PUGET SOUND REINFORCEMENT PROJECT - PLANNING FOR PEAK POWER NEEDS

Puget Sound Reinforcement Project: Planning for Peak Power Needs

Scoping Report, Part A
Summary of Public Comments

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Tacoma City Light

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MASTER

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SCOPING REPORT, PART A

Summary of Public Comments

1.0 Introduction

This report summarizes public participation in the environmental scoping process for the Puget Sound Reinforcement Project, a Bonneville Power Administration (BPA) and Puget Sound area utilities study of voltage stability in northwestern Washington state.

The environmental scoping phase of the Puget Sound project consisted of a series of public meetings and a public comment period. The content of these meetings is summarized in 2.0, Public Involvement. In 3.0, Comment Summary, the report summarizes comments received via meetings, mail and phone.

The report ends with a description of the next steps in the project. Chapter 4.0, describes the decision process to be used by BPA and area utilities. Chapter 5.0 describes opportunities for public participation in decisions to be made about the future reliability of Puget Sound's electricity supply.

1.1 Background: Puget Sound Reinforcement Project

During times of peak electricity use, the Puget Sound area obtains over three fourths of its power via high voltage transmission lines across the Cascade Mountains. During the cold snap of February 1989, loads were the highest ever recorded. Subsequent BPA studies showed that if one of the cross-Cascade lines or a major generator had failed during the cold snap, the area could have experienced a blackout or brownout. Known as voltage collapse, this phenomenon causes an overloaded system to shut down line by line in domino fashion.

While voltage collapse of a major load center has not been experienced in the Northwest, it has happened in other parts of the world. Voltage collapse in Puget Sound could also spread outside the area.

With power loads in the Puget Sound area growing faster than anywhere else in the region, the risk of a system failure during stress is projected to increase. When this risk surfaced, BPA and Puget Sound area utilities accelerated existing efforts for studying and solving problems of this nature.

Because any action—including no action—creates potential impacts to the environment, BPA simultaneously initiated a process of environmental review. Impacts associated with each of the solution categories will be further examined in an EIS called the "Puget Sound Reinforcement Project - Planning Phase EIS."

1.2 What is Scoping?

Scoping is the first step in fulfilling the requirements of the National Environmental Policy Act (NEPA). This 1969 law requires a federal agency like BPA to study potential environmental effects of a project like the Puget Sound Reinforcement Project.

Scoping determines the proposed scope of the Draft EIS. General goals of scoping are:

- Identify potential alternative solutions.
- Define the nature and extent of the problem.
- Identify environmental issues that need to be studied or considered.

The scoping process relies heavily on public comments. This report summarizes comments BPA recorded during scoping and provides a transition to the next phase of environmental review, preparation of a draft EIS. It also provides notification to those who have participated in earlier public meetings so they can continue to participate.

1.3 The Role of Puget Sound Utilities in the Puget Sound Reinforcement Project - Planning Phase Environmental Impact Statement

The primary objective of the Puget Sound Reinforcement Project is to develop a plan intended to assure that future peak power needs of the Puget Sound area are met. It is anticipated that the plan will be a valuable guide for future actions by BPA and Puget Sound public and private utilities.

The planning phase EIS will identify environmental trade-offs for various alternative plans. It will discuss the range of choices that might be taken to solve the problem, and allow individual utilities to decide which course of action would be most effective. While the approach has been described in other instances as "one utility planning", it is not intended to override or replace any planning efforts of individual utilities. In addition, it will not identify which utilities will implement elements in the plan other than those that are already in various stages of implementation. Instead, individual utility efforts should give appropriate consideration to this and other efforts at regional planning.

Representatives of Seattle City Light, Tacoma City Light, Puget Sound Power & Light, and Public Utility District #1 of Snohomish County are cooperating with BPA in this project as defined in a letter agreement of March 1990 (Appendix A). This agreement set up an executive level Steering Committee for policy guidance and a Project Management Team to coordinate the utility study team efforts. All five utilities are equally represented at both levels.

Each of these utilities participate in study teams formed around the major solution categories: conservation and load management, local generation, transmission reinforcement, and load curtailment. Additional teams were formed to coordinate load forecast, public involvement and environmental studies. Thus, the region's public and private utilities are cooperating fully in the search for solutions to the Puget Sound problem.

To recognize the important role of the regions' non-Federal utilities, the term "cooperating entities" characterize their role in the NEPA process. The Council on Environmental Quality regulations for

implementing NEPA are not broad enough to allow them to be called "cooperating agencies". The environmental impacts of the overall plan will be addressed in the EIS without regard for who might sponsor elements of the plan.

2.0 Public Involvement

The NEPA process formally began on October 27, 1989, when BPA published in the *Federal Register* a Notice of Intent to prepare an environmental impact statement for the Puget Sound Reinforcement Project.

Public involvement is an integral part of NEPA review. Public comment is crucial in determining impacts that might result from any given course of action. The two processes—NEPA review and public involvement—are intertwined.

To begin the process, BPA gave individual briefings on the problem to Puget Sound utilities, local governments, public agencies, members of the press, special interest groups and the Northwest Power Planning Council. Newspaper articles and an 'Issue Alert' helped alert the public to the growing risk of blackout in Puget Sound.

Formal scoping events are summarized below. Upcoming opportunities for the public to participate in the Puget Sound Reinforcement Project are described in Chapter 5.0, Further Opportunities to Participate.

2.1 Public Scoping Meetings

In December 1989, BPA announced by letter and by advertisements in area newspapers, four public scoping meetings to be held on January 3 and 4, 1990, in Wenatchee and Seattle, Washington. The purpose of the meetings was to:

- Introduce and clarify the problem in Puget Sound.
- Receive input on the decision process.
- Invite participants to join a Technical Review Group (TRG).
- Identify solution options.

