and a ceiling, for a basic level of electric service for residential and commercial customers (including public schools) and community facilities. The floor is set at a level equal to the cost for electricity generation in urban areas, 9.5 cents in 1996, and the ceiling is set at the level of reasonable maximum cost for a small utility, 52.5 cents. In recent years PCE budget restrictions have kept payments to eligible utilities below 95 percent of legitimate costs.

Thus rural utility customers pay at least as much as urban consumers for their electricity, but a portion of the extra cost of generation is covered by the PCE program. Furthermore only the first 700 kwh per month of use by each residential or commercial customer is eligible for the program, and only 70 kwh per month for each community member for community facilities is eligible. As a result, only 38 percent of all electricity sold in PCE communities in 1996 qualified for assistance. In addition only legitimate costs are covered, as determined by Alaska Public Utilities Commission (APUC).

### WHO DOES IT SERVE ?

The typical (median) community served by PCE has a population of 264. Bethel, with a population of 5,195, is the largest, and only 8 other communities (Unalaska, Nome, Kotzebue, Cordova, Dillingham, Craig, Naknek, and Haines) have a population greater than 1,000. The total population served is 75,767.

The assistance provided to the utilities is primarily targeted toward residential customers in the PCE communities. The average income of PCE households is $49,825 compared to $65,054 for non PCE communities. (Although the average income in the typical PCE

community is considerably less, $35,203, because average incomes are higher in the larger PCE communities.) The unemployment rate among PCE households is 15 percent compared to 8 percent for non PCE communities. 18 percent of families in PCE communities have incomes below the poverty level compared to 6 percent in non PCE communities.

The typical PCE utility generates about 652,000 kwh annually, about the amount that Chugach Electric Association, the largest electric utility in the state, sells in a typical 6 hour period. The 9 largest utilities that serve the communities of greater than 1,000 population account for just over 50 percent of the generation of all the PCE utilities which in 1996 totaled 369 million kwh. The cost of electricity provided by the typical PCE utility is $.42 per kwh. This is the amount per kwh the residential customer would need to pay to cover all costs of production. Because of differences in size and location, some utilities have a lower cost, although none are as low as Anchorage where the average cost is about $.10 per kwh. At the other extreme some utilities report an average cost in excess of $.60 per kwh.

## WHAT BENEFIT DOES IT PROVIDE ?

The typical community gets $71 thousand per year in financial assistance through the PCE program, and this covers about 31 percent of the total costs of providing electricity.

About 68 percent of the total, $13.092 million, in FY 1996 supported sales to residential customers. Financial assistance under the PCE program reduces each eligible kwh of electricity to residential customers by an average of $.22. (87 percent of residential sales are eligible for PCE.) Residential customers in PCE communities still pay twice the urban average for electricity after the PCE assistance--$.20 for the average kwh. This is because not all consumption is eligible, not all reported costs are approved by the APUC, the program pays only 95% of legitimate costs between the floor and the ceiling, some utilities have costs above the ceiling, and the program has not been fully funded in recent years. The range of residential rates after application of the PCE assistance is from $.10 to $.35 per kwh.

Because of the high cost of electricity, even with PCE assistance, and the low household income, the average residential customer in the PCE communities uses 4,933 kwh of electricity in a year, about 65 percent as much as the typical customer in Anchorage, who uses 7,619. (The average in the typical PCE community is less, 3,921 kwh per year, because average consumption is higher in the larger PCE communities.)

In spite of lower consumption, residential monthly bills are higher in PCE communities, even with PCE. The average residential customer of a PCE utility has a monthly bill of $75, after receiving assistance, compared to $61 for Anchorage. (The average in the typical PCE community is less, $66, because average consumption is higher in the larger PCE communities.) Without PCE the monthly bill would have been $121.

If the PCE residential customer used as much electricity as the average household in Anchorage, the typical utility average monthly residential bill would be $125 with PCE. In the

absence of PCE the monthly bill at the Anchorage rate of use with all utility costs paid by the customer would be $264, 433 percent of the Anchorage bill.

About 19 percent of PCE assistance, $3.683 million in FY 1996, went to support electricity use in community facilities in PCE communities--an average of $2,537 per facility per year. This assistance reduced the cost of 98 percent of the electricity used for this purpose. Since local residents bear the cost of electricity used by these facilities, the savings for the average PCE household from this assistance was $158 per year.

The remaining 13 percent of PCE assistance, $2.407 million in FY 1996, helped pay for about 10 percent of the electricity used by the commercial sector, including the public schools.

## WHAT WOULD HAPPEN IF PCE DISAPPEARED ?

The typical PCE utility receives about $71 thousand of PCE financial assistance annually which accounts for about 31 percent of the total cost of the providing electricity to the community. Elimination of that assistance would put many small utilities at financial risk and require electricity users to pay substantially higher electricity bills at the same time that it reduced the amount of electricity they used.

Without PCE the utilities would be forced to raise their rates substantially, and the resulting drop in sales would require further rate increases to generate sufficient revenues to cover all costs. Although reduced sales would lower costs because less fuel would be needed, a large share of utility costs are fixed. This results in the potential for a utility to fall into a "death spiral", in which continuously rising rates are never able to generate enough revenue to cover costs. A utility caught in a death spiral cannot survive without an external source of financial assistance.

The likelihood that a utility would fall into a death spiral is a function of how sensitive electricity sales are to the higher electricity prices necessitated by the elimination of PCE. If a doubling of the price paid by customers reduced sales by 20 percent, death spirals would be unlikely. But if a doubling of the price reduce sales by 30 percent, utilities in half the communities served by PCE would be unable to cover their costs through higher rates.

The burden of the loss of PCE financial assistance to utilities would fall primarily on the residents of the communities currently served by PCE. This burden would be a combination of higher electricity bills and less electricity use. Customers would be spending more for less electricity and have less income available for other needs. For a representative community like Elim, the residential price of electricity would increase 190 percent--from $.19 to $.55. Average annual consumption would fall by 38 percent--from 4,202 to 2,608 kwh. The average monthly residential bill would increase by 80 percent--from $66 to $119. Without PCE the average residential customer would be devoting 4.4 percent of household income directly to paying for electricity. Including payments in support of community facility electricity use, 6.1 percent of household income would be devoted to payments for electricity.

