HB

238

Kay Brown

Alaska State Legislature
House of Representatives

MEMORANDUM

TO: Representative Dave Donley, Chair
House Labor and Commerce Committee

FROM: Representative Kay Brown

DATE: May 12, 1987

SUBJ: HB 238 and 239 - Least Cost Energy Policy

As a result of last Thursday's teleconference and other comments I have recieved on HB 238 and 239, I would like to suggest that the Labor and Commerce Committee consider making a few changes and clarifications in the bills. Please find attached a summary of these recommended changes.

As you know, some of the issues raised by testimony given during the teleconference require consideration in the larger context of overall state energy policy. Because this will be a major focus of the House Resources Committee over the interim, I would again urge that the Labor and Commerce Committee pass these bills along with minor clarifying amendments. I welcome and encourage individual members of the Labor and Committee who have an interest in energy issues to work closely with the Resources Committee on this legislation.

Once again, thank you for scheduling the teleconference on the bills. As you heard from the various witnesses, there is broad support to establish least cost energy planning requirements for the Railbelt.

cc: Labor and Commerce Committee members
Representative Sam Cotten, Co-Chair, Resources Committee
HB 238/239 co-sponsors

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5/13/87

SUGGESTED AMENDMENTS
by Representative Brown

House Bill 238

Section 1

Sec 42.05.294. Advance Resource Plans.

1. **.294(a) and (a)(1)**: Clarify that a long-term, 20-year power forecast is not optional, but required as part of the Advance Resource Plan. Also, the plan should include "base", "low" and "high" energy demand scenarios.

(See attached work draft language.)

2. **.294(a)(6)**: Clarifying the distinction in subpart (a)(6) between a qualifying cogenerator and a small power producer eligible for system interconnection pursuant to PURPA. Also add load management.

(See attached work draft language.)

3. **.294(a)(8)**: Clarify that the reference in subpart (a)(8) to "load management efforts, load research, and energy end-use analysis efforts made by the utility" are the same as the efforts undertaken pursuant to Sec. 3 - Load Management Reports (AS 42.05.415).

(See attached work draft language.)

4. **.294(a)(9)**: Require that the recommended electrical energy resource supply plan include not only a supply plan but a proposal for implementation of the plan.

(See attached work draft language.)

5. **New subpart - .294(a)(10)**: Add a new subpart (a)(10) allowing the Commission to require additional information.

(See attached work draft language.)

6. **New subpart - .294(b)**: Clarification that forecasts and projections for the Advance Resource Plan should be for a 20 year period.

(See attached work draft language.)

7. **.294(d)-(Fomerly subsection (c))**: Redrafted to provide tnat the Commission may not only approve, but after a public hearing may also propose modifications to, a utility's Advance Resource Plan.

(See attached work draft language.)

Section 2

8. **.411(d)**: The phrase "tariff" is an overly broad term and should be replaced in this section with the terms "rate" or "rate revision".

(See attached work draft language.)

Section 3

(No changes proposed.)

Section 4

(No changes proposed.)

Section 5

(No changes proposed.)

SUGGESTED AMENDMENTS
by Representative Brown

House Bill 239

Only one change is proposed for HB 239. In Section 3, the unexpended and unobligated portions of the appropriations from the Railbelt Energy Fuind should lapse back into the Railbelt Energy Fund (and not lapse into the general fund). This change will correct an oversight in the original draft.

(Work draft forthcoming.)

MEMORANDUM

To: Rep. Dave Donley
Chairman
House Labor & Commerce
Committee

Date: May 7, 1987

Through: Beck Bear
Information Officer
DC&ED

From: Ted Moninski II
Executive Director
Alaska Public Utilities Commission

Subject: HB238 & 239

This memorandum presents the Alaska Public Utilities Commission's (APUC or Commission) position statement on the above referenced bills. At this time, the Commission will only present comments directed at the substance of the legislation. In a separate filing, to be made on an expedited basis, the Commission will respond more precisely to HB239 by preparing a fiscal note.

In general terms, the Commission supports the concepts of least cost energy planning, load management and conservation embodied in the proposed legislation. The Commission does not, however, endorse the suggested changes to AS 42.05.651 relating to the compensation awards for interested persons who desire to participate in proceedings before the Commission. The APUC's section-by-section comments are presented in the following paragraphs.

Section 1

AS 42.05.294 - Advanced Resource Plans

(a). This subsection requires a number of items, related to load management, that the Commission has already required utilities to file. We have attached a copy of the Commission's General Order 13, which outlines the load research and management requirements now imposed on utilities. This section goes beyond those requirements, however, in two ways. First, there is the regular four year reporting requirements. Second, there is a greater emphasis on end use efficiency improvements.

(b) and (c). These subsections will require a sizable expenditure of both Commission and Staff time. The Commission will respond more fully to its estimated resource needs imposed by these sections as well as other parts of the bill in subsequent communication.

The Commission endorses the concepts presented in this portion of the bill and expects these reports to improve planning and efficient use of the state's resources for the future.

AS 42.05.296 Permits for Certain Electrical Utility Construction

Before making comments on the merits of this section, the Commission has two proposed language clarifications. First, on page 2, line 26, between "a" and "plant", the Commission believes that the word "generation" should be inserted, to clarify exactly what type of plant is covered under this section.

Second, the Commission has a question regarding the last sentence of this section, which reads:

> "The commission may not issue a permit unless it finds that the project is necessary to meet future demand that cannot be met by cost-effective load management alternatives, including conservation and energy end-use efficiency improvements."

The Commission notes that cogeneration and small power producers qualified under PURPA were not mentioned. Was this deletion an oversight, or does the legislature want those projects excluded from this review?

Beyond that question, the Commission also supports the concept of prior approval of generation and transmission plant, but is concerned about the staff resources needed to review these requests in the future.

Section 2

AS 42.05.411(d) and AS 42.05.415 may require a revision to the Commission's regulations on simplified rate making (3 AAC 48.700-790). The Commission issued these regulations pursuant to section AS 42.05.381(e), passed in 1986. Under the Commission's regulations, cooperatives utilizing this procedure have only to make an informational filing to the Commission and provide for public notice to change the cooperative's rates. Section 2 of HB 238 would require the Commission to review these automatic rate changes, which may obviate the benefits underlying passage of AS 42.05.381(e).

The Commission is also concerned about the word tariff as used in Section 2. In utility jargon, a tariff contains not only the rates, but a utility's rules and regulations for service as well. The Commission believes that "rate revision" is perhaps a better term, unless this section is intended to apply to any tariff change including those sections not related to rates.

Section 3

As noted above, the Commission already requires the utilities subject to these proposed reporting requirements to make similar, but not as extensive, studies.

The Commission supports the concepts of efficiency and load management and reiterates its belief that these requirements are in the public interest.

Section 4

AS 42.05.651(a) and (c) - Allocation of Costs

This section expands the Commission's cost allocation process to include both advance payment to "interested persons" who desire to participate in proceedings before the Commission and then to ultimately determine the amount of total costs of such participation to allocate to the parties.

This provision presents several problems for both administration and the Commission's decision making process. First, the Commission would be required to "advance" payment to an interested person who could not otherwise adequately participate. These advance funds would necessarily have to be appropriated to the Commission and later recovered via the cost allocation process. It would be extremely difficult to forecast the level of such appropriation. There is also a potential liability to the State in such a case where the Commission later decided that as a matter of law and equity the full cost associated with an intervenor's participation should not be allocated to the parties. Since these funds will have been already been expended and since the intervenor had to demonstrate financial need in the first instance, the state would be required to absorb the loss.[1]

From a decision-making standpoint, the Commission would be required to examine and pass upon the expected value of an interested person's contribution as well as the person's financial need well in advance of any substantive participation. Not only would this be a time-consuming exercise, but guidelines for considering such requests would have to be promulgated in the form of regulations.

While the Commission encourages the participation of all interested entities in its regulatory proceedings, the approach presented in Section 4 is both cumbersome and costly and would, perhaps, be more efficiently and economically addressed through the adequate funding of an appropriate consumer advocate.

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[1]This problem could, in part, be mitigated by an amendment to AS 42.05.651 which would make the utility cost allocation procedure similar to that provided for oil pipeline cases in AS 42.06.610. The change would enable the Commission to allocate costs in phases rather than only once at the end of the case. This "phased" allocation would stimulate objections, if any, earlier in the proceeding before substantial sums have been expended. It would also have the effect of improving the turnaround time for the collection of revenues previously advanced by the State. The Commission recommends consideration of this approach even if the substance of this bill is changed.

STATE OF ALASKA

THE ALASKA PUBLIC UTILITIES COMMISSION

Before Commissioners: Carolyn S. Guess, Chairman
Marvin R. Weatherly
Susan M. Knowles
Diana E. Snowden
Louis E. Agi

In the Matter of the Investigation into the Adoption of Regulations Establishing Policy and Informational Requirements for Regulated Electric Utilities in the Preparation of Cost-of-Service Studies and Rate Design Proposals	U-83-47 GENERAL ORDER NO. 13

ORDER ESTABLISHING LOAD RESEARCH AND EXPERIMENTAL AND INNOVATIVE RATE DESIGN GUIDELINES AND PROCEDURES SUBJECT TO REVIEW OF ADDITIONAL COMMENTS

BY THE COMMISSION:

Introduction

In Order No. 1 of this proceeding, issued June 1, 1983, the Commission opened a docket of investigation for the purpose of developing regulations to set forth specific policy and informational guidelines for regulated electric utilities to follow in the preparation of cost-of-service (COS) studies and rate design proposals consistent with previously articulated Commission policy. Appended to Order No. 1 was a Notice of Inquiry containing questions formulated to elicit responses from all the electric utilities as to their views on various COS and rate design issues. In addition, the Commission Staff (Staff) and regulated Class A electric utilities were named parties to this proceeding and were directed to respond in writing to the Notice of Inquiry by July 15, 1983. (The response date was later extended to July 20, 1983, in Order No. 2 of this proceeding.)

After examining the responses to the Notice of Inquiry by the utilities, Staff, and nonaffiliated parties, the Commission's consultant in this proceeding, Dr. J. Robert Malko, drafted

proposed regulations regarding COS studies and rate design and, as a complement to the regulations, a proposed general order regarding load research programs and other related activities. In order to maximize participation by interested parties in the development of these regulations and to more efficiently utilize the Commission's hearing process, an informal workshop was scheduled and held on October 3, 1983, between known interested persons and Dr. Malko in order to refine the draft regulations and general order.

The proposed regulations and general order which were noticed to the public on October 17, 1983, incorporated a number of modifications suggested during the workshop as relayed by Dr. Malko. Order No. 4 of this proceeding, issued October 14, 1983, established November 18, 1983, as the date by which comments or proposed revisions to the proposed regulations and/or general order were to be filed and scheduled a public hearing for November 29, 1983, to consider the adoption of the proposed regulations on COS studies and rate design proposals.

As a result of testimony and comments received on the proposed general order, the Commission has established administrative guidelines for load research activities and experimental and innovative rate design. These administrative guidelines include such considerations as applicability, timetables for implementation, and resources. The Commission also made relatively minor changes in the proposed order itself. Given the impact of the administrative guidelines, the Commission will allow comments on the contents of this Order.

Load research is important in meeting the requirements of the federal Public Utility Regulatory Policies Act (PURPA). It is essential in providing representative usage information to utilities when making decisions in a COS study, forecasting, and system planning, which will reduce guesswork and uncertainty in these areas.

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In establishing guidelines for experimental and innovative rate designs, the Commission's intent is to recognize the need for development of these areas and allow the utilities to generate in a timely manner information about alternative rate forms that may prove to be cost-effective.

LOAD RESEARCH ACTIVITIES

Applicability[1]

The guidelines established in this Order apply to and are adopted for load research activities for an electric utility that sells 100,000,000 kilowatt-hours (KWH) or more annually.

Timetable[2]

The following timetable will apply to utilities undergoing implementation of load research activities pursuant to 3 AAC 48.560.

By no later than July 1, 1984, each electric utility will present a status report to the Commission concerning its current load research activities, if any.

By no later than October 1, 1984, each electric utility will present to the Commission a formal plan which is in substantial compliance with the guidelines established in this Order.

The Commission intends to review, comment on, and approve, if deemed appropriate, the formal plan in time for the electric utility to begin actual implementation of its plan for load research activities by no later than January 15, 1985.

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[1]The Commission observes that, under the provisions of U-81-48(19), as modified by U-81-48(21), Golden Valley Electric Association, Inc., has responded to separate filing requirements regarding load research and management/experimental rate design programs.

[2]Alaska Electric Light & Power Company (AEL&P) is excepted from this schedule. While the guidelines established in this Order are applicable to AEL&P, its time frame for implementation is being governed by a separate action (Docket U-83-16).

