ENVIRONMENTAL REPORT

Environmental Review of the Issues and Alternatives
Associated With the Offering of the Power Sales
and Residential Exchange Contracts Required
Under the Pacific Northwest Electric Power Planning
and Conservation Act (Public Law 96-501)

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Bonneville Power Administration
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Chapter 1

INTRODUCTION

This is a final report on the environmental considerations that are associated with the contract issues and alternatives which have been identified during the period Bonneville Power Administration (BPA) has been negotiating power sales and residential exchange contracts required under the Pacific Northwest Electric Power Planning and Conservation Act (Regional Act). This document is part of BPA's administra- tive record on the contract negotiation process under the Regional Act.

The draft environmental report was available for a 30-day public review and comment period. This final report reflects the comments received during public review and new information which developed since the draft was written. The information in this report has been available for the decisionmaking process leading up to the draft prototype contracts, as well as for the process leading up to the finalization of the contract terms and their approval by the Administrator.

1.1 MANDATE AND LEGAL BACKGROUND

On December 5, 1980, the Pacific Northwest Electric Power Planning and Conservation Act was signed into law as Public Law 96-501. The Regional Act will assist the Bonneville Power Administration to assure the electric consumers of the Pacific Northwest of an adequate, efficient, economical, and reliable power supply, consistent with other provisions of laws applicable to the Federal Columbia River Power System (FCRPS). In achieving this goal, BPA will work closely with the Pacific Northwest Electric Power and Conservation Planning Council (Regional Council) and will carry out its statutory duties regarding the acquisition of cost-effective conservation and other resources; the protection, mitigation, and enhancement of fish and wildlife; and other responsibilities.

The Regional Act mandates that BPA offer two types of contracts to requesting customers by September 5, 1981: power sales contracts and residential exchange contracts.

1.1.1 Power Sales Contracts

Passage of the Regional Act places the responsibility on the BPA Administrator for meeting the net firm energy requirements of requesting utilities and Federal agencies, and the specified contract demand of the direct-service industrial customers. BPA is required by section 5(b) to offer initial long-term firm power sales contracts to all requesting utilities in the Pacific Northwest for service to firm power loads in excess of the utilities' resource capability. By section 5(d), BPA is further required to offer to each existing direct-service industry in the region an initial long-term contract. BPA is also authorized by section 5(b)(3) to offer initial long-term firm power sales contracts to Federal agency customers in the Pacific Northwest. BPA has not offered initial long-term contracts based on requests for service from new Federal agencies, but will examine such requests in the future on a case-by-case basis. Preference entities with current power

sales contracts, as well as any requesting utility in the region without such a contract, are included in the intended group of offerees, as long as they fulfill state legal requirements for existence on the date of BPA's offer and comply with BPA service standards. Entities requesting contracts have up to one year to sign the contracts from the date they are received; however, they are not obligated to sign the contracts once they have been offered.

Section 5 of the Regional Act states, in part, that:

> As soon as practicable within nine months after the effective date of this Act, the Administrator shall commence necessary negotiations for, and offer initial long-term contracts . . . simultaneously [to its customers]." Section 5(g)(1).

Since the effective date of the Regional Act was December 5, 1980, prototype contracts were developed by mid-August 1981, in order that final contracts, individualized to reflect the circumstances of BPA's more than 150 Pacific Northwest customers and potential new customers, could be offered by the September 5, 1981, deadline. Negotiations with the customers and certain environmental groups continued through the third week in August. The remainder of August was used to particularize the contracts to individual customer needs, specifying such matters as points of delivery, and physically preparing the many individual contracts.

The scope of BPA's decisionmaking in offering the power sales contracts is limited. Congress, not the BPA Administrator, made the decision to offer new long-term power sales contracts to BPA's customers and other requesting utilities. The Administrator had to work out the details of the terms of the power sales contracts in negotiations with BPA's customers and where the terms were not mandated by Congress, was allowed to exercise discretion consistent with the purposes of the Bonneville Project Act and the Regional Act, as provided by sections 5(a) and 2(f) of the former and sections 5(a) and 9(a) of the latter. The scope of any environmental analysis however, is limited to the provisions of the power sales contracts, not the fact of their being offered, nor the question of which customers or potential customers to serve.

Examples of those aspects of the contracts not mandated by the Regional Act include: points of delivery, inclusion of language to achieve the statutory purposes of the Regional Act, conservation language, development of reserves among and for customers consistent with DSI reserve responsibility, allocation method, the method of delivery/scheduling of computed requirements, and a variety of other lesser issues.

Under the utility power sales contracts, the customer may purchase either its full requirements (Metered Requirements) or its net requirements (Computed Requirements). A Metered Requirements contract provides that BPA will meet the customer's regional firm load for the term of the contract, less the entire output of any resources which the customer dedicates to serve its load. A Computed Requirements contract provides that BPA will meet the regional firm load of the customer less the assured capability of customer resources which the customer is required to use to serve its firm load under the Regional Act (resources used in the year prior to enactment) and any additional resources which the customer chooses to dedicate to serve its firm

load. The assured capability of such resources is the peak and energy capability which the purchaser can deliver to its load on a firm basis based on historical worst case streamflow conditions and adverse fuel supplies.

Additionally, BPA is offering new power sales contracts to each of its existing direct-service industrial customers in accordance with sections 5(d)(1)-(4), and (g) of the Regional Act. The amount of power to be offered is characterized by the Regional Act as an amount of power equivalent to that to which the industrial customers are entitled under their present "industrial firm power" contracts. The new contracts continue to include provisions for temporary restrictions on delivery of power which will provide BPA with reserves for use in times of low streamflows or delay in completion or the failure of generation facilities, and for increases in contract demand for technological reasons.

Existing Federal agencies were also offered new power sales contracts. The type of contract offered reflects the individual needs of each agency.

Chapters 3 and 4 discuss the specific issues which were identified during the power sales contract negotiation process and the environmental considerations associated with them.

1.1.2 Residential Exchange Contracts

In addition to meeting the utilities' firm power loads in excess of generating capacity, the Administrator must also offer residential exchange contracts to the region's utilities.

The Regional Act directs BPA to exchange power with requesting Pacific Northwest utilities for the benefit of their residential (including farm) consumers. The utility sells power to BPA at the utility's average system cost (ASC). In return, BPA sells an equal amount of power back to a utility at that rate which BPA's preference customers pay. The cost benefits of any such exchanges are to be passed on directly to the residential consumers of the exchanging utility. The methodology for determining the average system cost of a utility's power was developed by BPA, its customers, and state public utility commission representatives. The methodology has been filed and is awaiting approval by the Federal Energy Regulatory Commission.

Section 5(c)(1) of the Act states:

> Whenever a Pacific Northwest electric utility offers to sell electric power to the Administrator at the average system cost of that utility's resources in each year, the Administrator shall acquire by purchase such power and shall offer, in exchange, to sell an equivalent amount of electric power to such utility for resale to the utility's residential users within the region.

Section 5(g)(1)(C) requires the Administrator to offer such contracts within 9 months of enactment. Like the power sales contracts, the offering of these exchange contracts is a nondiscretionary act, while many of the provisions themselves are discretionary.

Chapter 5 discusses the environmental considerations associated with the provisions of the residential exchange contracts.

1.2 CONTRACT NEGOTIATION AND DEVELOPMENT PROCESS

BPA must offer power sales contracts and residential exchange contracts to its customers within the nine month deadline mandated by the Regional Act. This section outlines the sequence of events which lead to BPA's offering of individualized contracts to each of its customers by the September 5, 1981, deadline.

For the purposes of the negotiations, BPA's customers have been divided into four classes: publicly and cooperatively owned utilities (both those with and those without their own generation), investor-owned utilities, Federal agencies, and direct-service industries--over 150 existing and potential customers.

In mid-December 1980, BPA held a series of technical meetings with its customers to acquaint them with the provisions of the Regional Act. As a result of these meetings, BPA developed a list of all the types of contracts required under the Regional Act. Several types were listed, including not only the power sales contracts and the residential exchange contracts, but also conservation contracts, resource acquisitions, and service and exchange agreements. Certain of these contracts are not, however, subject to the 9-month mandate in section 5(g) (e.g., resource acquisitions), and are therefore not included in this report. The environmental review of these other contract actions will be separately undertaken, as appropriate. Eight task teams were established within BPA to represent BPA during negotiation of these various contracts, including those which are discussed in this report.

On December 31, 1980, BPA mailed to all its customers and individuals who had attended the technical meetings its list of the contract types and the eight task teams that Bonneville had proposed for negotiation under the Regional Act. Each customer class was requested to establish counterpart negotiation teams.

An organizational meeting was held on January 23, 1981, for the representative teams of the different customer classes. At this meeting, BPA proposed that prototype contracts for each major customer class be developed by a task team, composed of the respective negotiating teams, corresponding to the type of contract. This meeting established the organizational framework within which negotiations would be conducted, and the mechanics for development of specific prototype contracts.