Most of the remaining financial burden of the loss of PCE would fall on commercial users of electricity, and the higher costs imposed on them would be passed on to customers as higher prices and back onto workers as lower wages. Some of the burden would thus fall on local residents and some would be shifted outside the PCE communities. Since the public schools are included in this category for purposes of PCE, some of the burden, estimated at about $1.406 million would fall on the state treasury.

The remainder of the financial burden would fall on state and federal government agencies operating in PCE communities. These government agencies do not qualify for PCE assistance so the rate they are charged covers the full cost of providing their electricity. However since elimination of PCE combined with reduced sales would drive up the average cost of electricity for the PCE utilities, the rates charged to all customer classes would rise. State government agencies would pay about $.290 million in additional charges for electricity.

In addition to the quantifiable direct financial burden on local residents, utilities, and state government from the elimination of the PCE program, there are indirect burdens both for the PCE communities and for the state.

The public and private physical infrastructure necessary to deliver the educational, sanitation, health, transportation, and communication services to sustain rural Alaska communities, and enhance their opportunities for economic development, depends directly on the availability of a reliable and affordable source of electricity. Furthermore there are some special uses of electricity in rural areas that enhance the quality of life in ways urban residents often overlook, such as refrigeration for preserving subsistence harvested food and streetlights for additional safety during the long hours without sunlight in the winter.

The state which has paid for much of the investment in the public infrastructure in rural Alaska also has an interest in its continued ability to provide the services to sustain rural communities. Loss or deterioration of these services would be detrimental to the physical and psychological well being of rural Alaskans and responding to the problems this would create would put an additional burden on state financial resources.

## WHAT IS THE ECONOMIC SIGNIFICANCE OF PCE ?

Elimination of PCE assistance would draw $19.202 million out of the rural Alaska economy. This loss of purchasing power translates into a loss of $4.908 million in wages and 210 jobs (annual average) throughout Alaska. Because most of the PCE communities are too small to support much business activity locally, a large share of this loss would occur in urban Alaska.

# ATTACHMENT 4

## RESIDENTIAL CONSUMPTION
## SOUTHERN RAILBELT

# AVERAGE USE PER CUSTOMER
# SOUTHCENTRAL UTILITIES -- RESIDENTIAL CUSTOMERS
# BY MONTH

| Anchorage ML&P | | Chugach Electric | | Matanuska Electric | | Homer Electric | | weighted ave | one half wtd ave | weighted ave X 1.05 | one half wt ave X 1.05 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan-98 | 720 | Jan-98 | 854 | Jan-97 | 1009 | Jan-97 | 929 | 878 | 439 | 922 | 461 |
| Feb-98 | 563 | Feb-98 | 906 | Feb-97 | 830 | Feb-97 | 695 | 798 | 399 | 838 | 419 |
| Mar-98 | 509 | Mar-98 | 755 | Mar-97 | 827 | Mar-97 | 659 | 716 | 358 | 751 | 376 |
| Apr-98 | 527 | Apr-98 | 759 | Apr-97 | 553 | Apr-97 | 645 | 653 | 326 | 685 | 343 |
| May-98 | 474 | May-98 | 635 | May-97 | 638 | May-97 | 542 | 594 | 297 | 624 | 312 |
| Jun-98 | 431 | Jun-98 | 541 | Jun-97 | 613 | Jun-97 | 556 | 541 | 271 | 568 | 284 |
| Jul-98 | 419 | Jul-98 | 644 | Jul-97 | 554 | Jul-97 | 573 | 573 | 286 | 601 | 301 |
| Aug-98 | 460 | Aug-98 | 547 | Aug-97 | 546 | Aug-97 | 518 | 527 | 264 | 554 | 277 |
| Sep-98 | 446 | Sep-98 | 548 | Sep-97 | 694 | Sep-97 | 458 | 553 | 276 | 580 | 290 |
| Oct-98 | 449 | Oct-98 | 590 | Oct-97 | 683 | Oct-97 | 714 | 605 | 302 | 635 | 318 |
| Nov-98 | 585 | Nov-98 | 619 | Nov-97 | 875 | Nov-97 | 665 | 681 | 340 | 715 | 358 |
| Dec-98 | 581 | Dec-98 | 687 | Dec-97 | 955 | Dec-97 | 818 | 751 | 376 | 789 | 394 |
| # of Res. Cust.: (1997) | 23,393 | | 58,931 | | 31,912 | | 18,544 | 132,780 | 328 | 689 | 344 |

Explanatory Notes:

1. The "weighted average" is weighted by the number of customers. For example, use per customer for Chugach Electric is given approximately three times the weight of Homer Electric, since Chugach has approximately three times as many residential customers.

2. One-half the average residential usage of these four utilities is 439 kWh in January and 271 kWh in June. Over the entire year, one-half the average monthly use is 328 kWh.

3. These figures are multiplied by 1.05 (5.0%) to account for the fact that use per customer is slightly higher statewide than for these four utilities, and to account for load growth.

Source: Alaska Public Utilities Commission

1/27/99

# ATTACHMENT 5

## HOW 326 KWH MIGHT BE USED IN A VILLAGE HOME

EXCERPT FROM:
AFFORDABLE POWER IN RURAL ALASKA
EXECUTIVE SUMMARY
ARECA RURAL ISSUES FORUM REPORT
1996

## *Electricity Use in Rural and Urban Alaska*

Rural Alaskans use electricity conservatively because it is expensive. Average usage varies between communities and in different seasons. Overall, an average of 326 kilowatt-hours (kwh) used per residential and commercial customer were eligible for PCE credit in 1995.

**How 326 kwh might be used in a village home:**

| | |
|---|---|
| *Refrigerator (1,000 watt, 14 cu ft. frostless) | 100 |
| *Freezer (1,000 watt, 15 cu ft. frostless) | 100 |
| Coffee Maker | 15 |
| Toaster | 3 |
| Hair Dryer | 2 |
| Clock | 2 |
| Television | 20 |
| VCR | 4 |
| *Indoor Lighting | 60 |
| Outdoor Lighting | 20 |
| TOTAL | 326 |

Urban homes typically have a number of other appliances that may or may not be present in rural homes. Below are examples of the estimated range of usage for additional appliances that might be in an Anchorage home:**

| | | | |
|---|---|---|---|
| Electric Range (Stove) | 30-60 | Heat Tape or Deicer Cable | 10-150 |
| Dishwasher | 20-50 | Stereo | 1-5 |
| Slow Cooker | 3-12 | Video Games | 1-4 |
| Garbage Disposal | 2-5 | Computer | 2-35 |
| Vacuum Cleaner | 4-6 | Washing Machine | 4-12 |
| Sewing Machine | 1-4 | Clothes Dryer | 50-150 |
| Car Engine Heater | 30-150 | Water Heater | 150-550 |

* Actual kwh used depends on appliance efficiency and use patterns. A highly efficient refrigerator or freezer opened rarely might draw 40 kwh per month while an older, less efficient model opened often could draw 200 or more kwh per month. The lighting example is based on four 100-watt bulbs on for five hours per day, though the same kwh would be used by fewer lights on for a longer period or more lights of lower wattage used for the same period.