Resources

The Commission encourages all electric utilities to share information, consulting services and other resources and to develop appropriate task forces in order to promote efficiencies and to reduce costs.

Guidelines

(1) The load research plan should clearly define the expected uses of the load research data, such as forecasting electric demand, developing data for cost-of-service studies, and providing billing information to customers.

(2) Customer groups or subgroups should be selected for load research programs and relevant sampling techniques established for each group. The following techniques are suggested:

(a) Assign meters to all large industrial and commercial customers that have a maximum demand (KW) greater than a specified level.

(b) Develop a statistical sampling procedure to allocate meters to a portion of the remaining commercial and large power customers. Because this is such a heterogeneous group, it may not be sufficient to stratify the sample only by consumption levels. The sampling procedure could also consider, in addition to usage, such variables as maximum demand or business classification.

(c) Formulate a statistical sampling procedure to allocate meters to residential customers. For this group, which is a relatively homogenous class, sampling by annual (average) consumption levels or strata is probably adequate to obtain a statistically valid sample.

(d) Determine the number of meters that should be allocated to each category or subgroup within a customer class. Because meter failures and other problems may decrease the amount of usable data, the number of meters allocated to each category or

subgroup should be sufficiently more than the minimum number necessary to obtain a statistically valid sample, which is defined as a sample which specifies 90 percent confidence level and a plus or minus 10 percent error level.

(e) Develop a load management program with sufficient flexibility so that customers that significantly change their level of consumption can be assigned to a different category or subgroup.

(f) If resources for load research are very limited, allocate meters and other equipment in such a way as to maximize the information needed to meet the objectives of the program. For example, the meters could be allocated according to the customer group or subgroup contribution to system peak demand or relative growth level in the customer group.

(3) The load research plan should also explain how the utility will:

(a) Identify and obtain the computer capability and programs that are needed to analyze the complex and voluminous load data that will be generated. To be useful, equipment must be able to analyze data on a timely basis.

(b) Select and install needed translators, readers, meters, and other related equipment.

(c) Survey customers to determine the important similarities and differences among customers in a category or subgroup for the purpose of developing and enhancing rate design options. Surveys should be taken both before and after the installation of meters and can be accomplished by written questionnaires, related personal interviews and other similar techniques.

(4) Twelve consecutive months of pertinent load data are needed before innovative rates should be implemented on a widespread basis. The Commission will consider less than

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12 consecutive months of load data provided that appropriate justification is provided by the utility. This data is useful in providing important information to customers concerning the potential impacts on their electricity bills and in analyzing changes in usage patterns caused by innovated rates.

(5) If adequate load data is currently available, the need for these preliminary activities is lessened.

INNOVATIVE AND EXPERIMENTAL RATE DESIGN

Applicability

The guidelines established in this Order apply to and are adopted for innovative and experimental rate designs for an electric utility that sells 100,000,000 KWH or more annually. The Commission recognizes that load research activities are an important and necessary component in the development of workable innovative and experimental rate design activities.

Timetable

The following timetable will apply to utilities undergoing implementation of innovative and experimental rate design activities.

As part of its formal load research plan (due no later than October 1, 1984), each electric utility will propose a specific date for the submittal of a plan for implementation of innovative and experimental rates. The Commission will consider the reasonableness and appropriateness of the proposed date for the submittal of the plan and, if deemed appropriate, may order an earlier or later date for the submittal of a formal innovative and experimental rate design plan.

Cost-Justification and Cost-Benefit Analysis

Appropriate cost-of-service analysis needs to be developed and presented in order to cost-justify innovative and experimental rate designs. However, pricing objectives need to be considered in the design of rates.

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Concerning cost-benefit analysis for innovative and experimental rate designs, estimates of potential costs and benefits need to be presented before the rates are actually implemented. Experience of utilities that have already implemented these types of rate design should prove to be helpful in estimating these potential costs and benefits. After the rates have been implemented and in effect for a reasonable time period, actual costs and benefits need to be presented.

Resources

The Commission encourages all electric utilities to share information and consider developing experiments on a group or collective basis.

Guidelines

(1) Innovative Rates (Commercial)

(a) An electric utility is required to propose a comprehensive plan for the development of innovative rate designs, such as time-of-day rates and interruptible rates, for large use customers (commercial).

(b) This plan should address issues relating to cost-justification for rate design, cost benefit analysis, customer education and information, necessary equipment and associated costs, appropriate load research activities, and a timetable for implementation and reporting of results.

(2) Experimental Rates (Residential)

(a) An electric utility is required to propose a well-defined plan for developing a rate design experiment for residential customers.

(b) This plan should address issues relating to cost-justification for rate design, cost-benefit analysis, customer education and information, necessary equipment, appropriate load research activities, and a timetable for implementation and reporting of results.

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ORDER

THE COMMISSION FURTHER ORDERS:

1. Unless modified based on the additional comments filed pursuant to Ordering Paragraph No. 2, this General Order shall be adopted substantially in the form incorporated herein, for the reasons articulated in the body of this Order.

2. An additional period not to extend beyond 4:00 p.m., May 15, 1984, shall be allowed for the submission of written comments on, or proposed revisions to, this General Order. Individuals wishing to submit comments should not reiterate arguments or issues already presented in this proceeding but may introduce issues or topics not previously considered as more fully discussed in the body of this Order.

3. An electric utility that sells 100,000,000 kilowatt-hours or more annually shall comply with the information reporting requirements and procedures prescribed in the body of this Order for load research and innovative and experimental rate design activities, except Golden Valley Electric Association, Inc., which must comply with the requirements of U-81-48(19 and 21).

4. Alaska Electric Light & Power Company shall comply with the guidelines established in this Order in conjunction with the time frame for the implementation of load research activities set forth in U-83-16.

DATED AND EFFECTIVE at Anchorage, Alaska, this 29th day of March, 1984.

BY DIRECTION OF THE COMMISSION
(Commissioners Marvin R. Weatherly and
Louis E. Agi, not participating)

(S E A L)

ALASKA PUBLIC UTILITIES COMMISSION
420 L Street, Suite 100
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Box 558
Homer, Ak. 99603
May 3, 1987

Rep. Dave Donley, Chairman
House Labor and Commerce Committee
Pouch V
Juneau, Ak. 99811

RE: HOUSE BILLS 238 AND 239

Dear Rep. Donley:

I am the chairperson of the Peninsula Ratepayers Organization, a Homer-based group that supports consumer interests in utility matters. We are particularly concerned and informed about the practices of Homer Electric Association.

House Bills 238 and 239, which would require and fund certain utilities to prepare advance resource plans and load management reports, are clearly in the best interests of Alaskans.

The important point about this legislation is that it will save consumers money. By requiring utilities to prepare realistic plans for meeting power needs and to manage power resources efficiently and economically, ratepayers will reap benefits far, far beyond the costs of preparing such reports.

Utilities do not now prepare such obviously-useful plans, and, as a result, consumers are paying heavily for poor decision-making. In HEA's case, the management and board committed ratepayers to the expense of an $18 million gas generator, known as "Soldotna 1." There is not only no foreseeable need for power from this generator on the Kenai Peninsula, there's no market for it elsewhere. Yet we are burdened with its debt, whether it runs or not. (When rates went up 12% last November, 9% was directly attributable to the new generator.) It is clear that such a purchase would not have been made had the plans required by HB 238 been performed and submitted for APUC approval.

If the utilities are to reap state subsidies in the form of Bradley Lake, interties, etc., it seems only logical that the state also require that they operate efficiently and economically.

I have previously passed on to the sponsor a few suggestions for small changes to the legislation. I urge you to adopt whatever refinements are needed and to pass the bill from committee.

Sincerely,

Nancy Lord

cc: Rep. Kay Brown

Kay Brown

Alaska State Legislature
House of Representatives

MEMORANDUM

TO: Representative Dave Donley, Chairman
House Labor and Commerce Committee

FROM: Representative Kay Brown

DATE: May 6, 1987

SUBJ: Hearings on HB 238 and HB 239

Thank you very much for scheduling a hearing for HB 238 and HB 239 regarding the establishment of a "least cost" energy policy for Alaska's larger electric utilities. I sincerely appreciate your decision to hold a teleconference on these bills in light of your busy schedule.

In anticipation of the hearing on these bills, please find enclosed a sectional analysis of the bills. I have also enclosed some information which describes least cost planning initiatives undertaken in other states. While the least cost energy concept is relatively new to Alaska, there is substantial precedent for least cost energy strategies being aggressively and successfully pursued elsewhere.

As you know, there is a widely recognized need to fundamentally reexamine the course of Alaska's energy policy. Over the past several years, state energy policy has evolved haphazardly as a series of subsidized energy programs and power facilities primarily intended to distribute oil wealth through subsidies and create new jobs with capital projects. However, the collapse of oil prices, the associated decline of general fund revenues, reduced need for power in the Railbelt, and the inescapable reality of very difficult budget reductions compells a reconsideration of this approach.

With regard to the proposed legislation, the basic proposal embodied in HB 238 is to establish planning requirements for the state's larger utilities to

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ensure serious consideration of "demand-side" energy efficiency and energy conservation improvements before development of expensive new "supply-side" generating capacity. HB 239, a companion appropriation measure, would assist utilities with the expense of developing least cost strategies in the Railbelt region and fund technical assistance through the Alaska Public Utilities Commission.

Experience elsewhere has shown that energy efficiency improvements can substantially reduce power demand and thereby obviate the need for expensive new capacity expansion. In fact, according to internationally recognized energy expert Amory Lovins, since 1979 the United States has obtained more than one hundred times as much new energy from efficiency improvements as from all net expansions of energy supply. Notably, some of the most ardent supporters of least cost efficiency strategies are private sector, investor-owned utilities which have come to recognize how much more cost-effective energy efficiency improvements can be as an alternative to developing new facilities.

While recognizing that these bills need additional refinement, it is my hope that these bills can be acted upon by the Labor and Commerce Committee this session and passed along to the Resources Committee for additional work over the interim. As you know, the House Resources Committee has taken the lead in addressing energy issues and plans work in this area over the interim.

Again, I appreciate your interest in these bills and look forward to working with the Committee on this legislation.

cc: House Labor and Commerce Committee

attachments

5/6/87

Sectional Analysis: HB 238 and 239

by

Representative Kay Brown

House Bill 238

This bill amends Title 42 statutes of the Alaska Public Utilities Commission to establish least cost energy planning requirements for Alaska's larger regulated utilities. The bill would establish requirements for the preparation of "advance resource plans" and more detailed "load management reports" for approval by the Commission. The development of new power facilities would require approval from the Commission and would be subject to a determination that future demand cannot be met by cost-effective efficiency and conservation improvements. Approval of rate increases would also be subject to a determination that the increase would be consistent with the development or maintenance of a least cost energy supply system. This bill also grants the APUC authority to compensate participants in commission proceedings under certain circumstances.

Section 1: Advance Resource Plans and New Facility Development

Regulated electric utilities with annual sales that exceed 300 million kilowatt hours are required to prepare and submit "advance resource plans" to the APUC for approval. The first advance resource plan would be due January 1, 1989 and every four years thereafter. Affected utilities include Chugach Electric Association, Anchorage Municipal Light and Power, Matanuska Electric Association, Golden Valley Electric Association, and Homer Electric Association. The required elements of the advance resource plans include:

- a long-term (20-year) demand forecast;
- description of existing system facilities and future facility requirements;
- description of factors affecting demand for electrical energy (such as population, urban development, industrial expansion);
- description of additional system capacity which could be achieved through energy conservation and end-use efficiency improvements;
- description of the utility's relationship to other energy systems and power suppliers;
- summary of efforts relating to load management and end-use analysis;

- a recommended electrical energy resource supply plan with projected plant retirement/additions, load management efforts, energy conservation and efficiency improvements.

The Commission shall establish consistent reporting methodology for the advance resource plans. The plans are subject to Commission approval.

For utilities with annual sales above 300 million kilowatts hours, the Commission must permit new facilities larger than 5 megawatts. This permit is subject to a determination by the Commission that any new facilities are necessary to meet future demand that cannot be met through cost-effective load management, conservation, and energy end-use improvments.

Section 2: Rate Increases Consistent with Load Management Reports

New or revised tariffs must be consistent with development or maintenance of the lowest cost electrical energy supply system for the utility under the utility's most recent load management report.

Section 3: Load Management Reports

Regulated electric utilities with annual sales that exceed 300 million kilowatt hours are required to prepare and submit "load management reports" to the APUC for approval every two years. The APUC shall establish guidelines for these reports. The reports shall:

- include the cost of service for specific classes of customers;
- assess opportunities for improved load management;
- evaluate potential for reduced system costs by reducing demand through end-use efficiency improvements;
- include current and projected load for the next 10 years;
- provide an analysis of energy end-use in the service area;
- review current and anticipated load research activities; and
- provide a comprehensive analysis of opportunities to lower total system costs.