Following these early meetings, BPA and the customers continually defined issues and met regularly in the negotiation process to resolve these issues and new issues as they arose. These meetings were open to the public and generally scheduled for three full days during each week from early February through August for power sales and residential exchange contracts. Announcements of scheduled contract meetings were included in a weekly calendar and made available through mass mailings to interested parties, and were posted at BPA headquarters in Portland, Oregon. The papers distributed at negotiation sessions were also made available to approximately 100 persons

who made a written request for such material. Three public meetings were held in mid-May in Seattle, Washington; Boise, Idaho; and Portland, Oregon to receive advice and accept comments on contract negotiation items of concern to representatives of the public.

On June 8, 1981, BPA sent summaries of the testimony received at the three public meetings and the written comments received through May 29, 1981, to meeting attendees as well as to others who had indicated an interest in the contract negotiation process. The transcripts of the meetings and the summaries were also given to the negotiating parties.

The development of draft prototype contracts was completed during the last week of May and the first part of June. On June 11, 1981, BPA again contacted those interested in the contract process advising them of the availability of draft prototype power sales and residential exchange contracts, together with a draft report on associated environmental considerations. The Federal Register notice (46 FR 31238) sent with the letter announced a 30-day review-and-comment period and contained a summary of the significant elements of the draft contracts. The notice also advised interested parties of four public meetings scheduled in Seattle, Spokane, Portland, and Boise where they could comment orally on the draft contracts and environmental report. An additional public meeting was later scheduled and announced in Missoula, Montana. The meetings, publicized in local newspaper advertisements, were conducted by BPA Area and District personnel. Approximately 120 people attended the June meetings. The transcripts of the meetings and summaries of the testimony and written comments received through July 2, 1981, were given to the negotiating parties and those who had requested copies of all material distributed at the negotiating sessions.

As announced, written comments could be submitted through July 13, 1981, and approximately 100 written comments were made. Copies of comments made after July 2, when the last summary was prepared, were given to the negotiators as soon as received. In late July, "status drafts" of the contracts were mailed to the customers reflecting BPA's position on contract issues. Subsequently, meetings were held, open to the public, to resolve major remaining issues.

The prototype contracts were individualized during August to take into account the individuality of BPA's utility and direct-service industrial customers. BPA offered the power sales and residential exchange contracts on August 28, 1981. BPA published in the Federal Register (46 FR 44340, September 3, 1981) an analysis of comments received both at the public meetings and during the comment period on the draft prototype contracts, as well as the verbatim terms of the contracts themselves.

1.3 PUBLIC INVOLVEMENT

Section 4(g) of the Regional Act requires that ". . . to insure widespread public involvement in the formulation of regional power policies, the Administrator shall maintain comprehensive programs . . ." to inform the public and obtain public views on major regional power issues and to "secure advice and consultation" from BPA customers and others. The specifics of public involvement are unstated by the Regional Act, with the exception of rates development and acquisition of major resources.

From the outset, BPA recognized that the Regional Act required that the public should play a role in the negotiation of the power sales contracts. Therefore, in December 1980, BPA initiated its public involvement activities by mailing to 8,000 addressees in the region a summary of the Regional Act, a series of questions and answers relating to the Regional Act, a summary of the tasks which BPA planned to undertake for implementing the Regional Act, and an announcement of the availability of toll-free numbers for questions.

On December 1, 1980, the BPA Administrator announced that four technical meetings would be held in Portland in mid-December for interested parties, including investor-owned utilities, direct-service industrial customers, preference customers, Federal agencies, and environmental and consumer organizations. The purpose of these meetings was to explain the Regional Act and the actions which BPA must undertake prior to adoption of an initial regional power plan by the Regional Planning Council established by the Regional Act. BPA announced that the contract negotiation sessions would be open to the public. These meetings were followed up by a mailing of information regarding negotiations to all who attended.

On January 5, 1981, BPA issued a press release announcing a series of 26 town hall meetings to be held throughout the region from January 8 through 22. These meetings were designed to explain the major provisions of the Regional Act to local government officials and the public. The Administrator stated that the town hall meetings were one way BPA would keep the public informed and involved during the policy-making process.

On January 12, BPA announced to its customers that an organizational meeting for contract negotiations under the Regional Act would be held on January 23 in Portland. On January 14, a direct invitation to attend the meeting was also extended to interested individuals through the press and mailings. This meeting preceded the start of actual negotiations. Its main purpose was to develop the organizational framework within which negotiations would be conducted and to determine the mechanics of the development of the specific prototype contracts. BPA invited its customers to select representative teams to attend the meeting.

Following the January 23 organizational meeting, the Public Involvement office at BPA established a BPA meeting calendar, including contract negotiations sessions scheduled for the following week, which was mailed to the public upon request.

From January 23 to May 29, negotiations between BPA and its customers were conducted at BPA headquarters. Issues regarding the power sales and residential exchange contracts were discussed and clarified until preliminary prototype contracts could be developed. Interested individuals were free to observe the negotiation sessions between BPA and participating parties, and to submit oral and written comments at the conclusion of individual negotiating sessions. Upon request, BPA furnished to the public copies of all documents distributed at the negotiation sessions.

On March 25, 1981, BPA clarified the role of the public by publishing a notice in the Federal Register entitled "Notice of Public Participation in Negotiation of Initial Long-Term Power Sales and Certain Other Contracts" (46

FR 18331). Although the development of contracts had been exempt from BPA's published public participation procedures (45 FR 73531, 11/5/80 and 46 FR 26368, 5/12/81), the negotiation of these contracts was unusual in that it involved the simultaneous negotiation and offering of several types of long-term power sales and other contracts with some 150 customers. Therefore, BPA felt it was important for the public to be informed of major issues and concerns identified during this process. This invitation to participate in the negotiation sessions and to request copies of documents distributed by the negotiators was also mailed directly to individuals and groups who had expressed an interest.

On April 8, BPA announced to over 3000 public interest groups and individuals that it would hold public meetings in May to receive advice and accept comments on items of concern that had been identified by public interest groups and individuals. A chronology of these meetings, and the subsequent June meetings held on the prototype contracts and the draft environmental report, is provided above in section 1.2. These public meetings provided an opportunity for BPA's negotiation task team leaders to hear public concerns on the power sales and residential exchange contracts.

1.4 ENVIRONMENTAL INPUT

Section 5(g) of the Regional Act requires the Administrator to offer new power sales contracts to each customer class. As explained above, the offering of these new power sales contracts is a nondiscretionary action directed by Congress. Therefore, the decision to offer contracts is not subject to the preparation of an EIS under section 102(2)(C) of the National Environmental Policy Act (NEPA). However, the Administrator does have environmental responsibilities in offering such contracts. The Administrator has a continuing obligation to exercise his authority in accordance with the remaining procedural provisions of NEPA and with the general environmental policies contained in the Regional Act which require BPA to seek public participation in providing environmental quality and to protect, mitigate, and enhance fish and wildlife (sections 2(3)(C), 2(6), and 4(h)).

By the fall of 1980, before the passage of the Regional Act, BPA had identified the major tasks associated with implementation of the Regional Act, and had begun identifying for each task the appropriate steps for NEPA compliance. With passage of the Regional Act in early December, BPA staff began reviewing the application of NEPA to the power sales contracts. The environmental staff outlined recommended environmental procedures which BPA should follow to insure that environmental information would be available to public officials and citizens before decisions were made and before actions were taken in the development, negotiation, and issuance of the new power sales and residential exchange contracts.

On the day the Regional Act was enacted, there was a mandate to enter into power sales contracts. The provisions of the contracts were left subject to negotiations between BPA and its customers. Thus, in December 1980 and January 1981, the Administrator invited BPA's customers, as well as any interested groups or individuals, to attend technical and organizational meetings which established the contract negotiation process and helped to identify the initial range of contract issues to be discussed.

Starting in January 1981, BPA staff, including the environmental staff, began preparing for the contract negotiations. Contract types were identified and as contract negotiation teams were established within BPA, an environmental monitor was assigned for contract negotiations. These individuals implemented an aspect of the environmental process by attending some meetings between BPA and its customers, and also internal BPA steering committee meetings and negotiation strategy meetings, from early February until completion of the initial contract negotiations in late May.

Environmental specialists met with the leaders of the contract negotiation teams on a continuing basis to confer on the issues under consideration for each contract type. In April, BPA formed an interdisciplinary Environmental Task Force to review proposed contract actions and provide environmental input to the contract negotiation process. The task force met on a weekly basis so that the information it developed would be available to BPA's contract negotiation teams. This helped to keep the negotiators aware of the environmental concerns associated with the contact issues and alternatives they were negotiating. The environmental task force team discussed and evaluated the issues raised during the contact negotiation sessions. Team members continued to attend public meetings and summarize the environmental concerns expressed by the public for use in the negotiating sessions.

The proposed terms of the power sales contracts began to take shape through the negotiation process so that by early June 1981, the proposed terms were firm enough to be meaningfully analyzed from an environmental standpoint. A draft Environmental Report was published on June 12, 1981, along with the draft prototype contracts.

The public comments received on the draft document were analyzed along with all the comments BPA received on the prototype contracts. The analysis of these comments and their disposition was published in the Federal Register (46 FR 44340, September 3, 1981).

1.5 PURPOSE OF THIS DOCUMENT

This Environmental Report presents the environmental considerations associated with the contract issues and alternatives raised during the contract negotiations process and has been revised, where appropriate, to incorporate public concerns raised during the public review period. It does not identify issues and alternatives that were not raised during the negotiation process.