** From *Sometimes The House That Costs More, Costs Less,* a publication of Chugach Electric Association, based in Anchorage.

# ATTACHMENT 6

## IMPACT OF LIFELINE RATE OPTIONS ON ELECTRIC UTILITIES

| Utility/Community | Popu-lation | Resi-dential Customers | Average monthly Eligible kwh per: Residential Customer (kwh) | Average monthly Eligible kwh per: Community Fac./Pop. (kwh) | Utility's Avg. Residential Rate (based on 500 kwh) (cents/kwh) | Power Cost Equalization Rate (cents/kwh) | Effective Residential Rate (cents/kwh) | 11.3 cents residential $/year | 11.3 cents com fac $/year | 17.0 cents residential $/year | 17.0 cents com fac $/year | Total PCE Payment / Existing Formula | Total Payment / 11.3 cent "Lifeline" | Total Payment / 17.0 cent "Lifeline" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chitina Electric Inc. | 49 | 31 | 248 | 26 | 33.6 | 14.0 | 19.6 | 20,597 | 3,423 | 15,332 | 2,548 | 26,300 | 24,020 | 17,881 |
| Circle Utilities | 107 | 34 | 261 | 22 | 48.0 | 25.9 | 22.1 | 39,130 | 10,593 | 33,053 | 8,948 | 52,654 | 49,724 | 42,001 |
| Platinum Power Plant (1) | | | | | | | | - | - | - | - | 0 | - | - |
| Coffman Cove Utility Association | | | | | | | | - | - | - | - | 0 | - | - |
| Coffman Cove | 254 | 100 | 393 | 20 | 23.0 | 12.3 | 10.7 | 49,140 | 6,979 | 25,200 | 3,579 | 75,602 | 56,119 | 28,779 |
| Whale Pass | 92 | 20 | 359 | 3 | 23.0 | 12.3 | 10.7 | 9,828 | 421 | 5,040 | 216 | 16,259 | 10,249 | 5,256 |
| Cordova Electric Cooperative, Inc. | 2,568 | 920 | 432 | 65 | 21.0 | 9.8 | 11.2 | 374,808 | 193,677 | 154,560 | 79,867 | 714,178 | 568,485 | 234,427 |
| Diomede Joint Utilities | 154 | 44 | 275 | 26 | 43.0 | 26.8 | 16.3 | 46,067 | 15,463 | 37,784 | 12,683 | 61,470 | 61,530 | 50,467 |
| Eagle Power Company | 146 | 129 | 198 | 6 | 39.0 | 28.9 | 10.1 | 84,802 | 2,929 | 67,352 | 2,326 | 115,879 | 87,731 | 69,678 |
| Egegik Light & Power Co. | 143 | 65 | 259 | 32 | 50.0 | 19.5 | 30.5 | 78,145 | 20,976 | 66,635 | 17,887 | 60,790 | 99,121 | 84,522 |
| Ekwok Electric | 102 | 56 | 243 | 15 | 40.0 | 10.6 | 29.4 | 46,857 | 5,245 | 37,551 | 4,203 | 25,447 | 52,102 | 41,754 |
| Elfin Cove Electric Utility | 65 | 30 | 297 | 23 | 26.2 | 15.8 | 10.4 | 15,940 | 2,710 | 9,842 | 1,673 | 27,384 | 18,649 | 11,515 |
| False Pass Electric Association | 87 | 28 | 279 | 28 | 42.0 | 16.2 | 25.9 | 28,742 | 8,903 | 23,405 | 7,250 | 22,527 | 37,645 | 30,655 |
| Far North Utilitities (Central) | 161 | 69 | 168 | 2 | 43.1 | 24.9 | 18.2 | 44,272 | 1,419 | 36,337 | 1,165 | 63,595 | 45,692 | 37,502 |
| G&K, Inc. (Cold Bay) | 220 | 35 | 363 | 40 | 37.7 | 24.2 | 13.5 | 38,808 | 27,584 | 30,429 | 21,629 | 75,060 | 66,392 | 52,058 |
| Galena, City of | 527 | 209 | 277 | 42 | 30.4 | 10.2 | 20.2 | 132,667 | 50,759 | 93,075 | 35,611 | 113,984 | 183,426 | 128,687 |
| Golovin Power Utilities | 156 | 52 | 229 | 31 | 38.0 | 21.1 | 17.0 | 38,236 | 15,682 | 30,073 | 12,334 | 51,263 | 53,918 | 42,407 |
| Gustavus Electric Company | 151 | 254 | 256 | 16 | 46.5 | 33.1 | 13.4 | 274,924 | 9,959 | 230,405 | 8,346 | 344,161 | 284,883 | 238,751 |