The Commission has responsibility to coordinate preparation of the reports.

Sections 4: Authorization to Provide Intervenor Compensation

This section gives the Commission authority to compensate, through allocated costs, parties other than utilities.

Section 5: Eligibility for Intervenor Compensation

This section defines the circumstances under which parties other than utilities may be compensated. As a discretionary authority, the Commission may, during a proceeding, compensate an interested party other than a public utility for some or all costs if the Commission determines that such compensation is necessary to enable adequate participation and presentation of a significant position in which the party has a substantial interest.

The Commission may, after a proceeding, compensate an interested party other than a utility if the Commission finds that the participation was significant and has caused a substantial financial hardship.

House Bill 239

This companion measure would appropriate funds from the Railbelt Energy Fund to the Alaska Power Authority and the Alaska Public Utilities Commission to assist with the implementation of HB 238.

Section 1: Grants to Railbelt Utilities

$500,000 would be appropriated to the Alaska Power Authority for payment as grants to Railbelt utilities for the cost of preparing the end-use studies, load management reports, and advance resource plans required by HB 238.

Section 2: Least Cost Staff Position at the APUC

$55,000 would be appropriated to the Alaska Public Utilities Commission for a new position to assist in the preparation and review of load management and advance resource plans required by HB 238.

Section 3: Lapse Date

Unexpended funds as of June 30, 1988 lapse into the general fund.

Section 4: Effective Date

The effective date is tied to the effective date of HB 238.

5/5/87

SELECTED LEAST COST ENERGY MATERIALS

Markowitz, P. "The Least Cost Alternative to New Power Plant Construction," Critical Mass Energy Project (October 1985).

Markowitz, P. "Is Your State Charting A Least Cost Electrical Strategy", Critical Mass Energy Project (August 1986).

House Research Agency, Least Cost Energy Programs and States Energy Agencies (February 16, 1987).

PUBLIC CITIZEN
Critical Mass Energy Project
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IS YOUR STATE CHARTING A LEAST-COST ELECTRICAL STRATEGY?

A Guide to Evaluating State Laws and Regulations

PAUL MARKOWITZ AUGUST 1986

INTRODUCTION

Since 1973, the electric utility industry has undergone massive changes. Huge increases in power plant construction costs combined with sharp declines in electrical demand growth have resulted in exponential increases in electric rates. These changes have rocked the economic foundation of large-scale generating facilities, and consequently have radically altered the manner in which utilities plan to meet new electrical demand.

In response to these changes, the concept of a least-cost energy strategy has emerged among regulatory commissioners, consumer advocates and some utility planners. A least-cost strategy utilizes those additional sources of energy supply or energy demand reductions that can be obtained for the least total cost to utilities and their ratepayers. Conservation forms the basis for a least-cost strategy because energy efficiency improvements are the most cost-effective of all resource options.

However, a least-cost strategy involves utilizing all available resources for meeting future demand, including: load management, renewable energy resources and cogeneration. Consequently, a least-cost strategy minimizes the cost of electrical service, offers significant environmental benefits, and provides economic benefits to local communities by emphasizing the use of locally-available energy resources.

States can implement a least-cost electrical strategy by adopting laws and regulations which ensure that utilities invest in the most cost-effective resources for meeting new demand. These laws and regulations can ensure that new power plants are constructed only if they represent the least-cost means of providing electricity.

Effective least-cost regulations consist of three major components:[1]

1) Planning: Utilities must submit resource plans that document how they will meet electrical demand at the lowest possible cost.
2) Evaluation: Proposed utility plans are carefully evaluated by the regulatory commission and public.
3) Enforcement: The commission accepts a revised utility plan, and uses its regulatory authority over power plant licensing and setting of utility rates to ensure that actual utility investments conform to the adopted resource plan.

MODEL STATE LEAST-COST ELECTRICAL POLICY

This triad, planning, evaluation and enforcement, provide a framework for evaluating how well your state is ensuring utility investments in least-cost electrical resources.

A. PLANNING: EACH UTILITY SUBMITS A LEAST-COST RESOURCE PLAN

Planning requirements ensure that utilities have identified all available options for meeting new electrical demand before making large expenditures.

Are your utilities required to file long-range resource plans?

Each utility should be required to submit a long-range (ten or twenty years) resource plan every one or two years to the state regulatory commission. Comprehensive utility plans should include all of the following components:[2]

a. Forecast of Future Demand: Utilities should file forecasts of future electrical demand which identify two-to-three possible scenarios for demand growth to help account for the large degree of uncertainty regarding future energy consumption. Demand forecasts should utilize a combination of the following forecast methodologies:

End-use analysis: This methodology calculates the number, type and efficiency of electrical end-uses (e.g. water heaters, lighting, industrial motors) in each customer class. It incorporates the impacts of changes in efficient technologies, appliance saturation levels, and utility sponsored conservation programs.

Econometric analysis: This methodology examines the impact of economic changes (e.g. increases in personal income, population growth, price increases in alternative fuels) upon electricity consumption.

...sment of Supply-Side Resource Options: Utility plan... should specify how the utility intends to meet future demand through various supply-side options, including: renewable energy resources (e.g. wind, solar, geothermal, hydro power, biomass), cogeneration, power purchased from

other utilities, and traditional sources such as coal and nuclear power.

c. Assessment of Demand-Side Resource Options: Utility plans should document that utilities are making every effort to achieve the full potential for cost-effective conservation and load management investments. Plans should document not only the cost-effective potential for these investments, but also specify planned and proposed programs which are designed to achieve this potential. Utility conservation programs should go beyond educational efforts and energy audit programs to include financial incentives, such as low-interest loans, cash rebates, and third-party financing, designed to stimulate customer conservation investments.

d. Integration of Supply and Demand-Side Resource Options: The cornerstone of a least-cost plan is a side-by-side evaluation of the relative cost-effectiveness of all supply and demand-side resource options. The plan should detail the resource mix of those investments that will provide electrical service at the least possible cost. A separate least-cost mix should be developed for each demand growth scenario.

e. Two Year Implementation Plan: Each utility should submit a separate two year plan that specifies how it will implement its long-range resource plan. This implementation plan should specify exactly which resources the utility expects to acquire in the upcoming two-year period.

f. Plan Summary: The plan should include a non-technical summary of the utility's projected load forecast and proposed resource options for meeting load to help facilitate public participation.

B. EVALUATION: STATE REVIEWS UTILITY PLANS

State evaluation of utility resource plans (and other utility filings) is essential to assess whether utilities have adequately fulfilled their filing requirements and have adequately examined alternative supply and demand-side options.

Has your regulatory commission established specific guidelines for utility plans and other filings?

The state regulatory commission should set guidelines that specify what information is required and which methodologies should be used by utilities in preparing their resource plans. These guidelines should use state-of-the-art approaches, and assure consistency among utility plans and systematic review by all interested parties. For example, the commission should establish specific regulatory criteria and develop a standard set of methodologies to evaluate the cost-effectiveness of utility conservation programs.[3]

Has your state developed a state-wide electrical energy plan?

An independent state energy plan should be developed and updated every two years. This plan should follow the same guidelines established for the preparation of utility plans and be a standard against which to evaluate utility plans. This plan can be conducted by the commission itself, another state agency (e.g. state energy office), or an independent research institution (e.g. state university). A comprehensive state plan should contain scenarios of future electrical demand, assessments of alternative supply and demand-side resource options, and an analysis of various policy options which can be implemented to achieve a least-cost strategy.[4]

Does your Commission have special provisions for public participation in the resource planning process?

The commission should hold open hearings to review and examine proposed utility resource plans. Public involvement in the review process is necessary to: 1) inform the public and legitimize the process, 2) ensure consideration of all potential resource options and the consideration of all potential impacts of utility plans; 3) ensure commission and utility accountability; and 4) enhance public acceptance.[5]

The least-cost planning process should also include opportunities for informal review sessions among consumer groups, the business community, local energy researchers and individual citizens as the plans are developed. This will help utilities incorporate a wide range of input into their resource plans.

Funding mechanisms should be developed to ensure the establishment of public representation in the utility planning process, plant licensing and/or ratemaking proceedings. For instance, citizen utility boards (CUBs) are funded through voluntary contributions from ratepayers through access to utility bills.[6] On the other hand, a state utility consumer advocate is often funded through a surcharge on utility bills.[7]

C. ENFORCEMENT: EFFECTIVE CONTROL OVER UTILITY INVESTMENTS

The commission should have sufficient regulatory powers during the planning, powerplant licensing and ratemaking processes to effectively ensure utility investments in least-cost resources.

Does your commission have the authority to approve or disapprove utilities' long-range resource plans?

Your commission should have the authority to reject utility resource plans that do not satisfy established regulatory guidelines and require utilities to revise inadequate plans.[8] These guidelines can be procedural in nature, i.e requiring utilities to meet specific information requirements, and/or can be substantive, i.e. requiring utilities to devise specific programs or meet specific conservation goals. State authority to approve or disapprove utility resource plans should be strongly tied to its ability to evaluate the utility load forecasts and resource assessments.

One of the most crucial elements of a comprehensive least-cost planning process is the requirement that all utility investments be consistent with utility resource plans. States with this essential provision are able to use utility resource plans for their optimal functions: as a benchmark on how the utility proposes to meet future electrical demand before the investments have been made.

Does your state require a certificate of public need before authorizing the siting or contruction of new power plants?

States should exercise control over the siting and/or construction of new power plants by requiring a certificate of need (often referred to as a certificate of public convenience and necessity) in which the utility must establish the need for the

power plant. A certificate of need should only be issued when:

1. *The plant is in compliance with the utility's resource plan:* Permits for new plants should only be considered if the plant is consistent with the utility's most recently approved resource plan. This ensures integration and consistency of utility investments with the utility planning process.[9]

2. *The need for the plant has been firmly established:* Utility demand forecasts should be scrutinized in light of state-conducted forecasts, for compliance with state specifications, and to account for any changes which may have occurred since the resource plan was filed.[10]

3. *The plant is the least-cost means of meeting the need:* Utilities should be required to demonstrate that the proposed plant is the least-cost option in light of all available demand-side and supply-side options.

Further, the commission should have the authority to review the certificate of need every two years in light of any changes in the utility's approved resource plan, with the burden of proof resting on the utilities. Again, state authority to require a certificate of need should be strongly tied to its ability to evaluate proposed utility power plants in light of least-cost alternatives. Further, the commission should still maintain the authority to disallow imprudent costs from the rate base.

Has your commission used its ratemaking powers to encourage utility least-cost investments?

Ratemaking authority is important as a final check to ensure least-cost investments, but is most effective when used in conjunction with comprehensive planning and plant licensing processes. Proposed rate increases should be evaluated in the context of the utility's most recently approved resource plan, and rate recovery should be allowed only for those investments which have been included in the plan. Further, the commission should develop regulatory guidelines for what constitutes used and useful investments to assure that uneconomic utility expenditures are disallowed from the rate base.

Does your commission have authority to require utility conservation programs?

Your commission should have regulatory authority to require utilities to offer financial incentives designed to stimulate customer investments in energy conservation, such as low-interest loans or cash rebates. While most commissions are granted specific statutory authority to require these investments, many commissions have relied on broad regulatory powers to ensure "adequate and reasonable supplies of electricity" as the legal basis for requiring conservation investments.[11]

A few state commissions offer utilities financial incentives and/or impose financial penalties to encourage conservation investments. For instance, some commissions provide revenue guarantees to utilities for innovative or untested resource investments (e.g. pilot conservation programs). Other commissions are moving toward performance based financial incentives whereby utilities are rewarded or penalized according to their progress in achieving certain efficiency goals, rather than a strict rate-of-return on total assets. In this manner, commissions can reward or penalize a utility based upon progress toward achieving conservation goals or implementing its resource plan.[12]

Has your commission set avoided cost rates which require utilities to purchase electricity from small-power producers?

The Public Utilities Regulatory Policies Act (PURPA) of 1978 (Title I of the National Energy Act) requires electric utilities to purchase electricity from small-power (renewable energy and cogeneration) producers at a price equal to the utility's cost of producing electricity. Your commission should establish rates that reflect the long-term cost of building new power plants. This will maximize the development of alternative resources, while assuring lower rates for all ratepayers.