The Regional Act was passed in December 1980, and the contract negotiation process officially began on January 23, 1981. These negotiations continued until May 31 between BPA and its customers, with public input. At that point, the four months of continuous negotiations were suspended so that prototype contracts could be written and distributed for review, although it was clear that many issues remained to be resolved. Draft prototype contracts were mailed on June 12, constituting BPA's proposal. Reaction to these drafts was strong enough that some customers threatened to not sign offered contracts until certain issues, including conservation as a condition of service and fish and wildlife language, were clarified.

Beginning again on June 12, when the prototype contracts were released, negotiations continued until mid-August. During these weeks, BPA and its

customers continued to clarify their positions on different issues. The final decisions on the contracts were made during a period of time from July 23, when a status draft was presented to the Administrator, until August 24, when the contracts were sent to the printers for reproduction. During this time the Administrator examined the various issues and alternatives, including environmental concerns, and made final decisions on provisions in the contracts. On August 28, BPA offered its power sales contracts and residential exchange agreements to the customers.

BPA had available only the time from when the proposal was made on June 12 until the close of the comment period on July 13 to prepare a draft and final EIS to accompany the proposal during the continued negotiation process. This would have allowed approximately 30 days for BPA's environmental staff to systematically evaluate and analyze the issues raised during the negotiations, develop and evaluate alternatives, prepare a draft EIS, conduct a public review and comment period, and issue a final EIS. This final EIS would not have contained BPA's final positions as indicated in the contracts offered on August 28, since these positions were developed through negotiations which continued until mid-August, and through decisions which continued to be made up until August 24.

BPA is developing an administrative record that documents how environmental concerns have been incorporated into BPA's decisionmaking process on power sales contracts. It will demonstrate the involvement of environmental staff in meetings and negotiation sessions and will document the environmental considerations which were associated with the contract issues and alternatives which were identified during the negotiation sessions. This environmental report is part of the administrative record on contract negotiations in that it summarizes the environmental considerations associated with the contract issues and alternatives. A Staff Evaluation of comments comprises another major portion of the administrative record, and the hundreds of letters, discussion papers, and official announcements make up the remainder of the administrative record.

Attached to the end of this Environmental Report is a memorandum summarizing the steps that have been taken and the decisions that have been made in compliance with NEPA (September 3, 1981, memorandum from Anthony R. Morrell, subject "Initial Long-Term Contracts Offered Under Section 5(g) of the Pacific Northwest Electric Power Planning and Conservation Act; Compliance with the National Environmental Policy Act," 15 pages). The memorandum was signed by the Acting Environmental Manager, who is BPA's chief environmental officer, and the BPA Administrator has concurred with the conclusions of the memorandum.

1.6 ENVIRONMENTAL PROTECTION AND PUBLIC INVOLVEMENT AS PART OF THE REGIONAL COUNCIL'S PLAN AND PROGRAM

Section 4 of the Regional Act provides for the prompt establishment and effective operation of the Regional Council, and charges the Regional Council with the prompt preparation and adoption of a regional conservation and electric power plan, as well as a program to protect, mitigate, and enhance fish and wildlife. The Council was established on April 28, 1981, and held its first meeting on that date. Since that date, the Regional Council has continued to meet regularly and actively pursue its charges under the Regional Act.

As part of its charge, the Regional Council's plan is to include environmental protection under section 4(c)(2) of the Regional Act, requiring due consideration of environmental quality and protection, mitigation, and enhancement for fish and wildlife. Under section 4(e)(3) of the Regional Act, quantification of environmental costs and benefits, and a program for fish and wildlife protection and enhancement are to be detailed by the Regional Council. The Regional Council must encourage participation by local and regional entities in its preparation of a plan. The preparation of a fish and wildlife program must include notice and public participation, including written and oral comments.

To the extent that BPA's initial contracts might affect any portion of the Council's plan or program, the general contract provisions of BPA's contracts provide for negotiation by the parties of amendments which may be necessary to permit the plan to be effective, including any environmental measures for fish and wildlife. This provision complies with BPA's obligation that the Administrator's actions be consistent with the Regional Council's plan unless otherwise provided by the Regional Act (section 4(d)(2)).

Chapter 2

GENERAL CONCERNS ABOUT THE CONTRACTS

BPA received many comments from the public about the power sales and residential exchange contracts that were negotiated with BPA's customers. Several of the concerns expressed by the public related to the contracts in general, rather than to the specific issues being negotiated under each contract type. Since Chapters 3, 4, and 5 discuss the specific issues and alternatives associated with the types of contracts BPA negotiated, this chapter addresses the more general concerns the public raised about the contracts.

2.1 RELATIONSHIP OF CONTRACTS TO THE REGIONAL PLANNING COUNCIL

The Regional Planning Council established by the Regional Act has the responsibility for developing by April 28, 1983, a comprehensive regional conservation and electric power plan to guide the region's electric energy future. Implementation of the plan will require the cooperation and participation of many entities, including BPA and its customers.

Some members of the public expressed concern that contracts were being negotiated in the absence of a regional plan. They wanted to see language in the contracts that would allow the Council some flexibility, and the opportunity for the Council to provide input into the contracts. The Council was also concerned that the new contracts might preclude or impair its ability to carry out its responsibilities or impede implementation of its plan. It suggested that BPA contracts contain language requiring compliance with the regional energy plan when it is made final.

The Council's plan is characterized by section 4(e)(2) of the Regional Act as ". . . a general scheme for implementing conservation measures and developing resources . . . ." It will be a planning document which imposes certain compliance obligations upon BPA in its resource acquisitions, specifically in acquisitions of major resources, except when an Act of Congress excuses compliance. BPA will also continue preparing its own load and resource forecasts in order to satisfy itself that it will, to the best of its ability, fulfill its contractual and other legal responsibilities, and to check on the adequacy and appropriateness of the Council's loads and resources forecasts. This is consistent with the Act's recognition that the Administrator can, in carefully identified circumstances, acquire resources either in the absence of or independently of the Council's plan.

To reassure the public and the Council that BPA intends to work with the Council to implement the Regional Plan, BPA and the utilities have agreed to include the following contract language in the General Contract Provisions:

> 44. Cooperation with Regional Council. The parties will negotiate amendments to this contract as may be necessary to permit the plan or program adopted by the Pacific Northwest Electric Power and Conservation Planning Council pursuant to P.L. 96-501, including but not limited to

provisions pertaining to conservation, renewable resources, and fish and wildlife, to be effective in the manner and for the purposes set forth in sections 4 and 6 of P.L. 96-501.

This provision allows the opportunity to accommodate elements of the Regional Plan which are not included in the contracts. The overall environmental effect should be positive because the Regional Act requires the Council to take environmental and fish and wildlife concerns into consideration as it develops the Regional Plan.

2.2 DURATION OF CONTRACTS

The term, or length, of the proposed power sales and residential exchange contracts has been the subject of considerable public concern.

Section 5(g)(1) of the Act specifies that Bonneville must offer "initial long-term" contracts to electric utility customers to effect the residential purchase and sale referred to in section 5(c) of the Act. Section 5(g)(1) also specifies that long-term contracts will be simultaneously offered to Federal agency customers, direct-service industrial customers, public body customers, cooperative customers and investor-owned utility customers. The meaning of the phrase "long-term" is suggested in section 5(a) of the Bonneville Project Act, which provides that contracts shall not exceed "in the aggregate twenty years . . . ."

Bonneville is therefore offering 20 year power sales and residential exchange contracts. Many individuals and groups questioned the choice of 20 years for long-term contracts, and suggested that 5 or 10 years would provide more flexibility and would reduce the chance of Regional Council decisions being preempted by the contracting process.

Since passage of the Bonneville Project Act in 1937, the phrase "long-term" has been synonymous with the maximum cited in the Bonneville Project Act (i.e., 20 years). With more than 40 years' experience in the implementation and interpretation of the various statutes and orders pertaining to Bonneville and the region regarding contractual power marketing, that phrase has continuously and consistently meant 20 years to Bonneville, the utilities, the industries, the public, and Congress. Consequently, Bonneville maintains the position that all "long-term" contracts to be offered under the new Act will similarly be 20-year contracts. This position allows the longest possible planning period for the region consistent with the express intent of Congress, as stated in the purposes of the Act, to facilitate the orderly planning of the region's power system. Periods of less than 20 years, such as the 5 and 10-year periods suggested by some public commentary, would not afford the necessary planning certainty that accompanies a longer-term contract period.

In offering long-term 20-year contracts, BPA is following clear legislative history as presented in the Commerce Report (House Report 96-976, Part 1, p. 61), which states that "initial long-term 20-year contracts are to be offered by BPA" to the DSIs in accordance with section 5(g) of the Act. Similar language regarding all 5(g) contracts is found in the same House Report (p. 63) where the Committee notes: "Section 5(g)(1) specifies that

the Administrator must simultaneously offer appropriate customers the initial long-term 20-year contracts . . ." (emphasis added).

This 20-year time frame is considered standard and reasonable utility practice, and allows for stability in resource planning and long-term resource decisions. A shortened planning horizon contributes to uncertainties about the future availability of power; this in turn can affect resource development and may cause overbuilding of generating resources within the region (Schneider 1980a, NEPP 1978, Ernst & Ernst 1976b). Purchasers must be assured of a long-term resource supply in order to make informed decisions on major plant investment and capital expenditures. It is important to remember that although the 20-year contracts establish the relationship between the parties, they do not preclude independent resource development.