| Gwitchyaa Zhee Utilities (Fort Yukon) | 663 | 258 | 231 | 27 | 30.9 | 16.2 | 14.7 | 139,873 | 42,110 | 99,196 | 29,863 | 171,102 | 181,983 | 129,059 |
| Haines Light & Power | 1,394 | 769 | 404 | 41 | 16.3 | 6.1 | 10.2 | 161,490 | 34,549 | - | - | 235,103 | 196,039 | - |
| Hughes Power & Light | 78 | 21 | 183 | 36 | 51.0 | 28.6 | 22.4 | 18,259 | 13,531 | 15,638 | 11,588 | 25,073 | 31,790 | 27,226 |
| I-N-N Electric Cooperative | 416 | 212 | 285 | 35 | 46.4 | 31.2 | 15.3 | 254,281 | 61,047 | 212,987 | 51,133 | 330,049 | 315,328 | 264,120 |
| Igiugig Electric Company | 33 | 17 | 196 | 58 | 58.3 | 24.5 | 33.8 | 18,749 | 10,812 | 16,475 | 9,501 | 23,060 | 29,562 | 25,976 |
| Ipnatchiaq Electric Company (Deering) | 153 | 39 | 339 | 30 | 38.5 | 27.1 | 11.5 | 43,201 | 14,895 | 34,148 | 11,774 | 62,470 | 58,096 | 45,922 |
| King Cove, City of | 879 | 179 | 278 | 48 | 20.0 | 6.4 | 13.6 | 51,890 | 44,470 | 17,893 | 15,335 | 75,244 | 96,360 | 33,228 |
| Kipnuk Light Plant | 470 | 121 | 379 | 40 | 27.4 | 13.2 | 14.2 | 81,820 | 35,988 | 52,853 | 23,247 | 128,284 | 117,808 | 76,100 |
| Kobuk Valley Electric Company (1) | | | | | | | | - | - | - | - | 0 | - | - |
| Kokhanok Village Council | 152 | 43 | 217 | 16 | 55.1 | 30.2 | 24.9 | 49,060 | 12,897 | 42,675 | 11,219 | 55,035 | 61,957 | 53,894 |
| Koliganek Village Council | 181 | 64 | 249 | 0 | 50.0 | 13.6 | 36.4 | 74,066 | - | 63,157 | - | 62,868 | 74,066 | 63,157 |
| Kotlik Electric Services | 548 | 123 | 282 | 13 | 30.0 | 18.7 | 11.3 | 77,762 | 15,930 | 54,059 | 11,074 | 100,507 | 93,692 | 65,134 |
| Kotzebue Electric Association | 2,947 | 799 | 459 | 40 | 21.8 | 8.4 | 13.4 | 352,359 | 147,943 | 161,078 | 67,631 | 486,204 | 500,302 | 228,709 |
| Koyukuk, City of (1) | | | | | | | | - | - | - | - | 0 | - | - |
| Kwethluk, Inc. | 688 | 135 | 252 | 6 | 44.0 | 17.1 | 26.9 | 133,270 | 15,790 | 110,039 | 13,038 | 84,315 | 149,060 | 123,077 |
| Kwig Power Company (Kwigillingok) | 278 | 73 | 351 | 5 | 50.0 | 26.7 | 23.3 | 118,654 | 6,681 | 101,178 | 5,697 | 80,476 | 125,335 | 106,875 |
| Larsen Bay Utility Company | 130 | 46 | 292 | 21 | 40.0 | 18.2 | 21.8 | 46,270 | 9,423 | 37,081 | 7,552 | 51,564 | 55,693 | 44,632 |
| Levelock Electric Cooperative | 105 | 44 | 311 | 61 | 44.2 | 27.0 | 17.2 | 54,090 | 25,081 | 44,719 | 20,736 | 60,611 | 79,172 | 65,455 |
| Manley Utilitity Company | 96 | 69 | 140 | 3 | 61.0 | 40.7 | 20.3 | 57,574 | 1,818 | 50,971 | 1,609 | 71,188 | 59,392 | 52,580 |
| Manokotak Power Company | 410 | 99 | 289 | 14 | 35.0 | 15.4 | 19.6 | 81,364 | 16,161 | 61,795 | 12,274 | 67,403 | 97,525 | 74,070 |
| McGrath Light & Power | 479 | 170 | 396 | 51 | 37.2 | 24.0 | 13.2 | 184,926 | 76,108 | 144,228 | 59,358 | 291,121 | 261,034 | 203,586 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | - | - | - | - | 0 | - | - |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21.8 | 37,841 | 6,090 | 33,631 | 5,412 | 43,468 | 43,934 | 39,043 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21.8 | 47,051 | 5,879 | 41,813 | 5,225 | 56,261 | 52,930 | 47,037 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21.8 | 13,872 | 166 | 12,328 | 148 | 22,234 | 14,039 | 12,476 |