DRAWING UPON STATE EXPERIENCES

Several lessons can be drawn from state experiences in implementing least-cost electrical strategies:

1. The planning process offers a unique opportunity for regulators and the public to review proposed utility investments *before* the utility spends money. Commission authority to set utility rates is a necessary but insufficient mechanism for ensuring utility least-cost investments. As the current rate shock problem has shown, commission ratemaking authority alone is insufficient to assure utility least-cost investments; i.e., regulators are limited to reviewing utility investments after the money has been spent.

   Least-cost energy planning establishes a process whereby regulators and the public can evaluate utility investment decisions before these investments are made. This planning process can ensure that utilities examine the economic potential for all resource options, particularly energy conservation and small-power sources, and invest in the cheapest options first. This will help: 1) avoid building unnecessary power plants; 2) improve local economies by emphasizing the efficient use of electricity and the use of locally-available resources; and 3) provide significant environmental benefits by emphasizing the use of environmentally benign resources.

2. The level of commission resources available to evaluate utility filings should be directly proportional to the extent of the commission's involvement in the resource planning process. A commission with a strong mandate to develop a least-cost electrical strategy for its state must have sufficient staff and adequate financial resources in order to conduct a thorough examination of utility resource plans and other filing requirements.

3. State involvement in the resource planning process should complement, not replace, utility efforts to develop the "in-house" capabilities to plan for and evaluate conservation and alternative resource investments. Some states, such as New York, have initially taken a strong hand in deciding which resource investments are most cost-effective and have ordered utilities to make these investments. Often, utility capabilities to plan for and evaluate alternatives remain limited, and commissions have found themselves im-

posing programs on reluctant utilities.

Conversely, some states have placed most of the responsibility for developing innovative conservation programs upon utilities. Subsequently, they have found that utility proposals fall short of the potential and often lack innovation. State efforts to develop assessments of conservation potential and develop model programs must be combined with efforts to promote similar capabilities among utilities. In addition, managerial flexibility is critical in encouraging utilities to undertake least-cost planning and program implementation.

4. The implementation of least-cost planning requirements involves exchanging commission flexibility during ratemaking proceedings for increased commission authority during the planning stage. While commission endorsement of utility plans does not necessarily mean endorsement of specific utility investments, it does limit a commission's ability to disallow utility investments from rate base because there is a tacit agreement on investment priorities. However, commissioners can still maintain strong review during ratemaking proceedings which ensure that utility investments are in compliance with its plan and were prudently made.

5. Legislators need to consider how the current regulatory framework sends financial signals encouraging utilities to favor one resource option over another, and should adopt changes to correct any inbalance. For example, rate formulas based on a utility's total capital investment provide a built-in incentive for the utility to overinvest in capital-intensive plant and equipment. As another example, electricity costs often do not reflect environmental hazards caused by fossil and nuclear power plants. Commissions can establish provisions which incorporate the environmental benefits of energy conservation by offering preferential rate treatment for these investments. Many commissions are moving toward performance-based incentives to encourage certain utility investment behavior. A least-cost strategy should ultimately ensure equal consideration of all resource options.

A comprehensively developed least-cost planning process can assure that: 1) the lowest cost resources will be used first (and consequently electric rates will be as low as possible); 2) electrical utilities are accountable to regulators and the public for their investment decisions; 3) non-economic criteria are incorporated into the decision-making process; and 4) the public has substantial input into the resource planning process.

This guide is intended as a starting point for examining how well your state is charting a least-cost electrical strategy. Laws and regulations in other states can be extremely useful in drafting appropriate legislative or regulatory language. The numerous citations throughout this text are examples of states and regions with provisions that can be used as models. For more information, contact state commissions listed below, the Critical Mass Energy Project, or the Energy Conservation Coalition.

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2. For example, see 704 Nevada Administrative Code, Sections 900-955 (Oct. 1984). Contact the Nevada Public Service Commission, 505 East King St., Carson City, NV 89710.
3. For example, see 25 Florida Statutes Annotated, Section 17 (1985). Contact the Florida Public Service Commission, 101 East Gaines St., Tallahassee, FL 32301.
4. For example, see Illinois Statutes Annotated, Section 8-402 (h) (1985). Contact the Illinois Commerce Commission, 527 East Capitol Ave., Springfield, IL 62706.
5. Northwest Electric Power Planning and Conservation Act, Public Law 96-50, Section 4 (g) (1) (1980). Contact the Northwest Power Planning Council, Suite 1100, 850 S.W. Broadway, Portland, OR 97205.
6. For more information, contact the Citizen Utility Board Organizing Project, 215 Pennsylvania Ave., SE, Washington, DC 20003 (202-546-9707).
7. For more information contact the National Association of State Utility Consumer Advocates, 1424 16th St., NW, Suite 105, Washington, DC 20036.
8. For example, see 196 Wisconsin Statutes, Section 491 (2) (1975). Contact the Wisconsin Public Service Commission, P.O. Box 7854, Madison, WI 53707.
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THE LEAST-COST ALTERNATIVE TO NEW POWER PLANT CONSTRUCTION

A Strategy for Ensuring Utility Investments in Conservation and Renewable Energy Resources

OCTOBER 1985

BY PAUL MARKOWITZ

AN INTRODUCTION

In the past decade, energy price shocks, supply disruptions, and a major nuclear accident have made it increasingly clear that America depends upon an unnecessarily high-cost and high-risk energy system. The sweeping changes affecting the energy field over the past ten years have perhaps been most profound in the electrical utility industry. Since 1973, electrical demand has declined drastically, fuel prices have escalated, and power plant construction costs have increased exponentially. Rate increases caused by power plant cost overruns have significantly raised electric rates and threaten to add thousands of people to the ranks of the poor and unemployed.

The concept of a "least-cost energy strategy" is emerging among consumer advocates, regulatory commissions, and utilities in response to the radical changes affecting the economics of electricity production. The first step towards implementing such a strategy requires that utilities shift their focus from selling electricity to providing electrical services: the heat, light and power needed to operate the buildings and industries in their service area.[1] This strategy enables utilities to consider programs which promote electrical efficiency on an equal basis with the construction of new electrical generating facilities. Thus, utility conservation programs (such as providing low-interest loans for home weatherization or cash rebates for the purchase of energy-efficient appliances)

Since 1973, electricity prices have tripled and utilities have cancelled 180 proposed or partially constructed power plants that have cost consumers over $16 billion dollars to date.

can be viewed as new electrical sources just as assuredly as a new nuclear or coal-fired power plant.

While energy efficiency (or conservation) measures are the most cost-effective of all resource options, and therefore the cornerstone of a least-cost investment strategy, the concept really involves utilizing *all* resources which provide the least-cost means of meeting future electrical demand. Thus, *load management*, the shifting of energy consumption from peak periods of the day into slack demand periods; *cogeneration*, the simultaneous production of electricity from industrial heat processes; and *renewable energy resources* such as solar, wind, biomass, and water become integral components of utilities' least-cost energy investment strategies.

For varying reasons, many electric utilities are reluctant to consider many of the investments which are part of a least-cost investment strategy, particularly conservation, and it is left to legislatures and regulatory commissions to enact least-cost energy planning laws and regulations. These require utilities to comprehensively assess the potential of *all resources options* available for meeting new electrical demand, and to invest in these options based upon their cost-effectiveness.

ELECTRICAL UTILITIES: AN INDUSTRY IN TRANSITION

The changes affecting electric utilities have been dramatic and swift. From 1945 to 1970, the demand for electricity grew at an average annual rate of 8 percent, and utilities met new demand by constructing new fossil and nuclear-fueled power plants. Economies of scale achieved in power plant size, improvements in power plant productivity, and decreasing fuel costs resulted in declining electrical rates and contributed to electric utilities becoming one of the most sound financial investments in the marketplace.

Then the 1973 oil embargo struck, and the world of the electric utility planner turned upside down. With the astronomical increases in oil prices (and their consequent price effect on oil-fired electrical generation), demand growth for electricity slumped to near zero and continued to grow only a modest two percent annually for the next ten years. At the same time, the long term trend of declining marginal costs associated with larger power plants came to an abrupt halt. From 1971-1981, the real costs (above inflation) for constructing nuclear and coal power plants increased *each year* by 14 percent and 8 percent, respectively.[2]

A myriad of factors contributed to the escalation of power plant construction costs, including: higher interest rates, new safety and environmental regulations, mismanagement, and technological difficulties resulting from the rapid escalation in power plant size. As a result, since 1973, electricity prices have tripled and utilities have cancelled 180 proposed or partially constructed power plants that have cost consumers over $16 billion dollars to date.[3] Utilities across the country are struggling to pay for power plants whose electricity is neither needed nor affordable.

The impact on utility ratepayers from these power plant cost escalations is devasting. Many of the power plants ordered in the early 1970's have recently started (or soon will

be) producing power. The rate shock resulting from the inclusion of these power plant construction costs in electrical rates (construction costs are generally not passed on to ratepayers until plants are completed or officially cancelled) is expected to increase consumers' rates 50—180 percent in many utility service areas, and impact 35 million families in 25 states.[4] The employment and economic repercussions resulting from these rate shocks threaten to be equally disastrous. In a report commissioned by Suffolk County in Long Island, New York, rate increases necessary to pay for the Shoreham Nuclear Power Plant are expected to eliminate 35,000 jobs, disqualify 37,000 families from the mortgage market, increase foreclosures and home abandonment by up to 2000 per year, and push 11,000 households below the poverty line.[5]

LEAST-COST ENERGY OPTIONS

A quiet revolution in the energy field has been manifested in the rapid movement toward least-cost energy efficiency and renewable energy investments. According to energy conservation advocate Amory Lovins, since 1979, the United States has obtained more than one hundred times as much new energy from efficiency improvements as from all net expansions of energy supply. Technological developments have spurred extensive design improvements in America's electricity consuming buildings and devices. As a result, the efficiency of the best available commercially-available motors has doubled, lighting systems tripled, major appliances quadrupled, and the efficiency of building space conditioning (heating and cooling) has improved by a factor of ten.[6]

For example, Norelco has developed its SL-18 light bulb which uses only 18 watts of electricity, yet produces the same amount of light as a 75-watt incandescent bulb. The bulb lasts more than 13 times longer, provides light of better quality, and uses a high-frequency solid-state ballast which eliminates flicker and hum. By replacing 75 watts with 18 watts, an individual is essentially installing a 57-watt power plant in their home. The SL-18 repays its high retail cost ($15-$20) two-three times over by saving $40 worth of electricity plus $10 for a dozen replacement bulbs. When universally used, SL light bulbs and other equally efficient bulbs, will displace (at one-to-two cents/kilo-watt hour (KW-h)) the need for thirty 1000 mega-watt power plants (at seven cents/KW-h.). Savings of similar magnitude exist for appliances, industrial processes, and other electrical end-uses, as well.[7]

In an era of uncertain demand, utilities find that conservation and load management investments offer a unique opportunity to reduce high capital costs and the financial risks associated with excess generating capacity.

Renewable energy technologies such as photovoltaics (solar electric cells), wind energy systems, passive solar applications, solar flat plate collectors (for hot water and space heating), and biomass conversion (wood, alcohol fuels, etc.) have also become increasingly cost-competitive. The Public Utilities Regulatory Policy Act (PURPA) has played a significant role in this recent transition towards renewable energy resources. PURPA requires electric utilities to purchase electricity from small-power (renewables and cogeneration) producers up to the utility's cost of producing electricity from conventional most dramatic example of this shift toward renewables is found in California, where by mid-1984 over 10,000 megawatts of small, independent sources were planned or under construction, enough to supply over 20 percent of the state's power by 1990.[8]

In addition to their cost-effectiveness, energy efficient and renewable energy technologies create several times as many jobs per dollar as their conventional counterparts. They also represent the best energy supplies for abating the long-term problems of acid rain, carbon-dioxide build-up, and the proliferation of fissionable materials that are posed by continued dependence on conventional energy sources.