Members of the general public, special interest groups, consultants and utility representatives attended the scoping meetings. Participants are listed in Appendix B. BPA recorded the comments, which are summarized in 3.0, Comment Summary.

2.2 TRG

At the scoping meetings in January, BPA invited those with an interest to join a Technical Review Group. The purpose of the TRG is to:

- Identify solution options.
- Help define the problem.
- Critique study methods and assumptions.
- Review criteria for screening options.
- Identify relevant contacts and studies.

The TRG includes individuals from utility, government, environmental and special interest organizations, as well as members of the public. It convened on January 17, March 2, April 19 and August 2, 1990. Participants to date are listed in Appendix B.

2.3 TRG Subgroup Meetings

TRG meetings have been divided into two parts. The first part of the meeting focuses on information of interest to all participants. During the second part, attendees are asked to break into four sub-groups to discuss the solution categories. Discussion has focused on:

- Identifying options within solution categories
- Costs of each option.
- Percent contribution of each option
- Screening evaluation criteria
- Feasibility of options based on screening criteria
- Time constraints on the implementation of each option
- Effect of options on ability to serve peak loads
- Environmental impacts of options

At the first TRG meeting, BPA described the problem and process. People agreed that options taken from one or more of the solution categories would reduce the risk of blackouts:

- Increased conservation and load management efforts.
- Selective load curtailment (voluntary or involuntary).
- Transmission system modifications, including a major new line.
- Additional local generation.

On March 2, an optional tutorial on voltage collapse was presented to TRG members. This set the stage for a briefing on evaluation methodology and proposed screening criteria. The screening criteria are based on market factors, desirable resource characteristics and environmental requirements. These criteria provide guidance to members of the study teams as they consider options proposed during the scoping phase.

On April 19, TRG members discussed and defined the Puget Sound Reinforcement Project problem. Load growth and transmission constraints were discussed in the context of the BPA reliability criteria used for system planning. All issues needing better definition were raised and discussed.

Information discussed at TRG meetings was subsequently gathered and used by the individual study teams in their technical evaluation of each solution category. As previously mentioned, this information will be summarized and distributed through Scoping Report, Part B Preliminary Technical Analyses.

2.4 Solution Options Identified at the TRG Meetings

During the TRG meetings, comments surfaced in one of two forms: identification of possible options within the solution categories, and opinions on the importance or desirability of the options. Options listed below represent the universe of potential solution options identified at the TRG meetings. Screening criteria have not been applied.

2.4.1 Conservation and Load Management Options

Conservation

Residential Sector

- Weatherization programs
- Space heat controls
- Gas backup for heat pumps
- Water heater and shower head controls
- Fuel Switching (space and water heating)
- Appliance efficiency options
- Thermal power storage

Commercial Sector

- Lighting efficiency improvements (including streetlights)
- Fuel switching (space and water heating)
- Energy-use controls (HVAC and water heater)
- Capture lost-opportunity resources in new construction
- Dual fuel boilers
- Thermal power storage

Industrial Sector

- More efficient manufacturing processes
- Lighting measures
- Waste heat recovery
- Increased Direct Service Industry (DSI) conservation
- Dual fuel boilers

Load Management

All Sectors

- Utility distribution system improvements
- Time-of-use and interruptible rates
- Flex time work schedules
- Study load management in other regions
- Energy use controls

2.4.2 Load Curtailment Options

- Curtailment under existing contracts
- Use of media to promote voluntary reduction
- Voluntary curtailment without altering production
- Planned curtailment with at least 4 hours' notice
- Load-shedding industrial cooperatives
- Multiple plant flexibility
- Curtailment without notice (less than four hours)

2.4.3 Transmission Options

- Build an additional transmission line across the Cascades
- Upgrade existing lines
- Install capacitors to boost voltage
- Install controls to enhance system performance
- Import power from British Columbia
- Switch AC lines to DC
- Install Dynamic Voltage Support (DVS) device to increase transmission capacity of existing lines

- Build a DC line from Portland or the Dalles to Puget Sound
- High tech solutions, e.g. superconductors, microwave transmission

2.4.4 Local Generation Options

- Oil or Gas combustion
- Geothermal generation
- Cogeneration
- Fuel Switching
- Nuclear generation
- Hydroelectric generation
- Coal-fired generation
- Biomass -fired generation
- Municipal solid waste combustion
- Wind generation
- Solar thermal electric generation
- Photovoltaics
- Wave energy generation
- Hydrogen
- Fuel Cells
- Storage Systems
- Standby generation

3.0 Comment Summary

As part of the public scoping process, BPA has recorded hundreds of comments from scoping and TRG meetings, letters and phone conversations. Commentors include private citizens, representatives of utilities, academia, local governments, and special interest groups.

General public and TRG comments are summarized separately to retain the descriptive level of technical detail inherent to the TRG comments. Comments are summarized in a succinct and objective fashion. Verbatim comments are available for review. Commentors names and affiliations when given are listed in Appendix B.

3.1 Public Comments - Scoping Meetings, Letter, Phone

Most comments are grouped into the four broad solution categories: conservation and load management, load curtailment, transmission, and local generation. Additional subject groupings include those comments which could not be included in the above mentioned categories.

3.1.1 Public Comments - Conservation

The greatest number of comments were received in the conservation category. Commentors expressed support for strong BPA and area utility conservation programs asserting that conservation could solve the problem in the Puget Sound area. Conservation was identified by some to be the most cost-efficient alternative. In addition, it was stated that increased conservation efforts could delay if not avoid the need for new power plants, transmission lines and their associated environmental impacts.