| Utility/Community | Population | Residential Customers | Average monthly Eligible kwh per: Residential Customer (kwh) | Average monthly Eligible kwh per: Community Fac./Pop. (kwh) | Utility's Avg. Residential Rate (based on 500 kwh) (cents/kwh) | Power Cost Equalization Rate (cents/kwh) | Effective Residential Rate (cents/kwh) | 11.3 cents residential $/year | 11.3 cents com fac $/year | 17.0 cents residential $/year | 17.0 cents com fac $/year | Total PCE Payment / Existing Formula | Total Payment / 11.3 cent "Lifeline" | Total Payment / 17.0 cent "Lifeline" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sleeetmute | 106 | 33 | 175 | 2 | 62.5 | 40.7 | 21.8 | 35,440 | 1,326 | 31,494 | 1,178 | 38,367 | 36,765 | 32,672 |
| Stony River | 51 | 16 | 180 | 8 | 62.5 | 40.7 | 21.8 | 17,720 | 2,445 | 15,748 | 2,173 | 26,218 | 20,166 | 17,921 |
| Total | | | | | | | | - | - | - | - | 0 | - | - |
| Naknek Electric Association, Inc. | 1,482 | 657 | 372 | 59 | 20.5 | 8.8 | 11.7 | 253,865 | 96,244 | 96,579 | 36,615 | 338,127 | 350,109 | 133,194 |
| Napakiak Ircinraq Power Company | 326 | 84 | 288 | 12 | 56.1 | 36.9 | 19.2 | 129,834 | 21,622 | 113,315 | 18,871 | 120,522 | 151,456 | 132,186 |
| Napaskiak Electric Utility | 404 | 88 | 265 | 1 | 45.0 | 21.7 | 23.3 | 94,142 | 1,360 | 78,219 | 1,130 | 59,116 | 95,502 | 79,349 |
| Naterkaq Light Plant (Chefornak) | 361 | 75 | 368 | 4 | 34.0 | 12.5 | 21.5 | 71,505 | 4,363 | 53,550 | 3,267 | 46,448 | 75,868 | 56,817 |
| Nelson Lagoon Electric Cooperative, Inc. | 86 | 42 | 335 | 18 | 42.0 | 25.4 | 16.6 | 51,800 | 5,829 | 42,182 | 4,747 | 53,714 | 57,629 | 46,929 |
| Nightmute Power Plant | 189 | 36 | 264 | 2 | 30.5 | 18.9 | 11.6 | 21,871 | 768 | 15,378 | 540 | 26,898 | 22,639 | 15,918 |
| Nikolai Light & Power | 125 | 40 | 226 | 67 | 50.0 | 21.6 | 28.4 | 42,034 | 38,879 | 35,843 | 33,152 | 55,372 | 80,912 | 68,995 |
| Nome Joint Utility System | 3,984 | 1417 | 362 | 36 | 19.6 | 5.0 | 14.6 | 493,966 | 141,565 | 154,736 | 44,346 | 398,880 | 635,531 | 199,082 |
| North Slope Borough Power & Light | | | | | | | | - | - | - | - | 0 | - | - |
| Anaktuvuk Pass | 292 | 79 | 375 | 7 | 15.0 | 5.3 | 9.7 | 12,277 | 912 | - | - | 34,336 | 13,188 | - |
| Atqasuk | 233 | 53 | 474 | 15 | 15.0 | 5.3 | 9.7 | 8,236 | 1,563 | - | - | 28,891 | 9,800 | - |
| Kaktovik | 210 | 71 | 404 | 15 | 15.0 | 5.3 | 9.7 | 11,033 | 1,421 | - | - | 28,672 | 12,454 | - |
| Nuiqsut | 410 | 88 | 388 | 13 | 15.0 | 5.3 | 9.7 | 13,675 | 2,309 | - | - | 37,598 | 15,984 | - |
| Point Hope | 723 | 157 | 438 | 9 | 15.0 | 5.3 | 9.7 | 24,398 | 3,043 | - | - | 57,105 | 27,441 | - |
| Point Lay | 139 | 53 | 371 | 9 | 15.0 | 5.3 | 9.7 | 8,236 | 557 | - | - | 22,753 | 8,794 | - |
| Wainwright | 543 | 127 | 393 | 13 | 15.0 | 5.3 | 9.7 | 19,736 | 3,168 | - | - | 48,281 | 22,904 | - |
| Total | | | | | | | | - | - | - | - | 0 | - | - |
| Northway Power & Light | 113 | 103 | 318 | 46 | 26.5 | 16.8 | 9.7 | 59,690 | 9,393 | 37,306 | 5,870 | 84,506 | 69,083 | 43,177 |
| Nushagak Electric Cooperative, Inc. (Dillingha | 2,243 | 902 | 412 | 31 | 21.7 | 7.9 | 13.8 | 393,994 | 86,704 | 178,055 | 39,183 | 492,979 | 480,697 | 217,238 |
| Ouzinkie, City of | 259 | 72 | 344 | 28 | 30.0 | 16.8 | 13.2 | 55,503 | 16,131 | 38,585 | 11,214 | 67,933 | 71,633 | 49,798 |
| Pedro Bay Village Council | 42 | 27 | 216 | 48 | 60.0 | 26.6 | 33.4 | 34,104 | 11,725 | 30,112 | 10,353 | 31,024 | 45,829 | 40,465 |
| Pelican Utility Company | 209 | 181 | 178 | 49 | 15.1 | 1.9 | 13.3 | 14,724 | 4,680 | - | - | 11,442 | 19,405 | - |
| Perryville, City of | 108 | 36 | 241 | 0 | 30.0 | 9.2 | 20.8 | 19,469 | - | 13,534 | - | 11,214 | 19,469 | 13,534 |
| Pilot Point Village Council | 94 | 44 | 279 | 0 | 31.7 | 17.0 | 14.7 | 30,069 | - | 21,668 | - | 32,181 | 30,069 | 21,668 |
| Port Heiden, City of | 126 | 52 | 178 | 2 | 30.0 | 8.2 | 21.8 | 20,774 | 688 | 14,442 | 478 | 12,031 | 21,462 | 14,920 |
| Puvurnaq Power Company (Kongiganak) (I) | | | | | | | | - | - | - | - | 0 | - | - |
| Ruby, City of | 210 | 89 | 179 | 56 | 54.0 | 17.0 | 37.0 | 81,704 | 60,284 | 70,798 | 52,237 | 64,915 | 141,988 | 123,034 |
| Sand Point Electric Company | 989 | 274 | 378 | 43 | 29.9 | 17.7 | 12.2 | 214,049 | 95,829 | 148,453 | 66,462 | 370,486 | 309,878 | 214,915 |
| Sheldon Point, City of | 163 | 38 | 181 | 37 | 29.0 | 20.9 | 8.1 | 14,580 | 12,663 | 9,885 | 8,585 | 30,559 | 27,243 | 18,470 |
| St. George Municipal Electric Utility | 195 | 52 | 406 | 52 | 31.5 | 19.7 | 11.8 | 44,117 | 24,535 | 31,668 | 17,612 | 70,750 | 68,652 | 49,280 |
| St. Paul Municipal Electrqic Utility | 767 | 150 | 498 | 63 | 35.0 | 9.5 | 25.5 | 149,310 | 136,455 | 113,400 | 103,637 | 121,142 | 285,765 | 217,037 |
| Stevens Village Energy Systems | 102 | 40 | 101 | 37 | 55.0 | 17.1 | 37.9 | 21,161 | 19,610 | 18,401 | 17,052 | 18,495 | 40,771 | 35,453 |
| Takotna Community Association | 62 | 31 | 192 | 65 | 48.1 | 21.7 | 26.4 | 26,228 | 17,709 | 22,166 | 14,966 | 33,265 | 43,937 | 37,132 |
| Tanalian Electric cooperative, Inc. | 69 | 53 | 262 | 0 | 33.7 | 16.5 | 17.2 | 37,363 | - | 27,855 | - | 38,469 | 37,363 | 27,855 |
| Tanana Power Company | 351 | 105 | 231 | 28 | 42.7 | 17.3 | 25.4 | 91,532 | 37,357 | 74,917 | 30,575 | 86,851 | 128,889 | 105,492 |
| Tatitlek Electric Utility | 114 | 39 | 176 | 18 | 39.0 | 15.4 | 23.6 | 22,769 | 6,873 | 18,084 | 5,459 | 14,708 | 29,643 | 23,543 |
| Telida Village Utility (I) | | | | | | | | - | - | - | - | 0 | - | - |
| Teller Power Company | 274 | 79 | 192 | 20 | 53.8 | 35.8 | 18.0 | 77,535 | 28,018 | 67,136 | 24,260 | 110,892 | 105,553 | 91,396 |
| Tenakee Springs | 111 | 86 | 184 | 23 | 34.0 | 18.3 | 15.7 | 43,150 | 7,027 | 32,315 | 5,263 | 50,042 | 50,178 | 37,578 |
| Thorne Bay Public Utility | 650 | 201 | 313 | 50 | 25.0 | 6.2 | 18.8 | 103,396 | 53,179 | 60,377 | 31,054 | 68,150 | 156,575 | 91,431 |