UTILITY SUPPORT FOR LEAST-COST OPTIONS

A few utilities have heeded the changing economics of electrical generation, and begun developing programs which promote least-cost electrical investments. Utilities, such as Pacific Power and Light, Northern States Power Co., and New England Electric Systems are finding that least-cost investment options are not only much cheaper than conventional generating sources, but also improve their own financial well-being. South California Edison, one of the nation's largest utilities, announced a change in its 1981 corporate policy which involved "devoting corporate resources to the accelerated development of a wide variety of renewable resources, cogeneration, conservation, and load management."[9]

Demand-side options (efficiency and load management), cogeneration, and renewable energy resources reduce utility planning uncertainty and risk. These investment options are small, modular, and incremental in nature. Compared to conventional coal and nuclear-fired power plants, they have shorter production lead times, low capital requirements, and

MODEL CONSERVATION PROGRAMS

Pacific Gas and Electric Company (California), the nation's largest private utility, recently embarked on its Great Energy Rebate Program. As part of this program, commercial, industrial and agricultural electric customers are paid up to $150,000 per customer account to convert to energy-saving equipment and products. Rebates are offered for such equipment as lighting conversions, air conditioners, industrial motors, refrigerators and freezers, heating system conversions and modifications, and load management controls. Customers can obtain rebates which defray 25% to 40% of the purchase and conversion costs for efficient products, and rebates are paid on the basis of up to $250/KW for saved electrical capacity and $.06/KW-h for saved energy. Similar rebates are also available for residential customers.[10]

General Public Utilities (of Pennsylvania and New Jersey) has developed an alternative financing program for home weatherization through its Residential Energy Conservation Action Program (RECAP). Under RECAP, contractors install cost-effective conservation measures free of charge to individual residences. The utility pays the contractor for the actual, measured long-term reductions in energy consumption over a period of years at an agreed upon rate. Energy savings from the program are expected to exceed costs by a ratio of five to one over a 10 year period, and General Public Utilities has already completed weatherization for over 5,000 homes.[11]

offer the utility a quick return on its investment. In an era of highly uncertain demand, utilities are finding that conservation and load management investments offer a unique opportunity to improve load factors, increase velocity of cash flow, reduce high capital costs, and reduce the financial risks associated with excess generating capacity.

Untapped investments in energy efficiency and load management offer enormous potential for meeting new electrical demand and remain the most cost-effective of all resource options. Utilities, regulators, and consumer advocates have developed programs designed to increase the efficiency of America's electrical consumption.

Most utilities offer some type of program promoting efficiency investments, ranging from simple bill inserts on conservation tips and school education programs to innovative financing programs like those cited above. However, very few utilities have begun to comprehensively investigate the full potential for improving the efficiency of their customers' energy consumption or to implement incentive programs which are designed to promote efficiency investments.

UTILITY OPPOSITION TO LEAST-COST OPTIONS

The majority of utilities are still planning for high electrical demand growth in the future, despite the drastic decline in the rate of electrical demand growth over the past decade. And they are planning on meeting this demand primarily by building large coal-fired electrical generating plants (and to a lesser extent nuclear power), despite the radical changes in the economics of central power generation. Most utilities are reluctant to shift to a least-cost investment strategy for a variety of reasons, including:

- Utilities have traditionally seen themselves as suppliers of a commodity (electricity), and like most other private enterprises, strive toward increasing profits by increasing sales of their commodity. This has been historically accomplished by constructing large power plants.
- Most utility executives wait for positive signs from their commissioners that least-cost investments will receive preferential rate treatment.
- The revenue formulas established by public utility commissions, which are used to determine return on investment, are often based on total capital investment. Utilities have a built-in incentive to overinvest in capital-intensive plant and equipment.
- Efficiency measures, programs, and technologies for saving energy and electricity are still relatively unfamiliar to the utility industry, and are viewed as risky until proven over a long period.[12]

Because of this reluctance, a few state legislators and regulators have begun to adopt statutes and regulations which assure that utilities will comprehensively examine all resource options, and invest in these on a cost-effective basis.

STATE REGULATORY COMMISSIONS CAN ENSURE LEAST-COST INVESTMENTS

The least-cost concept has garnered strong support from some impressive official bodies, including the American Public Power Association, the American Gas Association, and the National Association of Regulatory Utility Commissioners (NARUC). At its 1984 annual convention, NARUC unanimously passed a resolution urging all state and federal regulatory commissions to adopt a "policy mandating electric and gas utilities to develop and submit for approval least-cost resource plans".[13]

Legislators and commissioners have begun to develop laws and regulations to compel utility investment in demand-side options and renewables due to many utilities' reluctance to pursue least-cost planning on their own initiative. Several states, including California, Wisconsin, Florida, Iowa, and Nevada have now adopted some form of least-cost electrical planning regulations.

The state of Nevada has developed one of the most comprehensive least-cost planning regulations in the country. The

Citizen-based organizations and public interest intervenors have been the primary motivating force behind the adoption of many current least-cost planning laws and regulations.

Nevada Utility Resource Planning Act of 1983, authored by the state's Office of Consumer Advocate, requires electric utilities to submit to the Nevada Public Service Commission a fully integrated, long-range resource plan every two years. These plans must demonstrate that *all* aspects of a utility's future energy needs and resource options have been considered.

Nevada utilities are required to conduct assessments of the cost-effective potential for each resource option, including efficiency, load management, cogeneration, and renewables, and then integrate and prioritize those options according to their cost-effectiveness. Perhaps most importantly, utilities cannot receive approval for a new power plant unless the plant has been previously approved as part of the utility's least-cost resource mix. The Nevada model includes provisions which assure that:

- Demand forecasts are based upon inventories of electrical end-uses such as lighting, heating, and cooling.
- Utilities must also submit a two-year implementation plan that specifies which least-cost resources will be utilized over the next two years.
- Standardized planning methodologies and models are used by all utilities to assure long-term consistency.
- Utilities are held responsible for the creation and coordination of all plan components.
- Enforcement mechanisms are developed to assure utility compliance with their resource plans.[14]

Most states have adopted only individual components of comprehensive least-cost planning regulations, and consequently lack the ability to ensure utility investments on a least-cost basis. For example, many public utility commissions have specific statutory authority to require utility investments in conservation and load management but lack the capability to adequately evaluate utility assessments of conservation potential or program proposals. Other commissions require utilities to file conservation plans which must evaluate all resource options available for meeting new electrical demand yet lack the authority (or initiative) to deny approval of the plan or to require that utilities invest in all cost-effective conservation investments prior to new supply resources.

Unfortunately, very few commissions have adopted comprehensive least-cost regulations which ensure that utilities

invest in the most cost-effective resources to meet new electrical demand.[15] This is due to a variety of reasons. Some state commissions lack adequate information and analytic planning tools, while others are awaiting the results of those states which have enthusiastically promoted conservation. Still, other commissions believe that utilities should decide how to meet demand for electricity or that existing regulations are sufficient in promoting utility conservation investments. However, a truly integrated and comprehensive least-cost planning model, such as Nevada's, is vital to assure utility investments in least-cost energy resources.

A FRAMEWORK FOR CITIZEN ACTION

A well-informed and organized consumer-based coalition can significantly influence its state regulatory and legislative bodies to adopt least-cost planning laws and regulations. Citizen-based organizations and public interest intervenors have been the primary motivating force behind the adoption of many current least-cost planning laws and regulations. The following are specific actions that public policy organizations and citizen-based groups can take to promote least-cost energy planning in their state:

1. Review Existing Statutes and Regulations Regarding Utility Investments in Least-Cost Energy Resources. Utility statutes and regulations vary from state to state. Thus, a crucial first step involves reviewing existing statutes and regulations to reveal possible gaps in a comprehensive least-cost planning process. Some of the more pertinent questions to pursue, include:

- Does your public utility commission have the regulatory authority to require utility investments in customer efficiency improvements?
- Are utilities required to undertake a comprehensive assessment of the conservation potential in their service districts?
- Are utilities required to file long-range resource or conservation plans? If yes, do these plans include assessments of demand-side and supply-side options and do they require these options to be integrated according to their cost-effective?
- Does your commission have an adequate enforcement mechanism which ensures that utilities invest on a least-cost basis, i.e. denial of a power plant permit due to lack of consideration of alternatives?
- Has the state adopted favorable buyback regulations to require utilities to purchase electricity from small-power producers, including cogeneration and renewables?

2. Develop an Independent Conservation Potential Assessment. Universities offer an ideal base for the development of independent assessments of the potential for energy conservation in a utility service district or the state as a whole. For example, the Center for Energy Studies at the University of Texas, in conjunction with Lawrence Berkeley Laboratories, has recently developed an assessment of the conservation supply potential for residential and commercial buildings in the state of Texas.[16]

University departments with experience in quantitative analysis, computer modeling, or electrical planning issues can be solicited to develop specific information:

- An inventory of available efficiency measures, methods, and technologies capable of cheaply and reliably supplying or saving energy and power.
- A detailed inventory of energy use, indicating how much electricity is consumed for what purposes within the state.
- An assessment of the potential for efficiency improvements in the residential, commercial, and industrial sectors.
- A survey of information on state commission orders, regulations, rate treatments and case histories of efficiency programs.

3. Form a Coalition. A successful strategy will be based on linking least-cost planning with other utility issues that are affecting ratepayers. Least-cost planning offers a long-term, comprehensive process for assuring the most cost-effective implementation of electrical resources as well as an ideal complement to shorter-term and single focus, and sometimes adversarial, utility issues.

For instance, "rate shock" (the rate impacts from the cost of new power plants) is an excellent organizing issue because the inclusion of expensive, new power plants costs in the rate base directly result in higher utility bills. While citizen groups argue against the inclusion of imprudent power plant construction costs in the rate base, rate shock also presents an excellent opportunity for consumers to press their regulators with the question of, "How are you going to prevent these astronomical rate increases from occurring in the future?"

Least-cost planning can be used to address other utility issues, such as utility proposals for the construction of new coal or nuclear plants, the inclusion of construction work-in-progress (CWIP) costs in the rate base, and the impacts of rate increases on low-income households. Least-cost electrical planning offers an ideal issue for forging statewide coalitions which can bring together diverse organizations, including low-income, senior citizen, safe energy, and consumer groups.

FOOTNOTES

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[5] *Operation Vs. Abandonment of the Shoreham Nuclear Plant: The Effect on Long Island Unemployment*. 1984. Greg Palast. Union Associates. New York. NY.

[6] "Saving Gigabucks with Negawatts". 1985. Amory Lovins. *Public Utilities Fortnightly*. March 21, 1985.

[7] *Ibid*

[8] *Electricity's Future: The Shift to Efficiency and Small-Scale Power*. 1984. Chris Flavin. Worldwatch Institute. Washington. DC.

[9] *1981 Conservation and Load Management Program*. 1981. South California Edison Co. Rosemead. CA.

[10] "The Great PG & E Rebate Program". 1984. Pacific Gas and Electric Co. San Francisco. CA.

[11] "Don't Pay for Insulation...Buy Conservation." 1983. Slide show presentation explaining General Public Utilities RECAP Progam. Richard Esteves. Manager of Conservation Communications. General Public Utilities. Parsippany. NJ.

[12] "Questions and Answers" from Nevada Public Service Commissioner Stephen Wiel at March 5. 1985 hearings before the Energy Development and Applications Subcommittee hearings on Department of Energy 1986 budget.

[13] Resolution on gas and electric utility least-cost resource plans. 1984. Proposed by the Ad Hoc Committee on Energy Conservation of the National Association of Regulatory Utility Commissions (NARUC). Adopted by NARUC at their 1984 Annual National Convention. NARUC. Washington. DC.

[14] "Utility Resource Planning: The State of Nevada Adopts an Integrated Planning Model". 1984. Jon Wellinghoff and Cynthia Mitchell. Nevada Office of Consumer Advocate. Carson City. NV.

[15] "Results of Survey of Regulatory Utility Commission's Electric Resource Planning and Conservation Activities". November 1985. Conducted by Congresswoman Claudine Schneider's office for hearings on the Least-Cost Planning Initiative. Hearings held before the House Energy Development and Applications Subcommittee. September 26. 1985.

[16] *Electrical Energy Conservation Supply Potential in the Texas Building Sector*. December 1985 (expected date). Center for Energy Studies. University of Texas. Austin. TX; and Energy Efficient Buildings Program. Lawrence Berkeley Labs. Berkeley. CA. Commissioned by the Texas Public Utility Commission. Austin. TX.

ALASKA STATE LEGISLATURE
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February 16, 1987

MEMORANDUM

TO: Representative Kay Brown

ATTN: Eric Meyers

FROM: Ginny Fay
Legislative Analyst

RE: **Least-Cost Energy Programs and States' Energy Agencies**
Research Request 87.066

You requested information regarding the structure and function of energy agencies and programs in other states. You specifically asked how other states pursue energy development and regulation. You were also specifically interested in other states that are pursuing "least-cost" energy strategies through demand-side conservation initiatives designed to reduce or avoid the need for additional power production capacity.

In providing this information, this memorandum is organized into three parts. The first part provides background on least-cost energy strategies. The second part discusses least-cost strategies and other pertinent programs in specific states (Pacific Northwest, i.e., Washington, Oregon, Idaho, and Montana; California; Florida; Minnesota; New York; Nevada; Ohio; Oklahoma; Texas; and Wisconsin). The third part discusses the structure and function of energy agencies in other states and contrasts programs and policies with those of Alaska.