However, since the long-term power sales and exchange contracts commit the parties to a course of action for 20 years, this may necessitate contract amendments or other power marketing policy actions to reflect new marketing policies or require standards of service to be changed to reflect evolving conditions in the region. Another consequence of offering 20-year contracts to the direct-service industries is that an assured power supply virtually guarantees that an industry will remain in the region, with its consequent environmental impacts (both adverse and beneficial), barring economic changes for the product it markets or rates which it considers so burdensome as to force plant closures.

Short-term contracts of 5 to 10 years would place the region in a completely different planning mode from current utility practice. Planning and resource uncertainty could detract from an adequate regional power supply and could cause customers individually or jointly to construct generating facilities, with consequent impacts of construction, and a potential for regional overbuilding as a result of a less coordinated and common goal approach to planning. Short-term contracts might also increase financing costs by increasing the uncertainty of the planning process. Such uncertainty might reduce the benefits of regionalization as perceived by utilities.

Without an assured long-term power supply, a customer might also respond by applying more pressure to cost-effective conservation and renewable resource development, with consequent potentially beneficial environmental impacts. On the other hand, under a short-term contract customers might respond by constructing generating sources that could be brought on-line quickly, such as oil or gas-fired turbines. A short-term contract also allows more flexibility than a long-term contract for the parties to incorporate changing policies, such as requiring improved utility system efficiency.

2.3 RELATIONSHIP OF CONTRACTS TO COORDINATION AGREEMENT AND OTHER LEGAL OBLIGATIONS

The contracts mandated under the Regional Act do not supersede all existing contracts or legal obligations. For example, the Pacific Northwest Coordination Agreement will remain effective until June 30, 2003, and the resource operating procedures the parties agreed to under this agreement will continue. Computed requirements customers who elect to enter into power sales contracts with BPA and which are not a party to the Coordination Agreement may

be required to operate their resources in ways that are compatible with the Coordination Agreement, since BPA is a party to this agreement. The contracts also do not preclude other regulatory authorities from implementing their own missions. Therefore, since existing legal obligations do not change with the new contracts, no environmental consequences are expected to occur as a result of changed obligations.

It should be noted that BPA's customers are not obligated to sign the contracts that are offered. Current customers may continue to receive power under their existing contracts until the termination dates specified in those contracts.

2.4 ENVIRONMENTAL LANGUAGE IN THE GENERAL CONTRACT PROVISIONS

The General Contract Provisions (GCPs) are attached as Exhibit B to every power sales contract. They contain those provisions which relate to all purchasers of electric power and energy from BPA. Since the Regional Act mandates that the power sales contracts be renegotiated with the purchasers, this also includes the GCPs.

2.4.1 Environmental Provisions

Throughout BPA's history, protection of the environment has been a concern. As early as 1938, the following provision was recommended by BPA and approved by the Federal Power Commission as one of the General Terms and Conditions attached to all BPA power sales contracts:

> "Conservation of Natural Resources. - Power from the Bonneville Project Power Plant shall be available only to those purchasers, the waste products from whose plants or operations shall not be harmful to, or destructive of, the fish or other aquatic life of the Columbia River; nor otherwise pollute the stream; nor detract from the scenic beauties of the Columbia River Gorge."

This policy was repeated again in 1950 in the General Contract Provisions attached as Exhibit C to all BPA power sales contracts:

> "23. Conservation of Natural Resources. The Government will not be obligated to deliver power pursuant to this contract whenever, in the judgment of the Administrator, the Purchaser's plants or operations would harm or detract from the scenic beauties of the Columbia River Gorge, or the waste products from such plants or operations would harm or destroy the fish or other aquatic life or otherwise pollute the waters of drainage basins of the Pacific Northwest."

BPA's power sales contracts in effect prior to the initial offers contained a section entitled "Impact on Environment," which briefly reasserted the existing legal obligations of BPA and the purchasers to comply with all applicable environmental laws. They explicitly stated that the Administrator could require proof of environmental compliance for construction of new or expansion of existing electrical generating plants, and could curtail or terminate delivery of capacity or energy, subject to certain conditions.

Under those contracts, new or expanding industrial customers of a certain size were also required to submit copies of plans for environmental compliance.

Since the time that these original contract provisions were established, the arena of public concern for the environment has broadened. It is no longer enough to simply protect the scenic beauties of the Columbia Gorge. The National Environmental Policy Act (NEPA), enacted in 1970 as an expression of national policy, imposes new obligations on the Administrator. The National Historic Preservation Act, Endangered Species Act, and a host of other environmental regulations affecting such diverse resources as wetlands, floodplains, and farmlands, also impose requirements on Bonneville's actions.

The Regional Act does not preempt these environmental responsibilities. In fact, the Act reinforces them by stating that the purposes of the Act must be construed in a manner consistent with applicable environmental laws (section 2). Therefore, it is a matter of restated law that BPA comply with the laws designed to protect the environment.

The public is concerned that the environmental language in the prior general contract provisions attached to all power sales contracts has not been strong enough to adequately protect the quality of the human environment. Therefore, various affected groups proposed language for BPA to include in the GCPs, including possible contract termination for environmental noncompliance. Unlike other Federal and state agencies, BPA is not authorized and does not wish to be put in the position of having to monitor or enforce the customers' compliance with applicable environmental laws. BPA neither has the expertise to assume responsibility of being accountable for other entities' compliance nor expects to acquire it.

Furthermore, if provisions in the contract were to require termination for noncompliance, a customer might be encouraged to commit violations in order to be excused from its contract obligations if it wanted to be released for other reasons.

It is important to remember, however, that the power sales contracts refer only to the sale by BPA of electric power and energy. As Bonneville begins to acquire resources to meet regional loads as authorized under the Regional Act, a detailed environmental process will apply to all resource acquisitions.

The provisions in the new contracts reaffirm the obligations of both BPA and its customers to comply fully with all applicable Federal, state, and local environmental laws and encourage cooperation among parties in meeting their environmental obligations. The language clarifies Bonneville's authority to impose remedies in the event of a breach of this contractual obligation. The language does not place BPA in the position of determining if a violation of law exists. Such a violation or breach of contract must be determined by an agency or court, other than BPA, having jurisdiction.

When a breach of contract occurs, the Administrator may curtail or terminate deliveries of electric capacity or energy according to the procedures outlined in subsection (d) of the General Environmental Provision. This provision is not limited to performance under the power sales contract, but applies to any action by the party. It is not anticipated that these provisions related to

breach of obligations will be invoked very often, but they reflect Bonneville's affirmative obligation, as stated in section 2, to act consistently with applicable environmental laws.

The General Environmental Provision which is included in all power sales contracts is as follows:

31. General Environmental Provision.

(a) Policy. Bonneville in the performance of this contract shall comply with all of its obligations pursuant to the National Environmental Policy Act.

(b) Affirmative Obligations. The parties agree to: (1) comply fully with all applicable Federal, State, and local environmental laws; (2) to assist and to cooperate with each other in meeting each other's environmental obligations, to the fullest extent economically and technically practicable and mutually agreeable; and (3) provide upon request of the other party a copy of the pollution abatement plans as required by the Clean Air Act, by the Clean Water Act, by other Federal statutes, or by an agency having jurisdiction and within a reasonable time submit evidence that such plans have been approved or have not been objected to by agencies with jurisdiction.

(c) Breach of Obligations. A breach of this General Environmental Provision exists only if a final determination, including all appeals, has been entered by a court or pollution control agency or agencies having jurisdiction that the Purchaser's facility is not in compliance with the applicable laws respecting the control and abatement of environmental pollution.

(d) Remedy. Bonneville, after consulting with state or local agencies having jurisdiction may restrict delivery of electric capacity or energy to the Purchaser pursuant to this contract, if Bonneville determines that:

(1) a breach of this General Environmental Provision exists;
(2) such breach is resulting in a significant adverse effect on the environment;
(3) no governmental agency has jurisdiction or authority to impose sanctions or to seek remedy for such significant adverse effect on the environment; and
(4) restriction of delivery is the only appropriate remedy and bears a reasonable relationship to the breach.

Before restricting delivery of capacity or energy pursuant to this section, Bonnville shall give the Purchaser written notice and a reasonable opportunity to cure the breach and to seek any legal recourse available to the Purchaser.

BPA believes that this language provides a recourse where no other jurisdiction obtains with respect to the great number of already existing environmentally-related laws. Thus, the environmental impacts should be

generally beneficial, although the specific consequences of any discrete action by BPA cannot be properly analyzed at this time.

BPA had proposed including an alternate remedy of a surcharge on a purchaser to recover costs incurred by ratepayers of BPA as a result of a breach of this General Environmental Provision. The customers felt the language was too broad in that it might allow Bonneville to impose costs on the purchaser which were not the purchaser's legal responsibility. Bonneville agreed to rely on its existing remedies at law to recover any damages incurred by the ratepayers of Bonneville due to the purchaser's failure to comply with this General Environmental Provision.