Conservation comments fell into the three major end-use categories: residential, commercial and industrial. Commentors identified actions promoting increased conservation and suggested actions be implemented through strict building codes. Recommendations included installing efficient appliances, lighting systems and automatic timers on water heaters and furnaces; providing grants and low-or no-cost insulation loans; instituting educational programs; reevaluating rate structure in relation to usage; developing a cost-effective heat exchange system to address indoor air pollution; combining the use of gas and electricity to supply energy needs; reevaluating methods of heating water; and evaluating the size and location of water heaters in the home.

Regarding the commercial and industrial sectors, BPA and area utilities were urged to do away with volume discounts. It was believed this practice fosters industrial and commercial waste and that the concept of volume discounts should be reversed i.e., the more customers use, the more they should pay. However, some commentors felt that conservation could and should be achieved without disrupting industrial and commercial operations. Specific recommendations included keeping employees at work during extreme cold snaps to prevent them from turning up their thermostats at home; installing thermostatic timer devices and more efficient lighting in commercial and industrial buildings; and extending the idea of residential Super Good Cents building standards to these sectors.

3.1.2 Public Comments - Load Management

Comments in this area focused specifically on peak load management. Commentors discussed ways to reduce demand, particularly in the commercial and industrial sectors. The idea of combining electric, gas and oil heating alternatives to help shave peaks spanned all sectors, including the residential sector.

3.1.3 Public Comments - Load Curtailment

Load curtailment was considered a feasible option, predominately in the industrial sector. If daily rate incentives for curtailment did not presently exist, it was suggested that incentives be developed and encouraged for the industrial sector and subsequently experimented with in the residential sector. Some felt that load curtailment would work well as a short-term solution, due to existing contracts with industry and quick availability of savings. However, it was also asserted that curtailment is not the best long-term solution. In addition, commentors noted that, under existing contracts, three quartiles of the Direct Service Industries (DSI) load is a firm obligation of BPA, not to be used as a substitute for planning adequate generation or as reserves for non-BPA load in the area.

It was recommended that all Puget Sound industries be included in any curtailment program, not just the DSIs. The opinion was expressed that any restrictions on power usage should be assessed in terms of compensation or rate discounts for affected industries. Along these lines, it was suggested that industrial co-ops be formed whose power usage would be recorded, and that any planned reduction in power be designed not to disrupt operations.

3.1.4 Public Comments - Transmission

Commentors expressed support for additional transmission, claiming that it is ultimately the most efficient and economical solution to the problem. They felt that a new line would ultimately be needed, regardless of other remedies. The questions and comments turned to identifying a source of power for another transmission line and the location of the line. It was suggested that the new lines be installed along the medians of the state's east/west interstate highways. Population growth was recognized as the driving force behind the need for a new line, and this theme set the tone for comments on who the line would serve and who should pay.

Other commentors were concerned that a new line would be costly, take many years to complete and adversely impact the environment. Commentors suggested ways in which to avoid this solution category. These included increasing conservation programs, upgrading existing lines, promoting population growth in eastern Washington and Oregon, and buying into or leasing space on other Northwest utility lines.

Commentors speculated that obtaining power from British Columbia, California or even the East Coast network would be a workable solution. There was some question on the status of import arrangements, but it was agreed that power should be available from these sources to meet our peak needs.

Participants also discussed the idea of installing underwater transmission cables to import electricity from British Columbia. It was observed that this method has been proven cost-effective and environmentally sound in British Columbia.

It was suggested that the conversion of existing AC lines to DC could substantially increase transmission capacity and reliability. Additional conductors could be added to existing towers. Upgrading lower capacity lines to higher voltage was also suggested.

3.1.5 Public Comments - Local Generation

Commentors agreed that local generation as a solution makes sense. It would cut down on long distance transmission losses, construction of lines and associated maintenance problems. It was also viewed as a low-cost solution. However, concern was expressed over the failure rate of local generation, its costs, and the environmental effects of burning fossil fuel. It was suggested that BPA should not necessarily pay for new generation, especially if BPA's share of the resource costs exceeds its share of the growing loads in the Puget Sound area. This would force ratepayers outside the area to shoulder costs that should be borne by Puget Sound utilities.

The idea of using Navy shipboard nuclear generation during peak times was introduced. It was also suggested that the utility study teams research the possibility of meeting peaks using energy from Pacific Ocean waves.

Support was shown for utility study team research on efficiency improvements through fuel conversion. Commentors thought that estimates of converting household systems (electric space heat and water heater appliances) to gas should be included in the research. If gas is used for residential heating, one commentor stated that area utilities can save an estimated 140 megawatts of peaking capacity.

Support was shown for gas-fired local generation. Some favored the pumping of natural gas from subsurface coal-bearing strata—a fairly new technology—as the most environmentally desirable and economically feasible local generation option. In addition, natural gas reserves in Canada could be tapped and pipelines built from Prudhoe Bay. There were suggestions to build new steam turbine plants, or to convert existing steam turbine plants to gas-fired steam plants. Commentors suggested converting existing and uncompleted nuclear power plants to natural gas cogeneration. Natural gas plants were considered the most acceptable. It was suggested that cogeneration be installed in large buildings using more than 1 megawatt of power.

Commentors had reservations about using natural gas to power combustion turbines due to the greenhouse effect and to the questionable availability of natural gas. BPA and area utilities were discouraged from using combustion turbines to burn natural gas at 30 percent efficiency because the same loads could be serviced at 60-90 percent efficiency through direct home heating. It was suggested that ethanol be used to power the turbines, and that money given to farmers to plow under their fields could be used to subsidize the production of ethanol. Members stated that more research is needed on ethanol use.

Those who did not favor natural gas asserted that it contributes to the area's air-quality problems, has a tendency to escape from pipelines, and would be subject to shortages and inevitable price increase. Environmental effects were considered to be too high.