Least-Cost Energy Strategy

In the mid-1980s, many utilities in the United States are approaching a critical point in their strategic planning.[1] If forecasts are correct, they must begin in the next few years to build new power generation capacity to meet the demand of the 1990s. Utilities are reluctant to make these investments, however, because electrical demand has grown below expectations during the last decade. There are also numerous examples across the

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[1]Roger F. Naill and Roger W. Sant, "Electricity Markets in the 1990s: Feast or Famine?", Public Utilities Fortnightly, April 26, 1984, p. 19.

nation of additional facility construction that provided additional capacity before it was needed. Because of the excess capacity and cost overruns (especially for nuclear plants), the subsequent energy was often too expensive to sell. Examples include WPPSS (Washington Public Power Supply System) in the Pacific Northwest, Marble Hill in Indiana, Zimmer in Ohio, and Seabrook in New Hampshire. In these cases, public utilities commissions rarely had the opportunity to evaluate whether the additional construction was the most cost-effective means of supplying future energy or whether the energy was in fact going to be needed at all.[2]

Traditional utility regulation, including facility permitting and siting, has been a hindsight process where decisions were made by regulators who had access to a (theoretically) complete set of facts and information. This procedure is intended to protect the public interest; it is based on the belief that regulators are more likely to make cost-effective plant construction decisions if they rely on projections of past trends in the growth of demand. This is supposed to minimize the risks of resource decisions made by the regulated utility and the regulating agency. The public interest, however, is not protected when retrospective evaluations make mistakes so large that the costs would bankrupt utilities if they were not passed on to utility customers via increases in rates. Ultimately, consumers have paid for the mistakes of incorrect forecasts or excess increases in production capacity with rate shocks. It has also become more clear that past electric consumption is not necessarily a good predictor of future demand.

As mentioned above, hindsight decision making has produced some serious mistakes which have encouraged regulators and utilities to look for other methods to evaluate the acquisition of additional energy production capacity. Most utility managers would prefer not to have to finance any new capital expansion. Despite the decline in the cost of financing, the cost of power plant construction is so high that it often damages the financial health of the company. This situation has created more than enough incentive for regulators and some utilities to seek an improved ability to review resource planning decisions before such disasters occur.[3]

One planning alternative is a **least-cost resource planning strategy.** The basic concept is for utilities to stop thinking of themselves as deliverers of electricity or gas, but instead as marketers of energy services: the heat, light, or power needed to operate the buildings and industries in their service area. Their strategic objective is to deliver energy services at the lowest possible cost to customers, which is why it is referred

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[2]Renee Haman-Guild, "State Involvement in Utility Resource Planning: Towards Partnership," Public Utilities Fortnightly, April 18, 1985, p. 22.

[3]Ibid.

to as a least-cost strategy. This strategy leads them to consider conservation options (or end-use technologies that conserve electricity) on an equal basis with constructing new generation facilities in their resource planning. The growth in the demand for energy services can be met by either saving energy or constructing additional generating capacity. Marketing energy services rather than electricity opens up a whole new set of options in utilities' strategic plans.[4]

Instead of focusing on the energy form itself (such as hydroelectric, gas or coal), a least-cost analysis focuses on the services provided by the use of energy. For example, people do not necessarily want electricity or gas in their homes; they want warmth, lighting, and convenience. Similarly, industrial users do not really care about the primary fuel they utilize; they are more concerned with the power used to produce a final product.[5]

The significance of focusing on end-use services is made more apparent when Btu's of energy are traced from primary fuel consumption though delivered or end-use fuel consumption and on to the final consumption of energy services. In 1980, the United States consumed 78 quadrillion Btu's of primary energy inputs (such as coal, natural gas, oil, or renewable fuels). Of this, only 60 quadrillion Btu's were delivered to consumers. The 18 quadrillion Btu's (23 percent) difference was lost in the conversion of primary inputs into more usable forms (mostly in electricity generation) and in the transmitting and distribution of energy to consumers.

The energy delivered to users again requires conversion to produce services of value to consumers. This conversion occurs in energy-using devices in buildings and industries. Final useful energy services totaled 33 quadrillion Btu's in 1980, or 42 percent of the primary energy consumption in that year.

Because of large conversion losses, it is relatively inefficient to increase the level of primary energy inputs in order to satisfy increases in the demand for final energy services. Until the recent price decline, the high cost of petroleum products coupled with the ample technical ability to reduce conversion losses resulted in increased development and investment in more efficient end-use energy devices. Amory Lovins, a national energy specialist, testified before the Wisconsin Public Utilities Commission that the cost of technologies recently developed to save electricity is five to ten times less than the cost of additional electric

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[4]Roger F. Naill, and Roger W. Sant, 1984, p. 19.

[5]This is assuming there are no serious supply considerations such as oil embargos or dramatic increases in fuel costs.

generating capacity.[6] For example, it is usually more cost effective to improve the insulative qualities of buildings than it is to increase power-generating capacity.

Consumers generally act to minimize the cost of energy services (which is not the same as minimizing the cost of energy). Consumers choose the combination of fuels and energy-using equipment to minimize their costs. Thus, as prices rise, it pays to replace worn out equipment with more energy-efficient technologies and/or switch fuels.[7] Using a least-cost approach mimics this type of consumer market behavior; fuels and energy-using technologies are combined to meet energy service demands at the lowest possible cost to the customer. In this sense, least-cost power planning creates a surrogate for market choice.

STATES' APPROACHES TO LEAST-COST STRATEGY AND PLANNING

Introduction

Information on least-cost strategy and resource planning in Nevada, Wisconsin, the Pacific Northwest, California, Florida, Minnesota, New York, Ohio, Oklahoma, and Texas is presented in this section. Nevada's approach and legislation is discussed first and in relatively greater depth because Nevada is considered a model for least-cost planning and consumer and utility involvement. Some factors considered essential for least-cost resource planning are:

- long-range (10 to 20 years) integrated demand and supply forecasts;
- integration of the planning process and the rate-setting process;
- specification of the planning methodology;
- required implementation and monitoring of the plan;
- a regulatory agency with adequate enforcement authority;
- the ability of the planning agency to modify, as well as reject and accept, utility plans; and
- active public involvement.

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[6]Least-cost energy strategies are in part based on theories of Amory Lovins, who is also the author of Soft Energy Paths, Ballinger Publishing Company, Cambridge, Massachuetts, 1977.

[7]This is only true, of course, if prices accurately reflect the real price of energy services. If energy services are subsidized, their use will not be efficient and consumers' decisions regarding energy use will be distorted or inefficient.

Nevada

The 1983 session of the Nevada legislature passed into law the Utility Resource Planning Act (see Attachment A). The legislation, initiated by the state's then recently created Office of Consumer Advocate, is intended to ensure that electric utilities employ accurate forecasts of their future energy needs and that those future needs are fulfilled using the most practical and cost-effective means. Some of the impetus for the legislation was the belief that the commitment of utility capital is the single most important decision facing utilities and that the previous Nevada law did not provide for a systematic or ongoing review of utility resource planning activities. The previous review process was also considered cursory and inadequate by the public and the Office of Consumer Advocate. The Office of Consumer Advocate further argued that the planning and permit reviews came after the utility had already committed resources with no review by the public or public utilities commission. Historically, construction permit proceedings by the commission were held **after** a utility had made supply resource planning decisions and the proceedings were not designed for detailed review of the economic costs and benefits of alternative supply resources. The new legislation requires utilities to submit every two years to the Nevada Public Service Commission a fully integrated, long-range (20-year) resource plan which must demonstrate that all aspects of a utility's future energy needs have been considered.[8]

Under provisions of the Nevada act, demand and supply functions must be evaluated in a dynamic, iterative process that considers risk, sensitivity, and uncertainty factors. The end result is an integrated least-cost resource plan. Before a utility can receive permission to construct a new generation facility or transmission line, the proposed project must be part of the least-cost mix in a previously approved 20-year resource plan. Five major areas of analysis are required in Nevada plans: 1) forecast of future demand; 2) assessment of demand options, i.e., conservation and load management potential; 3) assessment of supply options; 4) integration of supply and demand; and 5) a two-year implementation plan.[9] The two-year implementation plan essentially monitors the long-range 20-year plan and makes it a truly dynamic, strategic plan.

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[8]Jon B. Wellinghoff and Cynthia K. Mitchell, "A Model for Statewide Integrated Utility Resource Planning," Public Utilities Fortnightly, August 8, 1985, p. 19.

[9]Ibid.

The Nevada Office of Consumer Advocate believes that comprehensive statutes and regulations for utility resource planning must contain the following components:

1) **Planning Process Integration:** Integration must include a forecast of future demand and a comprehensive analysis of demand and supply options available to meet or alter demand which are then unified to derive the least-cost resource plan. On a procedural level, regulators must strive for integration of utility rate making and utility construction permit proceedings with the planning process to ensure that the process actually results in long-term economic benefits to rate payers and financial stability for the utility.

2) **Sufficient Methodological Specification:** Specification of planning methodology is necessary to ensure that state-of-the-art techniques are employed, consistency between filings of plans exists, and a systematic review process for the public and regulators is established. This should not be so rigid as to preclude planning innovation by utility planning staff and permit flexibility where appropriate.

3) **Required Implementation:** The resource planning process must require the submission of an action plan for regulatory review. The plan must detail the means by which the utility plans to acquire and implement resources, with cost-effectiveness being the key priority.

4) **Utility Responsibility for Plan Creation:** If integrated demand and supply planning is to be internalized by investor-owned utilities, the expertise and data for plan development must originate from within. This increases the likelihood that the utilities will abide by their plans and that they will be more successfully implemented.

5) **Plan Enforcement:** Unless the regulatory process provides for an effective enforcement mechanism to ensure that the utility adequately conducts the planning process and follows through with the acquisition and implementation of plan resources, the entire process can become a meaningless exercise. Procedural integration of the planning process can greatly facilitate enforcement of the planning process.[10]

Wisconsin

The 1975 Wisconsin Power Plant Siting Law and implementing regulations of the Wisconsin Public Service Commission (PSC) gave the commission broad planning, siting, and environmental review authority. This landmark law

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[10]Jon B. Wellinghoff and Cynthia K. Mitchell, 1985, p. 20.

initiated capacity planning and the evolution of least-cost planning in Wisconsin. The legislation requires each utility to file an "advance plan" for the construction of facilities. The biennial filing must include a long-range, 20-year demand forecast, plans for the construction of proposed generating and transmission facilities, and an analysis of alternatives to the proposed generation and transmission facilities. The utility advance plans are submitted to the PSC, which compiles the individual plans into the statewide advance plan (see Attachment B for Wisconsin statutes and information on the PSC).

In the fall of 1986, Wisconsin completed its fourth statewide advance plan. In reviewing this plan, the commission (for the first time) established integrated least-cost planning of both supply and demand-side options as the framework for utility submissions in the upcoming fifth advance plan.[11] The previous lack of integration of supply and demand analyses was seen as the only major short-coming of Wisconsin's planning effort; this supply and demand integration places Wisconsin's planning efforts on par with those of Nevada.

In contrast to Nevada, which passed least-cost legislation, wrote accompanying regulations, and introduced their first resource plans in an approximately one-year period, least-cost planning started earlier but was an evolutionary process in Wisconsin. This successful evolution was dependent, however, on a strong statutory framework and the authority vested in the commission.[12] The Wisconsin PSC indicates that a planning framework should contain the following elements:

1) The commission should have the authority to require utility submission of long-range plans on a regular basis.

2) The commission should have the authority to approve or reject plans based on a weighing and balancing of a broad set of factors (economic, environmental, health, safety, reliability, engineering) in order to best serve the public interest.

3) The commission should have the authority to modify submitted plans to make them acceptable. This is the most important tool to shape the direction of future utility plans. The rejection of plans alone may leave no option for proceeding.

4) There should be a link between the plans that are filed and subsequent approval of construction proposals and rate cases which implement those plans. This allows the commission to monitor the implementation of plan directions and makes plans truly strategic.

5) Utility planning should be open to the public and state agencies for review and input.

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[11] Mary Lou Munts, Chairperson, Wisconsin Public Service Commission, "Least-cost Electricity Planning: Barrier and Benefits", presentation to the National Association Regulatory Utility Commissioners convention, November, 1986.

[12] Ibid.