| Utility/Community | Population | Residential Customers | Average monthly Eligible kwh per: Residential Customer (kwh) | Average monthly Eligible kwh per: Community Fac./Pop. (kwh) | Utility's Avg. Residential Rate (based on 500 kwh) (cents/kwh) | Power Cost Equalization Rate (cents/kwh) | Effective Residential Rate (cents/kwh) | 11.3 cents residential $/year | 11.3 cents com fac $/year | 17.0 cents residential $/year | 17.0 cents com fac $/year | Total PCE Payment / Existing Formula | Total Payment / 11.3 cent "Lifeline" | Total Payment / 17.0 cent "Lifeline" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tlingit-Haida Regional Electrical Authority | | | | | | | | - | - | - | - | 0 | - | - |
| Angoon | 601 | 174 | 439 | 26 | 33.9 | 18.0 | 15.9 | 165,161 | 41,736 | 123,505 | 31,209 | 214,998 | 206,896 | 154,715 |
| Chilkat Valley | 129 | 91 | 250 | 0 | 33.9 | 18.0 | 15.9 | 61,728 | - | 46,159 | - | 53,920 | 61,728 | 46,159 |
| Hoonah | 903 | 298 | 440 | 51 | 33.9 | 18.0 | 15.9 | 282,862 | 123,793 | 211,520 | 92,571 | 413,613 | 406,654 | 304,091 |
| Kake | 696 | 255 | 460 | 37 | 33.9 | 18.0 | 15.9 | 242,046 | 69,245 | 180,999 | 51,780 | 335,507 | 311,291 | 232,779 |
| Kasaan | 41 | 23 | 361 | 1 | 33.9 | 18.0 | 15.9 | 21,832 | 78 | 16,325 | 58 | 21,615 | 21,909 | 16,384 |
| Klawock | 759 | 336 | 394 | 8 | 33.9 | 18.0 | 15.9 | 318,931 | 15,683 | 238,493 | 11,728 | 338,214 | 334,614 | 250,221 |
| Total | | | | | | | | - | - | - | - | 0 | - | - |
| Tuluksak Traditional Power Utility | 375 | 67 | 102 | 1 | 35.0 | 17.5 | 17.5 | 19,369 | 1,440 | 14,710 | 1,094 | 15,661 | 20,808 | 15,804 |
| Tuntutuliak Community Service Assn. | 300 | 73 | 277 | 10 | 46.0 | 24.0 | 22.0 | 84,281 | 12,039 | 70,436 | 10,062 | 71,772 | 96,320 | 80,498 |
| Umnak Power Company (Nikolski) | 35 | 15 | 197 | 39 | 45.0 | 23.1 | 21.9 | 11,960 | 5,477 | 9,937 | 4,551 | 17,578 | 17,437 | 14,488 |
| Unalakleet Vallkey Electric Cooperative | 764 | 250 | 333 | 49 | 24.9 | 11.4 | 13.5 | 135,665 | 60,796 | 78,805 | 35,315 | 178,455 | 196,461 | 114,120 |
| Unalaska Electric Utility | 4,083 | 440 | 422 | 45 | 20.0 | 6.1 | 13.9 | 160,776 | 192,146 | 55,440 | 66,257 | 227,131 | 352,922 | 121,697 |
| Unqusraq Power Company (Newtok) | 262 | 49 | 320 | 5 | 54.0 | 31.5 | 22.5 | 80,316 | 6,481 | 69,594 | 5,616 | 71,539 | 86,797 | 75,210 |
| Venetie Village Electric (1) | | | | | | | | - | - | - | - | 0 | - | - |
| White Mountain Utilities | 209 | 67 | 188 | 42 | 48.0 | 21.8 | 26.2 | 55,334 | 38,237 | 46,740 | 32,298 | 61,512 | 93,571 | 79,038 |
| Yakutat Power | 801 | 257 | 432 | 28 | 22.2 | 7.6 | 14.6 | 117,655 | 29,685 | 56,129 | 14,162 | 139,047 | 147,340 | 70,291 |
| | | | | | | | | - | - | - | - | 0 | - | - |
| Akutan Electric Utility (8) | 436 | 43 | 317 | 21 | 32.3 | 15.8 | 16.5 | 34,356 | 23,430 | 25,031 | 17,071 | 35,420 | 57,786 | 42,101 |
| Alutiiq Power Company (Karluk) (11) | 71 | 13 | 318 | 9 | 53.3 | 31.3 | 22.0 | 20,846 | 3,154 | 18,017 | 2,726 | 20,581 | 24,000 | 20,743 |
| Buckland, City of (10) | 415 | 80 | 328 | 0 | 33.0 | 14.8 | 18.2 | 68,287 | - | 50,350 | - | 28,001 | 68,287 | 50,350 |
| Chenega Bay (9) | 95 | 29 | 317 | 8 | 29.5 | 18.8 | 10.7 | 20,098 | 1,637 | 13,803 | 1,124 | 12,574 | 21,734 | 14,928 |
| Kobuk Valley Electric Company (10) | 80 | 34 | 181 | 57 | 53.0 | 31.1 | 21.9 | 30,710 | 22,766 | 26,512 | 19,654 | 40,186 | 53,476 | 46,166 |
| Koyukuk, City of (6) | 125 | 56 | 107 | 6 | 45.0 | 18.1 | 26.9 | 24,304 | 3,240 | 20,193 | 2,692 | 7,467 | 27,544 | 22,885 |
| Platinum Power Plant (7) (1) | 44 | 21 | 74 | 4 | 50.0 | 26.0 | 24.0 | 7,191 | 840 | 6,132 | 716 | 6,277 | 8,031 | 6,848 |
| Puvurnaq Power Company (Kongiganak) (11) | 294 | 68 | 307 | 18 | 45.0 | 20.9 | 24.1 | 84,384 | 21,731 | 70,111 | 18,056 | 64,490 | 106,115 | 88,167 |
| Telida Village Utility (11) | | | | | | | | - | - | - | - | 5,467 | - | - |
| Venetie Village Electric (11) | 182 | 63 | 181 | 37 | 51.0 | 13.2 | 37.8 | 54,387 | 31,764 | 46,578 | 27,203 | 29,623 | 86,151 | 73,782 |
| | | | | | | | | 16,095,297 | 4,916,680 | 11,212,889 | 3,373,261 | 19,201,515 | 21,011,977 | 14,586,150 |
| | | | | | | | | 21,011,977 | | 14,586,150 | | | | |