It was stated that the utility study teams should consider the possibility of burning municipal waste to create energy; municipal waste plants would be inexpensive and could be brought on line relatively quickly. Municipal waste plants were not perceived as a major source of pollutants.

Some participants favored immediate completion of WNP-3. They felt it would be the fastest and cheapest way to meet the area's need—if not completely, then in conjunction with other forms of local generation. It was suggested that any surplus power generated by the plants could be sent to Oregon and California. Nuclear power was perceived as a clean and stable resource. Those in favor of nuclear generation based their support on the current availability of labor and the fact that completion of the plant now would coincide with the decommissioning of Trojan.

Those who opposed the completion of WNP-3 based their objections on the environmental liabilities, high costs, and high on-peak failure rate of nuclear generation. It was suggested that the plant be converted to natural gas cogeneration and nuclear power be dropped from the list of solution options.

It was suggested that statewide burning bans be re-evaluated and lifted during peak load times to relieve stress on the Puget Sound system. Wood-burning was viewed as a conservation measure which could reduce demand for electricity by 30 to 40 percent, with related cost savings. On a larger scale, it was observed that mills in the Puget Sound area have the potential to provide hundreds of megawatts of wood-waste generation. The additional point was made that such generation could help alleviate the landfill crunch, although greenhouse effects would become more of a concern in the future.

The feasibility of large and small-scale local hydro generation was discussed. It was suggested that the technology needed to develop small-scale hydro was relatively straightforward and that bi-directional metering could be used to circumvent the problem of energy storage. With technical and financial backing, supporters said that the cost for building local hydro facilities would decrease, making local hydro a feasible resource. Commentors stressed that any new hydro facility would need to meet environmental standards and not cause excessive interference with existing river uses. Not all could agree that this is possible.

Commentors generally rejected coal-fired generation, as its use would release carbon dioxide and other forms of pollution into the environment. Coal was considered a "dirty" fuel source.

Geothermal resources in Washington were believed to be too limited in both their geographic location and physical scope to provide sufficient flexibility in facility design and siting.

Participants said more solar research is needed. Some emphasized an aggressive program, while others suggested that BPA and area utilities take a "wait-and-see" approach by tracking current solar developments in the Southwest.

Oil-fired generation was considered by some to be an acceptable alternative. Supporters advocated the creation of storage capacity and building reserves in

the region to avoid shortages. A crude oil and water mix, refined or separated and burned, was offered as an option. Supporters stated that it is a clean fuel with relatively unlimited reserves. However, the point was made that oil is one of those fuels that will be subject to fuel shortages and price rises. Some felt it would cause a certain amount of degradation to the environment.

3.1.6 Public Comments - Health and Safety

General concerns focused on whether the utility study team planning process would take into account natural hazards or the issues of security and sabotage. Commentors also wondered how unquantifiable environmental and pollution effects would be dealt with in the study. It was stated that BPA has a lack of concern for public health and safety and therefore it was emphasized that all decisions should improve living standards, not degrade them.

3.1.7 Public Comments - Cost and Economics

Commentors expressed concern over who would pay for any new or upgraded facilities in the region. It was stated that BPA should not bear full financial responsibility, and that rates should be kept as low as possible. BPA and area utilities were urged to replace volume discounts with a pricing structure to cut industrial waste. In general, a thorough economic evaluation of any proposed solution was recommended.

3.1.8 Public Comments - Problem Approach and Planning

Commentors noted that population growth is directly tied to energy consumption. Since they realized that growth and cold snaps would continue to occur, many advocated that economic growth be shifted to eastern Washington and Oregon, i.e. closer to energy sources.

It was suggested that factors which boost loads to high levels be studied individually, and that the growth rates of high users be compared. Industry, especially aluminum, was considered to be a significant consumer of Puget Sound's electricity supply. There were a number of questions on current and projected energy use patterns, and on the role utilities and industries would take in solving the problem. A commentor stated the importance of cooperation

between public agencies and private enterprise. There were many questions on system design and behavior, particularly regarding conditions which might lead to an outage. Participants expressed a general awareness that the risk is escalating, asking several questions about growth rates and the timing of short-term versus long-term solutions.

Commentors recommended technological assistance for developing small-scale solutions and a public education program to raise awareness.

3.2 TRG Comments

There has been general consensus among the TRG members that a combination of solutions might yield the best approach, and that implementation of one option would affect the others. Consequently, members of the subgroups have expressed a desire to integrate their studies with those of the other subgroups.

The distinction between short-term and long-term solutions has been a common question, as well as the allocation of responsibilities and benefits. The importance of coordination with other power-planning and regulatory bodies has been stated.

3.2.1 TRG Comments - Conservation

Comments have focused on planning, i.e., components of the conservation study, methods of analysis, the need to distinguish between conservation and load curtailment, and the importance of integrating any solution into BPA's overall resource strategy. Commentors have also distinguished between energy savings that are already planned versus those that may result from this project. The Washington State Model Conservation Standards bill, recently passed by the legislature, has been mentioned as a potential source of new savings. The study team has been urged to set its evaluation criteria so that lost-opportunity resources are favored. It has been suggested that study teams analyze avoided costs of all alternatives.

Participants have provided a list of useful resources—knowledgeable people, agencies, businesses and public interest groups, as well as relevant reports, studies, plans and requirements.

3.2.2 TRG Comments - Load Management

Peak load management has been a subject of prime concern. Commentors have focused on the need to study load patterns during all seasons and across all sectors, identifying the differences between patterns and the reasons for those differences. There has been a question about the advisability of burn bans during extremely cold weather.

Significant attention has been paid to the effects of growing loads on the system. A view has been expressed that existing curtailment agreements could be expanded, thus contributing more to a load-management solution.

Participants listed useful resources, such as people, organizations, agencies and environmental groups, related studies, reports, databases and projects. Several comments focused on approaches to studying the problem rather than on actual solutions.