2.4.2 Fish and Wildlife Provisions

The fisheries community and others have voiced dissatisfaction with the lack of language in current contracts which would permit or assure the implementation of certain fisheries recommendations for spills and flows when they interfere with operations to maximize the production of power. The Regional Act gives BPA the authority and certain responsibilities to protect, mitigate, and enhance the fish and wildlife which are dependent on suitable environmental conditions substantially obtainable from the management and operation of the Federal Columbia River Power System and other power generating facilities on the Columbia River and its tributaries (section 2(6)).

In recognition of this responsibility, BPA has placed a recitation of the statutory authority in the power sales contracts. This authority is further clarified by affirming BPA's obligations to fish and wildlife in balance with the need to assure the Pacific Northwest an adequate, efficient, economical, and reliable power supply. Further, in section 6, the parties agree that performance of their contract may not prevent or impair performance of the purchaser's legal obligations established in a license or order issued by the Federal Energy Regulatory Commission (FERC). The legal imposition of constraints on non-Federal projects can occur only through modification of a FERC operating license.

The clarification language has been based on the following assumptions:

1. The protection, mitigation, and enhancement of fish and wildlife resources is a responsibility that should be shared among all operators on the Columbia River and tributaries. Bonneville's responsibility with regard to the power sales contracts is to insure that BPA does not constrain the efforts by non-Federal project owners to meet their legal obligations and responsibilities under existing licenses or FERC orders.

2. Bonneville shall provide electric energy to replace reductions in the purchaser's ability to generate power from its own resources which were caused by fish and wildlife operations, to the extent such reductions in generation ability are planned prior to the start of an operating year. Losses of secondary energy for fishery operations are a strictly monetary cost to be borne by the purchaser.

The following clarification language is found in section 6 of the power sales contracts. Language in section 11 of the DSI power sales contract is the same as that found in the first paragraph below.

6. Interpretation of Fish and Wildlife Responsibilities.

In meeting its obligation under this contract, Bonneville affirms its obligation under Section 4 and 6 of P.L. 96-501 and other applicable law with respect to implementation of measures and objectives for the protection, mitigation, and enhancement of fish and wildlife, while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply. This contract shall not impair compliance with such obligations.

The Purchaser affirms its legal obligations related to fish and wildlife established in any license or order issued by the Federal Energy Regulatory Commission. This contract shall not expand, impair, or in any way alter the Purchaser's legal obligations related to fish and wildlife established in a license or order issued by the Federal Energy Regulatory Commission.

BPA has also included language in the utility power sales contracts (section 16(d)) which specifies that fish and wildlife obligations are usual operating constraints which a computed requirements utility may consider in calculating the assured capability of its generating resources. Bonneville only requires the utility to demonstrate that the calculations of its assured capability based on such fish and wildlife obligations are in conformance with reasonable utility planning procedures and methods. This language allows the utility to participate in fishery protection or enhancement operations which may reduce the ability of its resources to generate electric power. Bonneville is obligated to meet the firm load requirements of the utility in excess of the ability of the purchaser's resources to generate electric power, including that which is attributable to implementing fishery protection or enhancement operations. According to fishery representatives, a frequently cited objection of utilities to fish and wildlife measures is their inability to meet fishery needs and still comply with BPA contract obligations (Natural Resources Law institute 1981).

BPA believes that the clarification and assured capability language included in the power sales contracts affirms existing obligations and removes impediments to implementation of fisheries measures under the Regional Council's program. Any environmental effects of this provision on fisheries should be beneficial.

A related issue to the fish and wildlife contract language, identified during the June 1981 public review of the prototype contracts and Environmental Report, is the effect the power sales contracts might have on Indian Treaty fishing rights. The issue raised is that decisions relating to the twenty-year power sales contracts may degrade the rearing or production potential of the anadromous fishery habitat and, as such, could impair the Treaty Tribes' "moderate living needs."

The language of the Regional Act affords Indian Treaty Tribes special recognition in sections 2(3), 4(g)(3), 4(h)(2), and others. Further, the Act

identifies related spawning grounds and habitat as a part of the fish and wildlife protection, mitigation, and enhancement mandate. Although the Treaty fishing rights are not specifically noted in the power sales contracts, BPA has acknowledged its independent, affirmative obligations to protect, mitigate, and enhance fish and wildlife.

2.4.3 Conservation Provisions

Numerous individuals and interest groups have expressed an interest in having the power sales and residential exchange contracts contain provisions to encourage conservation. Some, including the Natural Resources Defense Council (NRDC) recommended that BPA ". . . require, as a condition of receiving BPA services, that utilities participate in BPA's regional conservation program."

BPA believes the Administrator possesses a great deal of discretion in contract matters. This discretion is provided by sections 5(a) and 2(f) of the Bonneville Project Act, both of which are reasserted by the Regional Act. Whether the discretion is utilized to insert a specific provision in a contract is a policy issue, as long as that provision is not otherwise required by any applicable law. The Administrator has determined that Congress has provided sufficient incentives and sanctions for regional conservation through the Regional Act so that such a provision in the contracts is not necessary. Since Congress could easily have mandated such a precondition for new power sales contracts by inserting such language into the Regional Act, it also did not see the precondition to be necessary to achieve regional conservation.

BPA must serve its customer loads with resources in the priority mandated by the Regional Act. The Administrator is obligated by section 6 to meet his customers' loads (pursuant to the directives of 4(e)(1)(2) and the cost-effectiveness test of 3(4)(A)) by looking first to cost-effective conservation. By utilizing the financial and technical assistance tools provided by section 6, BPA believes that maximum cost-effective conservation will be achieved.

To aid in the achievement of this mandate, language has been included in the utility power sales contracts regarding BPA's access to resources to serve load. According to this language, BPA states its obligation to serve a customer's load by acquiring resources pursuant to the priorities established by the Regional Act, and the customer agrees to use its best efforts to supply BPA with the resources to serve its load growth, unless it uses its own resources to serve that growth, and to do so in accordance with the resource priorities of the Regional Act. The customer also agrees to make a good faith effort to cooperate with BPA in the implementation of BPA's resource responsibilities under the Regional Act. BPA views this language as contractual support for its statutory obligation to attempt to implement and acquire cost-effective conservation and renewable resources whenever they are found to meet or reduce the Administrator's load obligations, including the service areas of utilities which do not implement sufficient conservation or renewable resources. Such implementation may be carried out by BPA through willing local governments or other entities if the local utility is unwilling or unable to do so.

The contract language included in the body of the power sales contract is as follows:

> 5. Agreement as to Bonneville's Decision in Acquiring Resources to Serve Load.
> (a) Bonneville agrees to serve the firm load obligations of the Purchaser placed upon Bonneville pursuant to this contract. Bonneville shall meet the load utilizing resources available to Bonneville or acquired by Bonneville in accordance with P.L. 75-329, P.L. 93-454, P.L. 96-501, and other applicable law. Bonneville's acquisition of resources under P.L. 96-501, to the extent appropriate, shall be consistent with the plan adopted by the Pacific Northwest Electric Power and Conservation Planning Council.
> (b) Except as expressly provided in this contract and in applicable provisions of law, Bonneville's obligations under this contract are not contingent upon action taken or to be taken by the Purchaser.
>
> To the extent that the Purchaser obligates Bonneville to serve all or a portion of its load growth pursuant to this contract in lieu of using Firm Resources to meet such load growth, the Purchaser and Bonneville recognize that resources must be made available by or on behalf of the Purchaser to Bonneville if Bonneville is to have the ability to meet its obligations hereunder. The Purchaser therefore agrees that it will use its best efforts either to serve its load growth using Firm Resources, or to make available for acquisition by Bonneville, in accordance with the conservation and resource priorities and other requirements of P.L. 96-501, resources equivalent to the load growth of the Purchaser which is served hereunder. Such resources will be made available to Bonneville pursuant to mutually agreeable contracts providing appropriate compensation to the Purchaser and other necessary terms. In making such resources available, the Purchaser may act individually or in cooperation with others.
>
> The parties acknowledge that cost-effective conservation measures will be implemented in accordance with P.L. 96-501 and that Bonneville is required to give priority to the development and acquisition of certain types of resources under P.L. 96-501. The Purchaser agrees to make a good faith effort to cooperate with Bonneville in implementing and initiating the resource responsibilities placed on Bonneville, and providing services necessary thereto, pursuant to P.L. 96-501."

In addition, conservation is a factor in a utility's allocation of power in the event the Administrator determines he has insufficient resources to meet his obligation pursuant to section 5(b) of the Regional Act. BPA has included a provision in the contracts which specifies that, to the extent that a customer fails to implement BPA conservation programs or equivalent conservation programs to achieve the same purpose, BPA's obligation to that customer in a period of insufficiency shall be reduced. Only if the customer class as a whole has provided to BPA more than sufficent resources to serve the load growth of the class will that customer be able to obtain a portion of its remaining power needs from BPA. Even in that event, the portion will most likely be less than what the customer requires because of the way the allocation formula, used to distribute such excess, is weighted in favor of customers which have provided resources to BPA. The effect of this provision is that failure to pursue even one area of conservation potential identified

by BPA could cause such customers to be responsible for their unanticipated load growth during a period of insufficiency.