The Wisconsin PSC has used this authority to make two rather dramatic changes in energy directions. The first occurred in 1978, with the submission of the first advance plan. Utilities were planning to construct seven new nuclear units totaling 6,500 megawatts of capacity in the state. This included three units for which there were active applications before the commission. (It should be noted that Wisconsin's total generating capacity was 10,500 megawatts in 1986, which is considered adequate until the late 1990s). The commission determined that nuclear power would not be an economic choice, and directed the utilities to cease planning for nuclear power. It is uncertain if or when the utilities would have reached this same conclusion, but the commission believes that at least two plants specifically rejected by the commission would have been commenced, potentially costing Wisconsin consumers hundreds of millions of dollars.[13]

The second planning redirection ordered by the commission was the assessment that conservation, renewable resources and cogeneration were technically and economically feasible alternatives to the conventional power plant. This recognition led to the requirement that utilities prepare plans that consider these alternative resources with the goal of avoiding new power plant construction. Least-cost integrated planning is an extension of this direction and requires that all options be evaluated and compared in a systematic and comprehensive framework.[14]

The Wisconsin commission views the comprehensive planning process as a great opportunity to save rate payers money by reducing unnecessary expenditures and by creating a more financially stable environment for utilities. They believe that the benefits to both consumers and utilities of their evolving least-cost planning process have far outweighed its costs.

Pacific Northwest

The Northwest Conservation and Electric Power Plan was issued April 27, 1983, pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (also referred to as the Northwest Power Act). The act established the Northwest Power Planning Council, comprised of eight members, two each from the states of Idaho, Montana, Oregon, and Washington. The council in part, is authorized "...to achieve cost-effective conservation, to encourage the development of renewable resources,...to assure the

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[13] Ibid.

[14] Ibid.

region of an efficient and adequate power supply."[15] Under the Northwest Power Act, the Northwest Power Plan must be reviewed at least every five years to determine if the action plans that identify near-term objectives and measures are being met. Because of the number of changes in the regional electrical energy picture, a new plan was adopted in January 1986.[16]

The Northwest Power Plan was utilized in part by the Nevada Office of Consumer Advocate and the Nevada Public Utility Commission as a reference and guide in the development of Nevada's statutes and regulations. Major similarities between the regulations can be seen throughout. For example, both require the development of a range of forecasts to assess the sensitivity and risk of resource options to demand uncertainty. Also, both require the development of two-year implementation plans. The major differences between the Pacific Northwest and Nevada legislation are in the areas of responsibility and enforcement.

Both of these differences stem largely from the fact that the Northwest plan is developed on a regional basis. The plan is not tailored to the unique characteristics of individual utilities. Therefore, the burden of plan development rests with the council and not utilities. The council also has limited powers of enforcement. The Bonneville Power Authority (BPA) and other utilities can seek exemptions to components of the plan's requirements, specifically the model conservation standards. If adopted throughout the region, the conservation standards could save the Northwest two to four coal power plants. Unfortunately, many of the region's major utilities have failed to sign long-term conservation contracts with the BPA. A preliminary study by the council indicates that delaying conservation standards two years could cost the region $200 million.[17]

California

The state of California has two state agencies actively involved in utility regulation, the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC). In general, the CEC is responsible for regulating utility long-range actions such as resource planning. The CPUC is responsible for regulating utility short-term actions such as general rate cases and current conservation programs.

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[15] "Pacific Northwest Electric Power Planning and Conservation Act," Bonneville Power Administration, U.S. Department of Energy, December 5, 1980.

[16] "Report to the Governors-elect of Idaho and Oregon," Northwest Power Planning Council, December, 1986.

[17] "Northwest Energy News," Northwest Planning Council, Vol. 3, No. 6, November-December, 1984.

The 1975 Warren-Alquist State Energy Resources Conservation and Development Act in part established a state policy "... to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy...." The act requires the CEC to prepare and submit to the governor and legislature: 1) a biennial report assessing current and future energy trends in California; and 2) a state energy policy with recommendations for its implementation. In developing these reports, the CEC requires the utilities to submit long-range supply and demand analyses using methodology prescribed by the CEC. The utility reports submitted to the CEC must contain five, twelve and twenty-year forecasts for electric demand, assessment of supply capacity to service this demand, options for reducing demand, utilization of conservation programs, and potential sources of energy (see Attachment D).[18]

According to an analysis by the Nevada Office of Consumer Advocate, the California landmark legislation is lacking in four respects:

- it does not specifically require the development and implementation of a least-cost plan even though it requires utilities to assess conservation and available options to reduce demand.

- there is no formal integration between the CEC long-range planning efforts and the CPUC rate case proceedings. This weakens the implementation and monitoring aspects of the long-range planning effort and increases the likelihood that important information will fall through the regulatory "cracks".[19]

- the CEC has no clear power of enforcement of plans. Permits are not denied based on a utility's failure to submit information to the CEC.

- the CEC rather than the utility has the primary responsibility for plan development. This can make implementation and enforcement more difficult.

The State of California has indicated, however, that its energy policy is moving away from an integrated resource planning approach to an "avoided cost" or "marginal cost" philosophy for issuing permits for the construction of additional supply capacity. Under this system, permits for new generating facilities would be issued with the understanding that utilities would only be paid its "avoided or marginal cost" for energy from the facility at the time it comes on line. Because of the very high cost of additional generating capacity, it is likely that this process could lead to no construction and subsequent capacity shortages.[20]

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[18]Warren-Alquist Act, Sections 25300-25323.

[19]Wellinghoff and Mitchell, 1985, p. 22.

[20]Ibid.

Florida

The 1980 Florida Energy Efficiency and Conservation Act (Attachment E) requires "... increasing efficiency of the electric and natural gas systems of Florida and the end uses of these sources of energy...." Regulations adopted by the public service commission require utilities to "review and revise utility operating practices...plan development of the bulk power system...increase the efficiency of existing generating units...aggressively integrate nontraditional sources of power generation...and increase efficiency of transmission and distribution systems." The act established a five-year goal (beginning in January 1981) of an approximate 25 percent reduction for all electric utilities in peak demand and energy consumption.

The governor's energy office 1985 annual report states that reducing Florida's per capita energy consumption and the state's reliance on petroleum is the primary goal of the office. Conservation is the principal focus for the energy office's program. The second major objective is the promotion of renewable energy resources, especially solar energy. The third major objective is to effectively plan for energy disruptions as a result of the state's dependency on petroleum.

Under Florida's planning provisions, the public service commission sets goals which the utilities must meet. Florida has been successful with this approach; utilities have shown an increasing spirit of cooperation in voluntarily proposing major conservation and load management programs. No utilities have proposed new generating facilities despite Florida's high population growth rate. Florida's statutes and regulations, however, do not constitute an integrated resource planning process. Neither a least-cost nor an implementation plan is required. The utilities do not independently assess the optimal level of conservation potential but instead work under the commission's established goals. There is also no enforceable regulatory connection between resource planning and construction permit proceedings. The success to date of Florida's process appears to be a result of the commitment of the people involved in the process rather than the structure of the Florida statutes and regulations.[21]

Minnesota

Minnesota is in the process of establishing least-cost planning legislation. The stated purpose of the legislation is "...to assure that Minnesota consumers pay the lowest cost possible for electricity. Least-cost planning would require that electric utilities plan to invest in all cost-effective supply and demand options (i.e., conservation, cogeneration,

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[21]Wellinghoff and Mitchell, 1985, p. 22.

and renewable energy) instead of building expensive, environmentally risky new power plants to meet consumer needs. Least-cost planning would tie together the state's review of electric utility rates, advance forecasts, requests for permits to build new power plants, and conservation." Minnesota also identifies the following benefits from least-cost planning:

- Significant cost savings to all sectors of the state's economy;
- Increased use of environmentally cleaner sources of energy;
- Decreased dependence on nonrenewable fossil fuels;
- Financially healthier utilities; and
- Improved coordination of state agencies' responsibilities.

The least-cost planning section of the draft legislation requires utilities to submit least-cost plans to the public utilities commission biennially commencing in 1989. The plans must include annual demand, sources of supply, and energy forecasts for a 15-year period. The supply and demand forecasts must be integrated to obtain a least-cost option. The public utilities commission is given the authority to approve, modify, or reject the plan. The draft legislation appropriates $500,000 from the general fund to the public utilities commission to carry out the legislation, which includes the development of regulations and the addition of five staff positions. The appropriation is available until January 1, 1989 (see Attachment E for a copy of the draft legislation).

New York

The 1976 State Energy Law established a State Energy Office to work with other state agencies in the development and coordination of an overall state energy program. Members of the New York Power Pool are required to prepare an annual, comprehensive, long-range forecast of future demand, future generation facilities, and anticipated expenditures for conservation, load management, electric generation, and transmission.[22] The State Energy Office conducts hearings on the utilities' composite filing and prepares a report of the long-range electric and gas demand and supply requirements of the state.

The public service commission is required to review the plan to determine whether it is cost-effective and whether the plan will result in significant energy savings. The commission must also determine if additional supply capacity is warranted based on the plan. In 1984, the commission set a major new energy conservation policy requiring each of the state's electric utilities to place energy conservation on equal footing with power plant construction and alternative forms of electric generation.[23] The utilities have been directed to commit portions of annual revenues to the development of comprehensive energy plans (see Attachment G for New York energy statutes).

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[22]State of New York, Energy Law, Chapter 17-A, July 26, 1976.

[23]New York Public Service Commission, Order 84-15, May, 1984.

Ohio

The state of Ohio initiated least-cost resource planning in November 1986 through a grant to the Public Utilities Commission of Ohio to research the methodology of incorporating least-cost options into the regulatory process. The study is being conducted in cooperation with the Ohio Office of Energy Conservation. Least-cost planning is a priority of the governor. Energy conservation is also a high priority of the state; conservation is considered a primary tool to foster economic development in Ohio. In 1983, legislation was passed that requires every major gas and electric utility to submit a long-range forecast and a description of planned utility supply resources to the Public Utilities Commission of Ohio. The present least-cost study is aimed at amending the current statute to specifically require integrated least-cost resource planning. See Attachment G for an overview of the Ohio least-cost study and Ohio statutes.

Oklahoma

Oklahoma does not have a formal least-cost planning effort, but the Oklahoma Corporation Commission (OCC, which is the public utilities commission) "encourages" utilities to do so. The legislature has also given the OCC a directive to biennially prepare a 10-year electricity supply and demand forecast.[24] The Public Service Company of Oklahoma proposed to the commission a comprehensive rate program which the company calls the "New Direction." The program's goals--to encourage conservation, decrease the need for future generating units, improve utilization of existing generating equipment, and provide opportunity for greater consumer choice--are similar to most least-cost resource planning efforts. The New Direction program uses an innovative rate structure to attain these goals. The program has been in place since 1984.

The New Direction strategy utilizes the marketplace and the most powerful marketing variable--price--as both a fundamental cause of and potential solution to the problems of customers and utilities. A selection of price and service options as well as meaningful incentives for prudent and efficient energy use are offered to various customer segments. The New Direction program recognizes the difference in customer needs and their effect on the energy marketplace. Finally, the strategy recognizes that only those customers who require special services should pay for those services.[25]

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[24]Personal communication, Oklahoma Corporation Commission staff, January 1987.

[25]Baker, Hamp, "A New Direction for an Electric Utility - A Commissioner's Viewpoint," Public Utilities Fortnightly, November 22, 1984, p. 23.

The New Direction program offers the following four residential programs.

- an optional base price which offers price incentives to residential customers who can minimize the amount of energy they use above 800 kilowatt hours (KWH) per month during peak months;
- incentives to customers who upgrade low-efficiency equipment to high-efficiency units;
- price reduction for homes qualifying as energy-efficient; and
- a price break for customers who consistently use less than 400 KWH per month.[26] This latter option rewards customers who consistently conserve electricity; it is opposite to previous electrical pricing options which encouraged energy usage by reducing the price as consumption increased.

The program also offers commercial and industrial programs which include level-of-service price schedules, time-of-day prices, and an industrial interruptible price option. Similar to the residential programs, the industrial and commercial programs recognize the different needs of customers, reward conservation, and are aimed at shifting demand away from high-use periods to lower-use periods. Basic to the program is the recognition that the cost of energy is not constant throughout the day or the year. Variable pricing encourages customers to alter their use patterns in order to use cheaper power. The program achieves more efficient use of energy through load management and encouraging conservation.

The New Direction program is revenue neutral, meaning that it offers no immediate revenue increase to the utility company. The ten-year goals for the program are: 1) no change in energy sales; 2) reduce peak demand 527 megawatts (13 percent) which equals one major generating unit; 3) reduce energy prices by ten percent per kilowatt-hour; 4) lower revenue requirements by $566 million; and 5) earn a reasonable return on investment. The OCC requires that the program must benefit all the customers of the utility (both those who qualify for new rates, credit, or payments and those who do not).[27] See Attachment I for more information on the New Directions program.

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[26] Ibid.

[27] Ibid, p. 24.