3.2.3 TRG Comments - Load Curtailment

The utility study team had been asked for a clear definition of load curtailment and its role in short-term and long-term planning. Many agreed that curtailment is at best a short-term response while long-term planning is underway. Commentors said carefully planned curtailment was preferable to an unplanned blackout. Existing industry curtailment contracts were acknowledged, but there was concern that industry may abandon some of these agreements if service is frequently interrupted. DSI representatives said that their present contracts are not geared to providing a long-term solution for this problem.

There was considerable discussion of the need to give industries notice of curtailment and to limit the duration of any outages. Rotating plant blackouts were suggested as a way of cutting back without halting production. The possibility of residential rolling blackouts in an emergency was discussed. There was also discussion of the health and safety impacts of residential and industrial curtailment. Other issues raised were the conditions for involuntary curtailment, number of megawatts to be cut, and procedures for restoring service.

In order to find out which types of industry might be interested in voluntary curtailment, commentators suggested that other regions with similar load-growth problems be analyzed and volunteer industries identified.

Other suggested components of the study plan were rate implications, curtailment frequency, the effects of growing loads on the system, and utility commission coordination. Several load curtailment scenarios were posed. Alternatives such as load-shedding cooperatives and rate alternatives were also discussed.

3.2.4 TRG Comments - Transmission

There was a significant amount of discussion on planning and identification of problem "ownership." Some wondered whether participating utilities actually agreed that there is a problem, and whether all participants view the problem similarly. Therefore, there was some discussion of each player's role in the solution.

Voltage collapse and system behavior were discussed in depth, including the effects on utility distribution systems. Members said that the probability of a voltage collapse should be studied along with the characteristics of the voltage collapse phenomenon. Also, the social and political effects of a voltage collapse should be taken into account. The discussion then moved to the availability of devices that could sense an impending voltage collapse and automatically intervene.

Electric and magnetic fields (EMF) were discussed. Participants asked what effect EMF would have on the design and construction of a line. It was recognized that states are proposing EMF standards and that conversion of lines would offer an opportunity to reduce the magnetic fields of existing lines. There was concern about the environmental effects of building a line through large wilderness areas of the Cascades.

Members expressed the importance of coordination with other entities—the Northwest Power Pool, Western Systems Coordination Council, the state Energy Facilities Siting Council and Emergency Disaster Group, to name a few. In addition to voltage collapse prevention devices and conversion of lines from AC to DC, other ideas included building a northern connection to British Columbia, upgrading existing lines to increased voltage, constructing a line

from the Dalles into Puget Sound, and researching high technology solutions such as superconductors and microwave transmission.

3.2.5 TRG Comments - Local Generation

Considerable attention was focused on planning horizons, roles of other utilities, and the decision-making process. Like other subgroups, this one wanted clear distinctions between short-term and long-term solutions. They also wanted clarification of utility roles, particularly in the decision-making process; who would be making decisions and identifying steps in the process? Many supported the present role of the TRG, not as a decision-making body but as a review or advisory body.

It was suggested that a planning horizon be defined (possibly 10 years) and solutions be divided into short-term and long term. With regards to solutions, it was suggested that the study teams propose a series of solutions in order to have fallback choices. Changes in fuel use should be anticipated. There was some discussion of Canadian future plans and resources available for purchase. Load growth resulting directly from population growth was discussed in depth. Load growth forecasts ranged from 1 to 7 percent a year. Study team estimates of load growth were considered too low. It was suggested that they follow closely the state's study and discussion of growth and land-use planning; this might provide more clarity on whether energy availability drives growth patterns or visa versa.

In evaluating solutions, lead time for programs was discussed. The point was made that program costs can change within the time it takes to get the program or project on line. Costs can also change as the project progresses, and this can threaten a project in later phases. It was noted that presently excluded technologies could become viable within the planning horizon, and that those alternatives should continue to be monitored.

A question was raised as to whether burn bans apply to cogeneration. It was emphasized that all local generation would need to meet environmental standards which could quite easily change before the year 2000.

Similar to other subgroups, this one compiled a list of resources such as studies, workshops, issue papers, and several independent power producers.

4.0 Decision Process

It was recognized early that the Puget Sound Reinforcement Project is highly complex. A technique commonly used to tackle highly complex issues is to begin studies at a broad scale and try to narrow the range of solution options based on generalized and previously assembled information. The remaining options are then analyzed in more detail. BPA and area utilities have selected this technique for planning purposes on the Puget Sound Reinforcement Project.

Broad-scale, planning-level decisions can be addressed by individual utilities through the vehicle of the Puget Sound Reinforcement Project-Planning Phase EIS. This process can be used by BPA and area utilities in Puget Sound to coordinate individual utility plans in a way that will help reach the best regional solution for the Puget Sound transmission problem.

If required, detailed examination of siting issues and other environmental issues will be done through supplemental EIS's. For example, if the plan adopted calls for 500 megawatts of natural gas-fueled combustion turbines within the Puget Sound area, the utility planning to build the turbine or turbines would prepare a site-specific EIS.

Existing and planned individual utility programs or projects are outside the scope of this decision process. The identification of such programs or projects is solely at the discretion of the individual Puget Sound area utilities.

5.0 Further Opportunities to Participate

Public involvement planning for the EIS phase of the project is being developed. A tentative schedule of EIS, study team, and public involvement activities is displayed in Appendix C. The final meeting of the TRG during Phase 1 is August 2, 1990. A community leadership forum will be held October 2, 1990. This forum will introduce government, business and interest group leaders to the problem and potential solutions.

An EIS Implementation Plan is currently in preparation. This plan will define EIS preparation procedures in greater detail than is provided here. After the implementation plan is approved by the U.S. Department of Energy, it will be made available to the public.