With respect to conservation surcharges, section 4(f) of the Regional Act states that upon recommendation of the Regional Council, BPA may assess a surcharge on any customer which fails to implement appropriate conservation measures. This authority to impose such surcharges is preserved in the power sales contracts in section 8(d) of the General Contract Provisions. The GCPs also state that BPA will provide financial assistance to implement cost-effective standards pursuant to section 6 of the Regional Act. The provision provides for BPA to initiate rulemaking, upon adoption by the Council of a methodology for imposition of surcharges, to determine in what instances surcharges will be imposed upon the Council's recommendation, the length of time they will be imposed, and the amount which will be imposed.

The contracts also include a provision, at the instance of the Regional Council, which states that the parties will negotiate amendments to the contract as may be necessary to permit the Regional Plan and the fish and wildlife program fashioned by the Council to be effective in the manner intended by sections 4 and 6 of the Regional Act. Such provision is located in section 44 of the General Contract Provisions.

BPA did not include a provision concerning conservation in the residential exchange contract. The Administrator is authorized to implement only those conservation programs which will reduce the load obligation a utility may place on BPA. Since under the exchange agreements a utility must provide resources to meet its own load, conservation programs would not reduce any load on the Administrator. Therefore, including conservation as a condition for service in the exchange agreements is inappropriate. Furthermore, an IOU which signs a power sales contract with BPA to meet its load growth will fall under the conservation provision in that contract.

DSIs, like other BPA customer classes, will not be required to implement conservation measures as a condition of service. However, the provisions of the GCPs related to surcharges and renegotiation to effectuate the Regional Plan and program are incorporated into the DSI contracts. The greatest present incentive for DSI conservation and reduction of DSI contract demands is believed to be the substantial BPA rate increases, pursuant to which the DSIs assume the costs of the residential exchange agreements. DSIs may improve efficiency and produce more product with the same amount of power or alternatively they may improve efficiency and reduce their entitlements to power from BPA, in which event they will be eligible for billing credits or other financial assistance from BPA.

Chapter 3

ENVIRONMENTAL CONSIDERATIONS RELATED TO PREFERENCE, IOU, AND FEDERAL AGENCY CUSTOMER POWER SALES CONTRACT ISSUES AND ALTERNATIVES

In negotiating the power sales contracts for preference, IOU, and Federal agency customers, there have been three principal areas of concern. These are Computed Requirements, Allocations, and New Large Single Loads (NLSL). This chapter discusses the environmental considerations related to the issues and alternatives raised in association with these areas of concern.

3.1 COMPUTED REQUIREMENTS

3.1.1 General Planning and Operating Principles

The Computed Requirements sale is the type of sale made by BPA to utilities who own generating resources that they can operate in such a way as to (1) sell generation from those resources, thereby increasing the amount of firm power BPA must provide to them, or (2) redistribute generation over time to cause losses of power or revenue on the Federal system.

The main features of Computed Requirements contracts have been developed over the last 20 to 30 years. They include: (a) the method for determination of the amount of firm peaking power and firm energy that the customer must supply for its loads, called its "assured capability;" (b) a determination of the amount that the customer is entitled to purchase from BPA as firm power, which is the difference between the customer's loads and the assured capability of its resources; (c) a system of additional overrun charges if the customer takes more power from BPA than it is entitled to according to the Computed Requirements formula; (d) relief margins giving smaller overrun charges for smaller errors; and (e) a requirement with highly technical provisions that the utility plan its long-range operations so as to keep its Computed Requirements approximately uniform from one year to the next, increasing each year in an amount equal to its load growth. This last requirement assures that the customer will not manipulate its purchases from BPA so as to purchase less in normal years which begin with full reservoirs and more in shortage years which begin with reservoir deficiencies.

The additional charges that may be imposed on a Computed Requirements customer are not applied to full requirements customers, that is, utilities with little or no generation which have no potential to sell their own generation or adversely impact Federal operation. Therefore, utilities which are planning to acquire their own generation for the first time may be subject to these potential extra charges for the first time if that generation places them into the Computed Requirements class. This could be a disincentive to independent development of new resources by these utilities; although vulnerability to these extra charges could be avoided through sales of these resources to BPA or service and exchange agreements under which BPA would contract to operate the resource on behalf of the utility.

The underlying reasoning for Computed Requirements is that the Computed Requirements customer has a right to receive Federal power equal to its needs, but does not have the right to use Federal purchases to enable it to make sales of its own generation to other parties, nor to manipulate the Federal purchase to the point of causing detriment to the Federal system. Computed Requirements purchasers must cooperate with BPA as though all parties constituted a single utility, thereby avoiding inefficient use of the region's resources as a result of lack of coordination. As a result of the Regional Act, BPA is now authorized to resume sales of firm power to investor-owned utilities which had been terminated in 1972. Therefore, the planning and operating principles of Computed Requirements will now apply to the considerable generating resources controlled by these utilities, and they will be coordinated with the Federal system to a greater degree.

3.1.1.1 Environmental Impacts

The total effect of the Computed Requirements sales contracts, as compared to effects under existing contracts and other alternatives, on operation of the region's generating resources will not be great. Requirements will be met to the extent that available resources can do so, and the benefits of one-utility operation will be obtained as noted above. Because the operation of resources owned by Computed Requirements customers will be more constrained by the conditions imposed by the contracts, some changes in the operations of those resources may occur. Corresponding changes will occur in the operation of the rest of the coordinated power system. The total generation by the whole system will be the same as it would have been without these constraints.

Considering generating facilities individually, operation may be changed because power may be generated during different hours, seasons, or years than would have been the case without the constraints of Computed Requirements contracts. In the context of the coordinated power system as a whole, these variations will offset one another. Environmental considerations are taken into account in the operation of resources through both hard and soft operating constraints established by or imposed on operating entities. Furthermore, one of the benefits of one-utility operation is greater flexibility in accommodating environmental concerns and mitigating potential impacts. Therefore, the total environmental impacts of Computed Requirements contracts are expected to be minimal.

The general features of Computed Requirements tend to achieve planning and operation of the purchasing utilities' resources with BPA's resources as though all parties constituted a single utility. The "one-utility" concept is extensively discussed in the BPA's Draft Role EIS (BPA 1977) and Final Role EIS (BPA 1980). Under the one-utility concept, the region's power facilities would be operated as though they were planned, owned, and managed by a single regionwide entity. Although there are advantages to multiple ownership (i.e., local control and competition), the one-utility concept can offer the greatest promise for minimizing power facilities' adverse environmental impacts, costs, and commitment of the nation's scarce physical resources, while ensuring that the region's demand for electric energy is satisfied (BPA 1980).

Most of the region's generating utilities have at some time had Computed Requirements contracts with BPA. Further, many of the principles of the

one-utility concept are encompassed in the Pacific Northwest Coordination Agreement, which includes the majority of the region's generating utilities. A change under the new contracts is that they will apply to investor-owned utilities in addition to the public agency customers already served under Computed Requirements contracts.

From the environmental perspective, the Computed Requirements contracts should encourage better utilization of existing energy generating resources and the planning of future energy resources. The region's utilities will have less incentive to "overbuild" resources, thereby reducing the resultant air, water, and land impacts of such new resources. The one-utility approach can encourage better utilization of existing resources since thermal resources are displaced when possible by less expensive and potentially environmentally preferable hydro resources; resources within the region are operated in a manner providing greater benefit to the region as a whole; and nonpower uses (fishery needs, etc.) can be accommodated more equitably into the operation of the coordinated system. These benefits are much more difficult to obtain where individual utilities are not members of a fully coordinated and interdependent system.

3.1.1.2 Limitation on Peak Hours

3.1.1.2.1 Discussion of Issue -- One of the basic features of the existing Computed Requirements contracts is that a Computed Requirements purchaser has been entitled to take on heavy load hours an amount of power equal to the greater of its Computed Peak Requirement or its Computed Average Energy Requirement. This enabled utilities to set hourly schedules at a level adequate to insure that they could receive their net monthly energy requirement. In the new contracts, for the first time BPA reserves a right to limit the amounts of power a purchaser takes on heavy load hours to an amount not greater than the amount by which that purchaser's peak load exceeds the capability of its own resources for as long as six heavy load hours at a time. There are contractual conditions on the exercise of this right, including advance arrangement with a purchaser, a prior determination by BPA that the limitation is reasonably necessary for BPA to meet its firm obligations and its other loads in the Pacific Northwest, and a proportional application of this limitation on all purchasers to whom it would apply. The existence of this right to limit BPA's heavy load hour obligations to a purchaser's peak requirements will alleviate an increasingly serious problem in which BPA was forced to maintain and operate peak resources to a much greater extent than it would have to if its requirements purchasers maintained and operated their own peak resources to the limits of their assured capability. The contract includes a reduction in the customer's power bill if this limitation is invoked.

This will require the Computed Requirements customers and BPA to agree on acceptable methods for accurate measurement of peak capabilities. Since this provision requires the customers to make full use of the peak capability of their resources in the event of a limitation by BPA, they will have to make sure that those peak capabilities can be dependably produced. Also, in the event of such a limitation, Computed Requirements customers will be able to increase the amounts of power that they take from BPA during light load hours in order to get delivery of all the energy to which they are entitled.

3.1.1.2.2 Environmental Impacts -- The ability to limit power deliveries during peak hours might reduce BPA's need to acquire higher cost peaking resources. The impacts on air quality, water quality, and land use associated with the construction and operation of peaking resources would also be reduced, to the extent that construction of peaking resources could be delayed or avoided.