Texas

In 1983, the legislature amended the Public Utility Regulatory Act to require the Texas Public Utility Commission (TPUC) to develop a long-term statewide electrical energy forecast to be sent to the governor biennially. The forecast must include an assessment of how alternative energy sources, conservation, and load management will meet the state's energy needs. The act also requires each utility to submit to the commission a ten-year forecast of demand and supply options available to service the demand. The Texas legislation requires an integrated resource planning approach. Least-cost planning, however, is addressed only in the rules developed by the TPUC.

Recent conversations with TPUC staff indicate that the resource planning process is presently experiencing considerable upheaval. While the Public Utility Regulatory Act is considered fairly rigorous, the rules developed by the TPUC commissioners are considered too general to be binding on the utilities. This has resulted in utilities filing plans that are considered inadequate by TPUC staff and the public. In September 1986, 16 Texas consumer groups filed a petition against the TPUC to expand the rules and make them more specific. The petition was denied by the commissioners, who instead created a task force to study the problem. Public hearings regarding these controversies are presently underway. See Attachment J for a copy of Texas statutes, rules, and the citizen petition.

ENERGY AGENCIES AND POLICIES IN OTHER STATES

The organization and function of energy agencies in the states appears to be in a transitional stage. Conversations with staff at the Council of State Governments, National Conference of State Legislatures, and a number of state energy agencies indicate that department level energy agencies were usually established in the mid-1970s in response to the oil embargo. There is presently a trend to dissolve these departments and shift the responsibilities to divisions or offices in other agencies. The reasons for these changes were most often identified as being part of a more general consolidation trend aimed at increased fiscal efficiency and/or a maturation and shift in state energy policy. The majority of states' energy agencies are divisions or offices. Table 1 presents the most recent summary of state energy agencies dates from the 1982 Book of the States.

MAJOR STATE SERVICES

Table 1
STATE ENERGY AGENCIES

State	Organizational categories*				Basis of establishment	
	Department agency	Commission/ council	Office	Division	Statute	Executive Order
Alabama	*				Act 80-449 of 1980	
Alaska				*		21
Arizona			*			77-10
Arkansas				*	Act 7 of 1981	
California		*			Pub. Res. Code 25000 et seq.	
Colorado			*			Issued 7/1/81
Connecticut				*	Title 16a	
Delaware				*	63 Del. Law Ch0. Sec. 56(b)	
Florida			*		377 601-703 F.S.	
Georgia			*		Ga. law 1976, P 1740	
Hawaii			*		Act 237, 1974	
Idaho			*			76-4
Illinois	*				Chap. 96½, Sec. 7401 et seq.	
Indiana				*		1973 Ex. order
Iowa		*			93.1-93.16	
Kansas	*				74-6801 et seq.	
Kentucky	*				S.B. 307	
Louisiana				*	LRS 30 501 et seq.	
Maine			*		Title 5, Chap. 338 MRS	
Maryland				*		1973 Ex. order
Massachusetts	*				Chap. 25A	
Michigan			*			1976-2
Minnesota	*				Chap. 116H, 116J	
Mississippi		*				No. 151, 164, 177 & 270
Missouri				*		1977 Ex. order
Montana				*		1979 Ex. order
Nebraska	*				L.B. 954, 1980	1980 Ex. order
Nevada	*				NRS 523, all et seq.	
New Hampshire		*				73-12
New Jersey	*				N.J.S.A. title 14, Sec. 1 1, Chap. 146	
New Mexico	*				Chap. 239	
New York			*		Chap. 819 & 707, L. 1975	
North Carolina				*	Chap. 1138	
North Dakota			*			1974 1
Ohio	*				H.B. 415	
Oklahoma		*			740 S. 1981, Sec. 34.1	
Oregon	*				Rev. Stat. 469.010 et seq.	
Pennsylvania		*				Issued 7/19/79
Rhode Island				*		E.O. 81-4
South Carolina			*			Issued 9/11/78
South Dakota			*			77-7
Tennessee	*				TCA § 28-101 et seq.	
Texas		*				
Utah				*	63 272-77	
Vermont			*		13, Chap. 41, Sec. 2286 VSA	
Virginia				*		No. 5-1978
Washington	*				Chap. 295, L 81	
West Virginia				*		
Wisconsin				*	Chap. 16, 197[illegible]	
Wyoming			*			

* Are: Department agency—line item agency in state budget; cabinet-level status. Commission/council—governing body composed of gubernatorial appointees (public agency heads, legislators) with executive direction retained to carry out governing body's policies. Office—functional unit of executive office (governor or lieutenant governor). Division—energy agency under the direction of a cabinet-level department.

Source: Book of the States, 1982-1983, Council of State Governments, p. 658.

The structural organization and role of these agencies are generally a reflection of energy policy in the state; policies in the states tend to be influenced by whether the state is a net buyer or seller of primary energy resources. States that are primarily buyers and/or heavy users of energy resources focus their energy policy towards conservation. An example is Ohio which has an Office of Energy Conservation in its Department of Development. Staff in that office stressed that energy conservation is considered a primary development tool in Ohio. States that are producers of energy resources tend to be more focused on production and are often relatively high per capita users of energy. The higher use of energy may in part be attributed to the lower price of local resources and/or the perception that these resources are not scarce. Regardless of whether states are net buyers or sellers of energy resources, the office or division of energy is often part of the governor's office or in a department of commerce and economic development. In regard to your question concerning the consolidation of other state energy programs, **almost all other states' programs appear to be considerably more consolidated than Alaska's.** The only exception to this is California, where the organization of energy programs is very complex as a result of the the state's large population and size.

For all states, the three major government energy responsibilities are regulation and plant siting, planning and forecasting, and conservation. Most states place **regulation and siting responsibilities** with their public utilities commission (PUC). The development of new projects are almost always reviewed by PUCs in other states. The primary function of commissions is to balance the public's and utilities' interests. Because of this, most states also have a consumer advocate office staffed with economists and attorneys to represent consumers before the commission; utilities are usually amply represented. There is no office in Alaska that plays the role of a consumer advocate office. Generally speaking, other **states' PUCs are statutorily granted greater authority to provide more utility oversight than the Alaska PUC.** The majority of states have three commissioners in the PUC; Alaska has five (see Table 2). Attached is information on utility regulation in other states and a draft model consumer advocacy legislation prepared by the Council of State Governments (Attachment K).

Table 2
STATE PUBLIC UTILITY COMMISSIONS

State or other jurisdiction	Regulatory authority	Members: Number	Members: Selection	Selection of chair	Length of commissioners' terms (in years)	Number of full-time employees
Alabama	Public Service Commission	3	E	E	4	90
Alaska	Public Utilities Commission	5	GL	G(a)	6	49
Arizona	Corporation Commission	3	E	C	6	167
Arkansas	Public Service Commission	3	GS	G	6	101
California	Public Utilities Commission	5	GS	G	6	987
Colorado	Public Utilities Commission	3	GS	G	6	96
Connecticut	Public Utilities Control Authority	5	GL	C	4	107
Delaware	Public Service Commission	5	GS	G	5	17
Florida	Public Service Commission	5	GS	C	4	336
Georgia	Public Service Commission	5	E	C	6	119
Hawaii	Public Utilities Commission	3	GS	G	6	17
Idaho	Public Utilities Commission	3	GS	G	6	55
Illinois	Commerce Commission	7	G	G	5	348
Indiana	Public Service Commission	5	G(b)	G	4	91
Iowa	State Commerce Commission	3	GS	G	6	175
Kansas	State Corporation Commission	3	GS	C	4	254
Kentucky	Public Service Commission	3	G	G	3	90
Louisiana	Public Service Commission	5	E	C	6	74
Maine	Public Utilities Commission	3	GS	G	6	54
Maryland	Public Service Commission	5	GS	G	5	123
Massachusetts	Dept. of Public Utilities	3	G	G	4(c)	134
Michigan	Public Service Commission	3	GS	G	6	215
Minnesota	Public Utilities Commission	5	GS	G	6	24
Mississippi	Public Service Commission	3	E	C	4	115
Missouri	Public Service Commission	5	GS	G	6	261
Montana	Public Service Commission	5	E	C	4	44
Nebraska	Public Service Commission	5	E	C	6	54
Nevada	Public Service Commission	3	G	G	4	82
New Hampshire	Public Utilities Commission	3	C	G	6	51
New Jersey	Board of Public Utilities	3	GS	G	6	323
New Mexico	Public Service Commission	3	GS	G	6	40
New York	Public Service Commission	6	G?	G	6	605
North Carolina	Utilities Commission	7	GL	G	8	164
North Dakota	Public Service Commission	3	E	C	6	60
Ohio	Public Utilities Commission	5	GS	G	5	375
Oklahoma	Corporation Commission	3	E	C	6	433
Oregon	Public Utility Commissioner	1	G		4	349
Pennsylvania	Public Utility Commission	5	GS	G	10	575
Rhode Island	Public Utilities Commission	3	GS	G	6	41
South Carolina	Public Service Commission	7	GS	(d)	4	145(e)
South Dakota	Public Utilities Commission	3	E	C	6	24
Tennessee	Public Service Commission	1	E	C	6	155
Texas	Public Utility Commission	3	GS	C	6	204
Utah	Public Service Commission	3	GS	G	6	48
Vermont	Public Service Board	3	GS	G	6	26(e)
Virginia	State Corporation Commission	3	L	C	6	468
Washington	Utilities and Transportation Commission	3	GS	G	6	199
West Virginia	Public Service Commission	3	GS	G	6	177
Wisconsin	Public Service Commission	3	GS	G(f)	6	158
Wyoming	Public Service Commission	3	GS	C	6	41
Dist. of Col.	Public Service Commission	3	M	C	3	31
Puerto Rico	Public Service Commission	5	GS	GS	4	243

Source: National Association of Regulatory Utility Commissioners, *Annual Report on Utility and Carrier Regulation, 1984* (Washington, D.C. 1985)

Key
G—Appointed by Governor
GS—Appointed by Governor, with consent of Senate
GL—Appointed by Governor, with consent of entire Legislature
E—Elected by the Public
C—Elected by the Commission
L—Appointed by the Legislature
M—Appointed by the Mayor

(a) Chairman serves in that position for four years
(b) Legislation enacted in 1983 created a nominating commission, members of which submit a panel of three candidates to the governor for consideration
(c) Co-terminous with governor's
(d) Chairmanship rotates every two years
(e) Updated information not available. No response to survey
(f) Chairman serves in that position for two years

Source: Book of the States, 1986-1987, Council of State Governments, p. 358.

Many of the functions of the Alaska Power Authority (APA) are conducted by public utility commissions, utilities, and energy offices in other states. The APA also appears to be a unique entity among the 50 states. There are power project bonding authorities in other states but their roles are usually limited to that function alone. West Virginia created the Public Energy Development Authority in 1985 to issue bonds for constructing energy-related facilities (i.e., power plants and transmission lines). The function of the West Virginia authority is only to issue bonds. Energy plan development and facility promotion and financing are generally viewed as conflicting objectives in other states.

In the area of planning and forecasting, these activities are usually the responsibility of the office or division of energy. Most of the states discussed in this memorandum have an extensive planning process which results in the development of a statewide plan. The planning process entails the specification of energy policy and the formulation of objectives or goals. The plan identifies how these objectives are to be met and requires implementation and monitoring to assure that the goals are achieved. True strategic plans such as those of Nevada and Wisconsin are a dynamic process. In contrast, Alaska's Energy Plan, which is prepared by the APA, is more of a catalogue of energy information and activities. This is probably the result of the lack of a lead energy agency formulating state energy policy and the disaggregation of programs among agencies.

States vary considerably as to whether they conduct energy plans or whether the utilities are required to present plans developed in accordance with state statutes and regulations which are then incorporated by a state agency into a statewide plan. Most of the states discussed in this memorandum require utilities to submit plans; the costs for plans are covered by utility rates which are approved by the PUC. The states which require utilities to develop plans have generally been more successful with implementation and enforcement. In states where utilities prepare plans, the office of energy conducts demand and supply forecasts, provides technical information regarding conservation and alternative energy, and takes a lead role in formulating and carrying out state energy policies. In Wisconsin, for example, the PUC writes a statewide energy plan which incorporates the plans submitted by individual utilities.

In some states, the PUC is responsible for energy planning and demand forecasting. They believe this more closely ties the planning process to utility rate determinations, which is the ultimate objective of utility regulation. The Wisconsin PUC, for example, has divisions of planning, rate determination, and conservation.

Many of the offices of energy have a separate functional section that covers conservation, weatherization, and federal programs. Energy assistance (federal dollars to directly pay utility bill), however, is sometimes administered through departments of social service with other state and federal low-income assistance programs. In Alaska, weatherization and some federal dollars are administered by the Department of Community and Regional Affairs; energy assistance is administered by the Department of Health and social Services.

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If you have any questions, or wish additional information, please contact this agency.

Attachments