The Draft EIS will be published and distributed for review and comment in late 1990. Public and TRG comments summarized in this report will be used to design the Draft EIS outline which will be included in the EIS Implementation Plan. A series of workshops and public meetings will be planned and announced when the Draft EIS is released.

Appendix A

LETTER AGREEMENT

Management of Puget Sound Reinforcement Project

Under certain conditions, the East-West Main Grid Transmission System is no longer able to support the increasing electrical loads in the Puget Sound Area due to rapidly increasing load growth. In response to this growing problem, the Bonneville Power Administration (BPA) has initiated a Federal NEPA process to evaluate potential solutions.

BPA and various Puget Sound area utilities, including Public Utility District Number 1 of Snohomish County, Puget Sound Power & Light Company, Seattle City Light, and Tacoma City Light (collectively, the "Puget Sound Utilities") have agreed to cooperate at several organizational levels in further defining the problem of voltage instability in the Puget Sound area, and evaluating potential solutions. Currently, under conditions of peak winter demand, the system might not adequately withstand failure of a major line or the Centralia power plant.

BPA and the Puget Sound Utilities agree that the Puget Sound Reinforcement Project, which BPA has initiated to address the voltage instability issue, should be an effort that adequately addresses the NEPA and SEPA needs of all parties to the extent applicable. The potential results of voltage instability in Puget Sound are not yet fully known, but BPA and the Puget Sound utilities seek to jointly explore the existence and extent of the problem as well as cost-effective environmentally sound solutions to this problem to the extent possible. This letter reflects the commitment by the undersigned to coordinate on this planning effort. It is the intent that the decisions of the 5 utilities will be by consensus.

1. Steering Committee. A Steering Committee, composed of a single representative from Bonneville and each of the Puget Sound Utilities, is established. The purpose of the Steering Committee, through a Project Management Team and various study teams, is to:

- provide organizational support for the completion of studies addressing the voltage instability problem;
- coordinate the NEPA/SEPA process, including the preparation of any environmental documents;
- analyze the evaluation criteria for alternatives;
- analyze the alternatives;
- coordinate with other Federal, State, and local agencies; and
- coordinate public involvement efforts.

(Letter Agreement - contd.)

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BPA, consistent with its lead role in the Federal EIS, will chair the Steering Committee. Members are the signatories to this letter.

2. Project Management Team. BPA and each of the Puget Sound Utilities will designate a Project Manager. The purpose of the Project Management Team will be to conduct the studies and carry out the tasks established by the Steering Committee. The BPA representative will chair the Project Management Team. The Project Management Team will conduct work through various study teams which will address subjects including, but not limited to, load forecasting, local generation, load curtailment, conservation/demand side management, transmission studies and evaluation criteria.

3. Technical Review Group. A Technical Review Group is established as an advisory group to the Project Management Team. Membership in the Technical Review Group will be open to interested utilities, interest group leaders, State and Federal agency representatives, and others interested in providing specific technical input on studies, options and alternatives, and decision criteria. The BPA Project Manager will provide leadership for this group, including the setting of meetings and agendas and arranging for input to the Project Management Team.

4. Funding. BPA and the participating utilities will separately fund their participation in the planning process described in this letter. Nothing in this letter precludes BPA or the Puget Sound Utilities from seeking rate relief for costs associated with this project through their respective rate processes.

5. Impact. BPA and the Puget Sound Utilities agree that the process described in this letter is intended solely as a coordinating vehicle and is not itself intended to replace, impact, or prejudice any existing or future individual utility efforts.

6. Termination. BPA and the Puget Sound Utilities agree that any member of this planning process may terminate its participation upon notice to the other participants.

PUGET SOUND REINFORCEMENT PROJECT - PLANNING FOR PEAK POWER NEEDS

(Letter Agreement - contd.)

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PUBLIC UTILITY DISTRICT #1 OF SNOHOMISH COUNTY

By Charles R. Earl

Date 3/22/90

BONNEVILLE POWER ADMINISTRATION

By A. Q. Clark

Date 3/9/90

PUGET SOUND POWER & LIGHT COMPANY

By H. J. Finnegan

Date 3/13/90

SEATTLE CITY LIGHT

By [Signature]

Date 3/15/90

TACOMA CITY LIGHT

By [Signature]

Date 3/19/90

PUGET SOUND REINFORCEMENT PROJECT ORGANIZATION

STEERING COMMITTEE	
Chuck Clark, Chair	- BPA
Steve Klein	- TPU
Jerry Garman	- SCL
Bill Finnegan	- PSP&L
Charles Earl	- SNPD

PROJECT MGMT. COMMITTEE	
Alan Courts, Proj.Mgr.	- BPA
Annie Tomac	- PSP&L
Ted Coates	- SCL
George Whitener	- TPU
Jim Maner	- SNPD

TECHNICAL REVIEW GROUP	
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NEPA	
Ken Barnhart	- BPA
George Whitener	- TPU
Hil Hornung	- SNPD
Kirvil Skinnarland	- SCL
Bob Clubb	- PSP&L

PUBLIC INVOLVEMENT	
Carolyn Whitney	- BPA
June Zamjahn	- TPU
May Gerstle	- SCL
Jude Noland	- PSP&L
Hil Hornung	- SNPD

EVALUATION	
Brian Silverstein	- BPA
Corey Knutsen	- PSP&L
Stephen Land	- TPU
Doug Rough	- SCL
Doug Rigg	- SNPD

LOAD FORECASTING	
Chuck Forman	- BPA
Carl Lian	- PSP&L
Al Wilson	- SCL
Mike McMahon	- SNPD
Andy Evancho	- TPU

CONSERVATION/ LOAD MANAGEMENT	
Rich Gillman	- BPA
Todd Currier	- TPU
Mary Smith	- PSP&L
Steve Lush	- SCL
Bob Nicholas	- SNPD