Additional Communities
Lifeline Rate Program
Residential Only -- No Community Facility Estimates
(Source: 1995 Alaska Electric Power Statistics)

| | Resid. Rates above 11.3 cents | Resid. Rates above 17.0 cents | Number of resid. customers | Resid. Payment / 11.3 cents | Resid. Payment / 17.0 cents |
|---|---|---|---|---|---|
| Glennallen | 19.5 | 19.5 | 993 | $ 341,989 | $ 104,265 |
| Kodiak | 16.2 | | 4,150 | $ 854,070 | |
| Matanuska Electric | 11.5 | | 29,848 | $ 250,723 | |
| Seward | 12.2 | | 1,511 | $ 57,116 | |
| Valdez | 16.9 | | 1,423 | $ 334,690 | |
| | | | | $ 1,838,588 | $ 104,265 |

"Rates" are based on 500 kWh per month and include fixed charges.

# ATTACHMENT 7

## OPTION 1A

UNIVERSAL SERVICE FUND
150% OF STATEWIDE AVERAGE RESIDENTIAL RATE

OPTION 1A

# Power Cost Equalization / Universal Service Fund
# Projection of Revenues and Expenditures
# (FY 2000 - 2013)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 5,527 | 6,551 | 6,626 | 6,700 | 6,775 | 6,850 | 6,862 |
| Contribution from PCE Fund | 10,173 | 9,463 | | | | | |
| Contribution from Universal Service Fund | | | 8,074 | 8,000 | 7,925 | 7,850 | 7,838 |
| Total | 15,700 | 16,014 | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 |
| **Expenditures** | | | | | | | |
| PCE Expenditure | 15,700 | 16,014 | | | | | |
| Lifeline Rate Expenditure (17.0 cent benchmark) | | | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 |
| **PCE Fund** | | | | | | | |
| FY 2000 Appropriation of SE Loan | 20,000 | | | | | | |
| FY 2000 Appropriation of General Funds | 0 | | | | | | |
| Beginning of year balance | 23,200 | 14,114 | | | | | |
| Interest earnings (6% of average balance) | 1,087 | 563 | | | | | |
| Expenditure from PCE Fund | 10,173 | 9,463 | | | | | |
| End of year balance | 14,114 | 5,214 | | | | | |
| **Universal Service Fund** | | | | | | | |
| Required Cents/kWh at 5.0 Billion kWh/year | | | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Projected Four Dam Pool Debt Service: | 9,212 * | 10,918 | 11,043 | 11,167 | 11,292 | 11,417 | 11,436 |

* (Estimate = $10.8 million debt service minus $1.6 million "self-help")

Notes:

All dollars in thousands

PCE Fund balance - $3.2 million at end of FY99

OPTION 1A

# Power Cost Equalization / Universal Service Fund
# Projection of Revenues and Expenditures

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 6,872 | 6,884 | 6,895 | 6,906 | 6,917 | 6,929 | 6,941 |
| Contribution from PCE Fund | | | | | | | |
| Contribution from Universal Service Fund | 7,828 | 7,816 | 7,805 | 7,794 | 7,783 | 7,771 | 7,759 |
| Total | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 |
| **Expenditures** | | | | | | | |
| Lifeline Rate Expenditure (17.0 cent benchmark) | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 | 14,700 |
| **Universal Service Fund** | | | | | | | |
| Required Cents/kWh at 5.0 Billion kWh/year | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Projected Four Dam Pool Debt Service: | 11,454 | 11,473 | 11,491 | 11,510 | 11,529 | 11,549 | 11,568 |

# ATTACHMENT 8

## OPTION 1B

UNIVERSAL SERVICE FUND
100% OF STATEWIDE AVERAGE RESIDENTIAL RATE

OPTION 1B

# Power Cost Equalization / Universal Service Fund
# Projection of Revenues and Expenditures
# (FY 2000 - 2013)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 5,527 | 6,551 | 6,626 | 6,700 | 6,775 | 6,850 | 6,862 |
| Contribution from PCE Fund | 10,173 | 9,463 | | | | | |
| Contribution from Universal Service Fund | | | 16,274 | 16,200 | 16,125 | 16,050 | 16,038 |
| Total | 15,700 | 16,014 | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 |
| **Expenditures** | | | | | | | |
| PCE Expenditure | 15,700 | 16,014 | | | | | |
| Lifeline Rate Expenditure (11.3 cent benchmark) | | | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 |
| **PCE Fund** | | | | | | | |
| FY 2000 Appropriation of SE Loan | 20,000 | | | | | | |
| FY 2000 Appropriation of General Funds | 0 | | | | | | |
| Beginning of year balance | 23,200 | 14,114 | | | | | |
| Interest earnings (6% of average balance) | 1,087 | 563 | | | | | |
| Expenditure from PCE Fund | 10,173 | 9,463 | | | | | |
| End of year balance | 14,114 | 5,214 | | | | | |
| **Universal Service Fund** | | | | | | | |
| Required Cents/kWh at 5.0 Billion kWh/year | | | 0.33 | 0.32 | 0.32 | 0.32 | 0.32 |
| Projected Four Dam Pool Debt Service: | 9,212 * | 10,918 | 11,043 | 11,167 | 11,292 | 11,417 | 11,436 |

* (Estimate = $10.8 million debt service minus $1.6 million "self-help")

**Notes:**

All dollars in thousands.

PCE Fund balance = $3.2 million at end of FY99.