Increased deliveries of power during light load hours would probably have beneficial impacts on the Federal Columbia River Power System (FCRPS). By increasing generation during light load hours, daily flow fluctuations will be reduced. Consequently, fish and other aquatic life occupying the shore zone will not be subjected to the same degree of habitat degradation currently caused by power peaking operations. In a similar manner, riparian habitat will not be exposed to as rapid or as severe water fluctuations. The improved load factor on the FCRPS resulting from reduced peaking requirements could facilitate more efficient operation of thermal resources and, therefore, reduce maintenance costs and their economic impacts by permitting more constant generation.

The requirement that Computed Requirements customers make full use of the peak capability of their resources would shift the impacts of peak generation away from FCRPS resources and toward resources of Computed Requirements customers. The net effect will largely be offsetting changes in the impacts of the two groups of resources, with results that are much the same as those described in the preceding paragraph.

3.1.1.3 Purchasing Less than Full Computed Requirements

3.1.1.3.1 Discussion of Issue -- The IOUs, principally the Washington Water Power Company, proposed a novel Computed Requirements sales arrangement in which the purchaser would buy less than 100 percent of its estimated needs from BPA and would supply the difference, if needed, with short-term purchases in the future. These short-term purchases would be firm power specifically, not purchases of surplus power from within the region or outside. BPA agreed with this arrangement, and it has been incorporated into the power sales contracts.

The proponents of this arrangement, which is referred to as "Contracted Requirements," argued that they would be put at a business disadvantage if they were required to contract for 100 percent of their full needs from BPA, because they would then not be able to take advantage of any resources that became available on short notice. They will bind themselves to continue to plan their resources as a Computed Requirements customer is required to do, that is, to continue to acquire firm resources to meet firm loads based on critical water conditions.

3.1.1.3.2 Environmental Impacts -- The major impact of this issue appears to be economic. The utilities feel that they will be able to purchase low-cost, short-term firm resources at a lower cost than that which would otherwise be purchased from BPA. From BPA's perspective, these utilities would be competing for resources BPA intends to purchase because of projected deficits. However, since the new resource will be used in the region, regardless of the purchaser, the net short-term effect in terms of operations

would be minimal. In the long run though, if all BPA purchasers had to purchase their full requirements, so that a greater proportion of the region's peaking resources were acquired and operated by BPA, BPA would have a greater ability to reduce the impacts of deficits in low water years, or permit greater flexibility in the operation of Federal system resources to avoid adverse impacts of system operations. If regional deficits occur, contracted requirements purchasers will essentially be sharing the deficit with BPA.

3.1.2 BPA Requirement of Notice Prior to Discontinued Use of a Firm Resource

3.1.2.1 Discussion of Issue

The Regional Act specifies that those resources determined as described above shall be treated as continuing to be so used unless such use is discontinued with the consent of the Administrator, or unless such use is discontinued because of obsolescence, retirement, loss of resource, or loss of contract rights. This implies the need for procedures and standards for changing a purchaser's Firm Resource Exhibit in the event a resource is to be removed. In addition, prudent operation, planning, and acquisition of Federal resources makes it necessary for BPA to have as much advance notice of resource additions or removals by its purchasers as is reasonably possible.

This discussion addresses two main topics, first, the rationale for the maximum notice periods required by the contracts, and second, the rationale for each of the numerous exceptions to the maximum. The maximum notice periods that the contract requires for any resource changes are the same for all classes of purchasers, that is, five years notice for the peak capability of any Firm Resource and seven years notice for the energy capability of any Firm Resource. These notice periods bear a close relationship to the notice BPA must give its purchasers in the event of insufficiency, which is five years for peak and eight years for energy. The rationale is that resource removals could potentially put BPA in a position where such notice of insufficiency must be given. Also, BPA requires notice of resource additions because such additions have the potential to make already-acquired Federal resources surplus to the needs of its other purchasers. Prudent resource management dictates that BPA must have sufficient advance notice to dispose of any resulting surplus, without waste which would be an eventual cost to the ratepayers. It is important to remember in this discussion that any mention of BPA's purchases or options to purchase refer to the purchase or option to purchase of the capability or output of electric generating resources constructed, owned, and operated by a resource sponsor through power purchase agreements. BPA is not allowed to own or to construct generating facilities.

BPA has approved a number of specific exceptions to the above described maximum notice periods which fall into two main categories. First, there are exceptions for specific situations where BPA projects that no significant adverse affect will be experienced by BPA or its ratepayers. Second, there are exceptions for some situations where some adverse impact on BPA could be identified but other considerations or policies militate against application of an inflexible rule which would cause the purchaser in those situations to bear alone the economic or power supply consequences for the maximum period of time.

In the first category, the contract provides that any resource may be added to the purchaser's Firm Resource Exhibit upon a minimum notice period if such resource is consistent with BPA's annual program which will implement the plan of the Council. This minimum notice period is six months, the number of months between the submittal of a purchaser's annual Firm Resource Exhibit by January 1 of each year and the effective date of those new exhibits which is the following July 1. The contracts will also allow resource additions on minimum notice if reasonable determination can be made that BPA can market or otherwise dispose of any resulting surplus without sustaining an adverse economic affect. If BPA projects a firm load-resource deficit, the contract allows additions of Firm Resources in amounts that would offset such deficits on minimum notice. Likewise, if BPA projects a firm load-resource surplus, BPA will allow proportional resource removals on minimum notice. If a purchaser makes a permissible exchange of one Firm Resource for an equivalent Firm Resource, that change may be made on minimum notice. If there are equivalent exchanges between two requirements customers of BPA, or if there is a transfer of resources between BPA and the purchaser, only minimum notice need be given. If a resource change is necessitated by operation of a separate agreement that was in effect prior to the date of enactment of the Regional Act, the purchaser may give BPA as much notice as the purchaser was entitled to pursuant to the terms of that agreement. Lastly, on minimum notice, BPA will allow any change to which the Administrator has given written consent.

In the second category, there is a special exception for adding the capability of renewable or cogeneration resources which have planned capabilities of 50 average megawatts or less. These may be added on as little as 30 months notice, but if the purchaser had earlier notice of availability of that resource, it must give such earlier notice to BPA. If BPA fails to exercise an option pursuant to an irrevocable option agreement executed between BPA and the purchaser, the purchaser who granted that option may add that resource to its exhibit for use to serve its own firm loads in any exhibit submitted within two years after BPA declines to exercise that option. Similarly, if BPA fails to accept an offer pursuant to section 9(i)(3) of the Regional Act, the purchaser may add that resource to its exhibit on as little as two years written notice, to be effective on the date of commercial operation of that resource. Most importantly, BPA will allow removal of a Firm Resource on minimum notice in the event that its use is permanently discontinued because of loss of resource or loss of contract rights resulting from factors beyond the reasonable control of the purchaser. If the purchaser suffers loss of use in other circumstances, the Administrator may agree in writing to a resource removal date on some shorter notice than the maximum notice periods.

3.1.2.2 Environmental Impacts

The effect of the requirement for notice to BPA before Firm Resource changes will be recognized in the power sales contract is to establish shorter or longer periods of time during which the purchaser, instead of the Federal system, will have to supplement deficits or absorb surpluses. Therefore, impacts, if any, will occur if the purchaser's probable actions in response to the surplus or deficit are significantly different from BPA's probable actions.

As described above, BPA has included different notice requirements for different conditions instead of a flat maximum with no exceptions, or instead of requiring no advance notice.

Under BPA's contracts, a purchaser would generally be most likely to have to sustain the effects of a load-resource deficit for the maximum notice period of seven years as a result of the loss, sale, or retirement of a Firm Resource if (1) BPA does not project a Federal system load-resource surplus for the first year of the proposed removal, (2) if the loss of use is not of a permanent nature or is not due to circumstances beyond the purchaser's control, or (3) if such removal would change BPA's net obligation to supply power. In such circumstances, the probable and desired effect would be to act as an incentive towards the continued use of the Firm Resource, if feasible, until the notice period expires. Compared with the alternative of placing that deficit on the Federal system without notice, the only difference in potential environmental impacts would be that some utilities are more likely to use load reduction methods such as curtailment than would BPA.

Then are no identifiable environmental impacts associated with BPA's contract provisions relating to resource additions. The thrust of the notice requirement is to discourage development of generating resources which are surplus to the region's needs, but there is already such heavy economic discouragement on overdevelopment that the power sales contract provisions are not a significant influence.

The notice requirements for Firm Resource additions will have no significant impacts on individual utilities because most purchasers will be able either to operate the resource to displace their energy purchase from BPA or to sell it.

3.1.3 Substitution of Resources for 5(b)(1)(A) and (B) Resources

3.1.3.1 Discussion of Issue

Customers have suggested that they should be able to substitute resources for the original resources defined by 5(b)(1)(A) and (B) as long as this does not decrease their total capability. BPA policy is to consent to substitution as long as the substitute resource was not planned, as of the date of enactment of the Regional Act, to meet firm load growth in the region. The Regional Act obligates BPA to serve load growth of requesting utilities that occurs after the date of the Regional Act, plus any firm deficit that existed on that date. BPA's policy on substitution of resources will assure that resources planned to serve firm load will be so used because those resources planned as of the date of the Regional Act to meet firm loads will be needed. Allowing substitution of a planned resource for retirement of another or resale of a resource to utilities which are not customers of BPA will result in larger shortages.