LOCAL GENERATION	
Pat Fox	- BPA
Martin Hatscher	- SNPD
Rich Lauckhart	- PSP&L
Dennis Parrish	- SCL
Jay Jacobsen	- TPU

TRANSMISSION STUDIES	
Dennis Porter	- BPA
Mike Sheehan	- PSP&L
Darryl LaRoche	- TPU
Dennis Gray	- SCL
Doug Rigg	- SNPD

LOAD CURTAILMENT	
George Reich	- BPA
Mark Schinman	- SNPD
George Whitener	- TPU
Ray Nelson	- SCL
Bob Bonister	- PSP&L

Appendix B

Scoping Participants

TECHNICAL REVIEW GROUP PARTICIPANTS

Conservation and Load Management

<u>Name</u>	<u>Affiliation</u>
Al Aldrich	Public Utility District #1 of Snohomish County
Rich Arneson	BRACO
Jim Baker	Friends of the Earth
George Beckwith	Northwest Conservation Act Coalition
Dave Best	ECR
Ted Bottiger	Northwest Power Planning Council
Dorothy Bracken	Washington Natural Gas
Frank Brown	BPA
Richard J. Carlson	---
Art Collin	Multipoint Control Systems
Todd Currier	Tacoma City Light
Jim Eng	Tacoma City Light
Jake Fey	Tacoma City Light
Chuck Forman	BPA
Robert W. Fortner	---
John Gary	Insul-Tray
Rich Gillman	BPA
K.C. Golden	Northwest Conservation Act Coalition
Mary Grady	Puget Power and Light
John M. Hendricks	Boeing Company
Hil Hornung	Public Utility District #1 of Snohomish County
Bob Larson	BRACO
J. LaVillette	Earle M. Jorgensen Company
Tarcy Lee	Pacificorp
Carl Lian	Puget Sound Power and Light
Alice Liu	Seattle City Council
Steve Lush	Seattle City Light
John McClaine	Puget Sound Power and Light
Bernard Mottershead	Heatways
Bob Nicholas	Public Utility District #1 of Snohomish County
Sara Patton	Seattle City Light
Richard Rosenberg	Ohop Mutual
Mary Smith	Puget Sound Power and Light
Ed Stony	Insul-Tray
Tony Usibelli	WA State Energy Office
Paul Vickery	Pacific NW Generating Coop.
Arnold Vinnard	BPA

Samantha Williams
Scott Winter

BPA
Northwest Conservation Act Coalition

Load Curtailment

<u>Name</u>	<u>Affiliation</u>
Dennis Amonsens	BPA
Bob Anderson	BPA
John Apperson	Pacificorp
John Baniago	Seattle City Light
Bob Banister	Puget Sound Power and Light
William Brown	Boeing Company
Ken Canon	Industrial Customers of NW Utilities
Charles Combs	BPA
Maureen Conner	BRACO
Pete Forsyth	Kaiser Aluminum
Gary L. George	CHPD
Gerry Gurtler	Puget Sound Power and Light
James Hood	---
Steve Knudsen	BPA
Scott McLain	City of Port Angeles
Sara Patton	Seattle City Light
George Reich	BPA
Mark Schinman	Public Utility District #1 of Snohomish County
Brian Silverstein	BPA
Dave Smith	Seattle City Light
Arnold Tomac	Puget Sound Power and Light
Francis Tong	Seattle City Light
Bob Wallis	EFSEC
George Whitener	Tacoma City Light
Don Wolfe	BPA

Transmission

<u>Name</u>	<u>Affiliation</u>
John A. Apperson	PacificCorp Electric Operations
Lynn Best	Seattle City Light
Mike Bull	BPA
Charles Butros	WPPSS
Mike Carson	EBASCO
Al Chase	Public Utility District of Chelan County
Diane Clausen	Seattle City Council

PUGET SOUND REINFORCEMENT PROJECT - PLANNING FOR PEAK POWER NEEDS

Jim Eden	Portland General Electric	Raymond Isaacson	Benton County Commissioner
Wes Engstrom	Boeing Company	Jay Jacobsen	Tacoma City Light
Allen Fiksdal	EFSEC	John C. Jones	Assn. of NW Gas Utilities
Chuck Forman	BPA	Keith Knitter	GSI
Dennis Gray	Seattle City Light	David F. Latta	EBASCO
Len Karlsen	Puget Sound Power and Light	Paul W. Locke	—
Bill Koch	—	Albert Liou	Hosey & Assoc.
Darryl D. LaRoche	Tacoma City Light	James Maner	Public Utility District #1 of
John La Villette	Earle M. Jorgensen Co.		Snohomish County
Mike McMahon	Public Utility District #1 of	Dick Miller	KISS, Inc.
	Snohomish County	Phil Moeller	WA Senate Energy and Utilities
Samuel R. Nagel	U.S.D.A. Forest Service		Committee
Rich Nassief	Northwest Power Pool	John Perreault	WPPSS
Dennis Porter	BPA	Dave Smith	Seattle City Light
Barbara Rehman	BPA	John B. Stevens	—
Al Reuter	Wenatchee National Forest	Sydney Steinborn	WPPSS
Doug Rigg	Public Utility District #1 of	John F. Szablya	EBASCO
	Snohomish County	John Thielke	Puget Sound Power and Light
Michael T. Sheehan	Puget Sound Power and Light	Jim Todd	Seattle City Light
Noel Shelton	Intalco Aluminum Corp.	Harvey Warnaca	Mason PUD 3
Hugh Starkey	BPA	Wallace Williams	Boeing Company
Dean Turpin	BPA	Alan Yamagiwa	Seattle City Light
George F. Tyler	DEH, Ft. Lewis	Eric Zaetsch	KISS, Inc.
John R. Weiss	BPA		
Virginia Wilhelmi	Citizens for Safe Power		
	Delivery		