1/27/99

OPTION 1B

# Power Cost Equalization / Universal Service Fund
# Projection of Revenues and Expenditures

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 6,872 | 6,884 | 6,895 | 6,906 | 6,917 | 6,929 | 6,941 |
| Contribution from PCE Fund | | | | | | | |
| Contribution from Universal Service Fund | 16,028 | 16,016 | 16,005 | 15,994 | 15,983 | 15,971 | 15,959 |
| Total | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 |
| **Expenditures** | | | | | | | |
| Lifeline Rate Expenditure (11.3 cent benchmark) | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 | 22,900 |
| **Universal Service Fund** | | | | | | | |
| Required Cents/kWh at 5.0 Billion kWh/year | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Projected Four Dam Pool Debt Service: | 11,454 | 11,473 | 11,491 | 11,510 | 11,529 | 11,549 | 11,568 |

# ATTACHMENT 9

## OPTION 2

MODIFIED PCE
GENERAL FUND ENDOWMENT

OPTION 2

# Power Cost Equalization / Modified and Capped Projection of Revenues and Expenditures (FY 2000 - 2013)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 5,527 | 6,551 | 6,626 | 6,700 | 6,775 | 6,850 | 6,862 |
| Contribution from Endowment | 10,173 | 9,463 | 9,708 | 9,961 | 10,219 | 10,150 | 10,138 |
| Total | 15,700 | 16,014 | 16,334 | 16,661 | 16,994 | 17,000 | 17,000 |
| **Expenditures** | | | | | | | |
| PCE Expenditure Capped at $17 Million per Year | 15,700 | 16,014 | 16,334 | 16,661 | 16,994 | 17,000 | 17,000 |
| **Endowment** | | | | | | | |
| FY 2000 Appropriation of SE Loan | 20,000 | | | | | | |
| FY 2000 Appropriation of General Funds | 75,000 | | | | | | |
| Beginning of year balance | 98,200 | 93,614 | 89,484 | 84,853 | 79,685 | 73,940 | 67,922 |
| Interest earnings (6% of average balance) | 5,587 | 5,333 | 5,078 | 4,792 | 4,475 | 4,132 | 3,771 |
| Expenditure from Endowment | 10,173 | 9,463 | 9,708 | 9,961 | 10,219 | 10,150 | 10,138 |
| End of year balance | 93,614 | 89,484 | 84,853 | 79,685 | 73,940 | 67,922 | 61,555 |
| Projected Four Dam Pool Debt Service: | 9,212 * | 10,918 | 11,043 | 11,167 | 11,292 | 11,417 | 11,436 |

* (Estimate = $10.8 million debt service minus $1.6 million "self-help")

**Notes:**

All dollars in thousands.

PCE Fund balance = $3.2 million at end of FY99.

Four Dam Pool "self-help" estimated only for FY 2000.

OPTION 2

# Power Cost Equalization / Modified and Capped Projection of Revenues and Expenditures

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 6,872 | 6,884 | 6,895 | 6,906 | 6,917 | 6,929 | 6,941 |
| Contribution from Endowment | 10,128 | 10,116 | 10,105 | 10,094 | 10,083 | 10,071 | 10,059 |
| Total | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 |
| **Expenditures** | | | | | | | |
| PCE Expenditure Capped at $17 Million per Year | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 | 17,000 |
| **Endowment** | | | | | | | |
| Beginning of year balance | 61,555 | 54,817 | 47,686 | 40,139 | 32,150 | 23,694 | 14,743 |
| Interest earnings (6% of average balance) | 3,389 | 2,986 | 2,558 | 2,106 | 1,627 | 1,120 | 583 |
| Expenditure | 10,128 | 10,116 | 10,105 | 10,094 | 10,083 | 10,071 | 10,059 |
| End of year balance | 54,817 | 47,686 | 40,139 | 32,150 | 23,694 | 14,743 | 5,267 |
| Projected Four Dam Pool Debt Service: | 11,454 | 11,473 | 11,491 | 11,510 | 11,529 | 11,549 | 11,568 |

# ATTACHMENT 10

## OPTION 3

MODIFIED PCE
DECLINING GENERAL FUND APPROPRIATIONS

OPTION 3

# Power Cost Equalization / Modified and Capped Projection of Revenues and Expenditures (FY 2000 - 2013)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 5,527 | 6,551 | 6,626 | 6,700 | 6,775 | 6,850 | 6,862 |
| Contribution from PCE Fund | 9,473 | 8,449 | 8,374 | 8,300 | 8,225 | 8,150 | 8,138 |
| Total | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| **Expenditures** | | | | | | | |
| PCE Expenditure Capped at $15 Million per Year | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| **PCE Fund** | | | | | | | |
| FY 2000 Appropriation of SE Loan | 20,000 | | | | | | |
| General Fund appropriations | 15,000 | 12,500 | 10,000 | 7,500 | 5,000 | 2,500 | 0 |
| Beginning of year balance | 38,200 | 43,235 | 47,126 | 48,829 | 48,210 | 45,131 | 39,444 |
| Interest earnings (6% of average balance) | 2,008 | 2,341 | 2,576 | 2,681 | 2,646 | 2,463 | 2,122 |
| Expenditure from PCE Fund | 9,473 | 8,449 | 8,374 | 8,300 | 8,225 | 8,150 | 8,138 |
| End of year balance | 30,735 | 37,126 | 41,329 | 43,210 | 42,631 | 39,444 | 33,428 |
| Projected Four Dam Pool Debt Service: | 9,212 * | 10,918 | 11,043 | 11,167 | 11,292 | 11,417 | 11,436 |

* (Estimate = $10.8 million debt service minus $1.6 million "self-help")

**Notes:**

All dollars in thousands.

PCE Fund balance = $3.2 million at end of FY99.

Four Dam Pool "self-help" estimated only for FY 2000.

1/27/99

OPTION 3

# Power Cost Equalization / Modified and Capped Projection of Revenues and Expenditures

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| 60% of Four Dam Pool Debt Service | 6,872 | 6,884 | 6,895 | 6,906 | 6,917 | 6,929 | 6,941 |
| Contribution from PCE Fund | 8,128 | 8,116 | 8,105 | 8,094 | 8,083 | 8,071 | 8,059 |
| Total | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| **Expenditures** | | | | | | | |
| PCE Expenditure Capped at $15 Million per Year | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| **PCE Fund** | | | | | | | |
| General Fund appropriations | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Beginning of year balance | 33,428 | 27,062 | 20,327 | 13,198 | 5,653 | (2,333) | (10,786) |
| Interest earnings (6% of average balance) | 1,762 | 1,380 | 976 | 549 | 97 | (382) | (889) |
| Expenditure from PCE Fund | 8,128 | 8,116 | 8,105 | 8,094 | 8,083 | 8,071 | 8,059 |
| End of year balance | 27,062 | 20,327 | 13,198 | 5,653 | (2,333) | (10,786) | (19,734) |
| Projected Four Dam Pool Debt Service: | 11,454 | 11,473 | 11,491 | 11,510 | 11,529 | 11,549 | 11,568 |