Local Generation

<u>Name</u>	<u>Affiliation</u>
Maurice C. Ball	—
Michael Berger	BPA
Charlie Butros	WNP-3
Weng Cheng	Seattle City Light
John F. Cockburn	WA Public Power Supply
	System
Maureen Conner	BRACO
Earl Cook	—
Jim Davenport	Riddell Williams Co.
Bill Fitch	EFSEC
Pete Forsyth	Kaiser Aluminum
Pat Fox	BPA
G.A. Griffin	—
Alf Hagen	—
Martin Hatscher	Public Utility District #1 of
	Snohomish County
John Holmstrom	BPA

PUGET SOUND REINFORCEMENT PROJECT - PLANNING FOR PEAK POWER NEEDS

SCOPING MEETING PARTICIPANTS

Ome Almeda	Mark Anderson	Tony Page	Doug Panida
Rich Arneson	Loren Baker	Mr. & Mrs. W. Pascoe	Don Pendleton
M. Ball	Dan Ballbach	E. Peterson	Ben Petraitis
Lenore Bancheri	John Baniago	P. Ponidd	Greg Poremba
Rich Bayless	K.L. Beck	E. Pottharst	Jim Richards
M.J. Benston	L. Berkley	Doug Rigg	Keith Ritland
Dave Best	Lynn Best	Anne Robison	Dick Rogers
F.H. Blake	Richard Bothell	Deb Ross	Ralph T. Rowland
Greg Bowers	Don Branesky	John Schaller	I. Schofield
Scott Brattebo	Max Braverman	Joe Seabrook	Jack Shabel
Jim Bringle	W.P. Brown	Noel Shelta	Dennis Sismalt
Keith Bryant	John Burggraff	David Sizes	Dave Smith
Mark Carnia	David Cavanaugh	E. Sorgenfri	Sydney Steinborn
R.B. Cay	Clarence Claussen	John Steven	Ed Stony
Dean Claussen	Art Colin	Kari Stout	Marc Sullivan
Maureen Conner	Jerry Cooper	Mark Schiuman	John Schofield
Earl Cook	Mark Crisson	Peter Schwartz	Don Swinehart
Scott Cunningham	James H. Davenport	John Szablye	Karen Thielke
F. Dennis	Claude Dilly	John Thielke	Stephen Thielke
George Eastman	D. Ekliend	R. Thompson	Ted Thompson
Aldene D. Elbersen	W.C. Engstrom	R. Thomsen	Arnold Tomac
Jake Fey	Bill Finnegan	David Townsend	C.W. Treanor
Bill Fitch	Bruce Folsom	Paul Trippett	Seppo Tuominen
Ron Forster	S.P. Forsyth	George Tyler	Teri Van Duine
Bob Fortner	Lawrence Friedman	Thomas A. Waite	Bob Wallis
Bob Gillespie	Glenn Gillespie	Scott Waples	Harvey H. Warneca
Mike Gillett	Gerry Griffin	L.B. Webb	Al Weiss
Alf Hagen	Gloria Hagen	Craig Weindling	Carl W. West
Jim Haneline	Dean Harris	Donald White	Steve White
Martin Hatscher	John Hendricks	George Whitener	Virginia Wilhelmi
Bob Hickey	James E. Hood	R. Williams	Sharon Williams
Terry Huber	Coe Hutchison	Tom Yocum	
Garth Jackson	Philip K. Jackson		
Jay Jacobsen	Bryan Jacobson		
Don Johnson	Kurt Johnson		
M. Juevson	R.R. Kanarick		
Pat Keegan	Ron Kennedy		
Ed Kilga	Keith Knitter		
Gary Komarow	Joh Kounts		
Darryl H. LaRoche	Bob Larson		
John LaVillette	Jim Lazar		
Denny Lensegrav	Brian Lenz		
Warren Lenox	Duane Lewellen		
Kevin Lince	Anna L. Lindahl		
Andre' Litteureux	Ron Lunnum		
James Maner	Wayne Mathers		
John McClaine	Scott McLain		
R.A. Miller	Steve Mix		
Phil Moeller	Clinton E. Morgan		
M. Nevo	Cyrus Noe		
Jude Noland	Gary Norris		

PUGET SOUND REINFORCEMENT PROJECT - PLANNING FOR PEAK POWER NEEDS

PUBLIC COMMENTORS - PHONE

Jim Allen	Janet Baccus
Laura Carlson	Newton Clark
Vern Davis	Paul Grube
Arnie Stearn	

PUBLIC COMMENTORS - LETTER

Max Bader, M.D.	Maurice Ball
Allen K. Bick	David Bodansky
G.H. Bowers	Max Braverman
John D. Carr	William E. Cruchon
Franklin L. Dennis	Geoffrey W. Doyle
Joan Edwards	Howard C. Elmore
Jamie Haveri	James E. Hood
Jay Hupp	Donald Johnson
A. Jorbus	Ronda D. Kennedy
Arthur L. Kermoade	Chester A. Larsen
John R. LaVillette	Jim Lazar
Byron Lee	Charlotte W. Lenz
Terry L. Lingbloom	John McDowell
Terry E. Mitchell	Lil Mousen
Martin Nix	Gail L. Nuckels
Ray K. Poletti	Fred Rapp
L.A. Rasmussen	Ralph M. Reardon
Frances E. Sennes	Paul Trippett
Robert G. Tucker	George F. Tyler
Larry A. Ward	Fred Walter
Lawrence A. Weaver	Ronald E. Wilkerson

Appendix C

Puget Sound Reinforcement Project Schedule

- END -

DATE FILMED

10 / 31 / 90