3.1.3.2 Environmental Impacts

Without this condition, substitution could reduce available resources and increase the probability of deficits and their associated impacts (see section 3.2.1.2.1). Impacts of deficits include emissions of air and water pollutants caused by the use of emergency resources (i.e., combustion turbines), economic

costs of reduced production due to reduced availability of power, and possible health and safety risks involved in outages.

3.2 ALLOCATIONS

Section 5(b)(5) of PNEPPCA requires BPA to continue to include provisions in its contracts with utility and Federal agency customers which permit BPA to restrict its obligations to meet the requirements of such customers during any period of insufficiency.[1/] The effect of these provisions is to encourage the customers to actively participate in the development of sufficient resources to serve the region's load growth.

Contracts with preference customers and Federal agencies must specify a reasonable period between the date of issuance of a Notice of Insufficiency and its effective date. Since BPA has authority to acquire power under the Regional Act, BPA will issue a Notice of Insufficiency which would be limited to the period of time necessary to acquire additional power. Section 5(b)(5) further provides that no such Notice of Insufficiency may be issued until BPA has had a reasonable period of experience with resource acquisitions pursuant to the Regional Act.

By specifying the minimum amount of power (the entire amount of the Federal base system resources) to which preference customers and Federal agencies are contractually entitled, section 5(b)(6) ensures compliance with the preference clause and permits customers to plan more effectively in meeting their future power needs since they can ascertain the minimum amount of power they will receive as a class in the event of insufficiency. Furthermore, section 5(b)(6)(C) requires that contracts shall contain a formula for determining annually, on a uniform basis, each preference or Federal agency customer's contractual entitlement to firm power during a period of restriction.

The Regional Act specifies a minimum entitlement of power for all customers by providing that BPA must provide a contractual entitlement of power equal to the resources acquired from or on behalf of such customer by BPA under the Regional Act. The minimum entitlement for all customers based on resources acquired from or on behalf of a customer is in addition to a customer's entitlement of Federal base system resources. The Regional Act requires that entitlements to power under the allocation formula for Federal base system resources or for resources sold to BPA which are excess of any particular customer's power requirements in any year must first be used to increase the allocations of utilities in that same class.

The contract provisions to implement these subsections of the Regional Act are generally referred to as the "Allocation Provisions in the Event of Planning Insufficiency."

1/ Insufficiency is a foreseeable inability, on a planning basis, to meet all contractual obligations at some future time; a Notice of Insufficiency is a mechanism to limit the increase of such obligations. A planning insufficiency is distinguished from actual operating shortages which are dealt with by BPA's contractual rights to restrict DSI loads and by curtailment schemes implemented by State and local governments.

3.2.1 Notice Period for Insufficiency

3.2.1.1 Explanation of Issues

The allocation provisions provide that BPA may limit its obligations to supply firm power to its utility and Federal agency customers if BPA is unable to acquire, on a planning basis, sufficient resources to supply those loads. This limitation is accomplished by BPA issuing a notice of restriction to a customer class. For purposes of issuing notices of restriction under this contract, BPA's customers are divided into three classes: (1) public body and cooperative, (2) Federal agency, and (3) investor-owned utility. The notice must state that in a future specified year BPA will limit its obligations to a particular class by allocating its available resources in that year pursuant to a certain set of formulas.

The Regional Act places several limitations on notices of restriction which are contained in the power sales contracts. The Regional Act specifies that a notice of restriction shall not be issued until BPA has had a reasonable period of experience under the Regional Act. It also specifies that the notice of restriction to the public body and cooperative or Federal agency classes shall not be effective prior to the operating year in which BPA estimates that its combined obligations to both classes equal or exceed the firm capability of the Federal base system resources, and that a notice of restriction shall not be effective for a reasonable minimum period of time following the issuance of the notice of restriction.

During the final round of negotiations BPA proposed to the public bodies, cooperatives, and Federal agencies that it would consider any mix of notice periods for reasonable period of experience and notice of restriction which totaled 13-1/2 years. BPA stated that it would base other notice periods for the construction of resources on the notice period selected for this restriction for energy loads of public agencies. The public agencies proposed a reasonable period of experience of 5-1/2 years and a notice period of 8 years for firm energy load of public agencies. BPA has incorporated such notice periods into the power sales contracts.

3.2.1.2 Environmental Impacts

The amount of notice which BPA gives to its customers of a reduced supply obligation due to planning insufficiency could affect the resource decisions undertaken by these customers (NEPP 1978, pp. 66-69; Decision Focus, Inc. 1978; Ernst and Ernst 1976). Utilities require sufficient planning leadtimes to acquire or develop new resources to meet their anticipated loads. Over or underbuilding could potentially occur as a result of the amount of notice given to utilities. The notice period for preference customers was established using the construction period for thermal generating facilities. While conservation and renewable resources generally can be developed in less than 8 years, BPA presumes that a period of insufficiency will occur when BPA has been unable to acquire sufficient conservation and renewable resources. A shorter notice might force utilities to begin the construction of thermal plants before BPA had issued a notice of insufficiency, which could lead to overbuilding of resources.

A summary of the impacts associated with underbuilding and overbuilding of resources is presented in the following sections. The information was taken from BPA's Final Role EIS (BPA 1980).

3.2.1.2.1 Impacts of Insufficient Resources -- The most direct impact of resource deficiency would be that some loads would have to be curtailed. The degree of curtailment would determine the extent of impacts; at first, losses to production and employment cutbacks to DSIs would be the primary impacts, but as the magnitude of deficiency exceeded DSI interruptible reserves, personal inconveniences to the general public, the use of backup generation and substitution of other energy sources, and economic impacts, such as industrial closures, would occur. The use of fossil fuels in gas and oil-fired turbines or as a substitute for electric energy could have significant impacts on air quality, as well as economic effects related to higher fuel costs.

In the event of resource deficiency, incentives would be strong to operate existing facilities at maximum output. Schedules for maintenance and refueling of generating plants would become more restrictive, and the hydroelectric operations would have to be adjusted to accommodate these tighter maintenance schedules.

Deficiency within the region would create a demand for imports of nonfirm power which, if available, would further add to the use of the hydro system for backup. Impacts of generation would be shifted to whichever region provided power to the Pacific Northwest. Power costs within the region would rise due to the higher cost of imported power. If enough imports were available, but intertie capacity was not sufficient to carry all the imports needed, the demand for additional interties would increase, although the time requirement to construct additional interties might not permit timely development of new interregional interconnections. It is unlikely, however, that intertie capacity would be the limiting factor on the region's ability to import power, because the D.C. upgrade should be essentially complete in the mid-80's.

Within the region, assuming that cost-effective conservation, load management, and alternate resources had already been developed, emphasis would be placed on voluntary reduction of usage, such as occurred in 1973 and 1977.

Depending on the availability and cost of imported power and conservation, pressure would also increase for the development of generating resources which could be placed on-line within a short time, usually oil or gas-fired turbines. The choices available would be limited by the urgency of the need for generation, and emphasis would tend to stress speed of development rather than cost or environmental impact. Development of more costly resources would increase electricity rates faster than if resources were sufficient.

Demands for maximum generation from the existing system would compete with the fullest and most liberal accommodation of nonpower demands on the operation of the hydroelectric system. Such competition could result in relative disadvantages to fisheries, irrigation, and other water uses, consistent with BPA's obligations under the Regional Act.

It should be noted that these impacts would vary greatly with the degree of deficiency. Two characteristics of the present Pacific Northwest power system would tend to mitigate deficits. One is the long interval during which a deficiency would develop, based on the use of critical period hydro planning. This period could allow more time for the region to make adjustments in power consumption (such as strict conservation and end-use curtailment programs) to mitigate the impacts of a deficiency. The other is the interruptible portions of DSI loads, which, if they are available to the regional power system, can provide a sizeable buffer between numerical deficiencies and regionwide shortages. These are not a guarantee, however, that serious impacts would not result from a resource deficiency.

The impacts summarized here represent an extreme scenario of resource deficiency. Lesser degrees of deficiency are more probable.

3.2.1.2.2 Impacts of Resource Surpluses -- A surplus of generating resources relative to loads would have impacts quite different from those of a resource deficiency. Economic activity in the region would be affected very little; most of the impacts would be borne by the regional environment due to both construction and operation of surplus resources. These impacts could include land use, consumption of material resources, energy input, and increased impacts on air quality and water quality, as well as radioactive emissions, noise, and solid waste. Costs of surplus resources would increase regional power rates.

If the excess facilities were left idle, regional rates would include the fixed costs of surplus facilities, thus rates would increase, but the variable (operating) costs would not accrue and the environmental impacts of operation would be avoided.

It is more probable, though, that excess facilities would be operated to generate power for export. In this case, the Pacific Northwest would bear the impacts of operating the facilities, but the revenue from the sale of export power would mitigate the cost impact. In addition, the environmental and economic impacts of either generation or shortages in the area receiving the power would be reduced. Power exported to displace fossil fuel generation would also have economic benefits to the nation in reducing the need for either costly domestic fuel development or foreign imports.

Depending on the magnitude of the excess of resources, if it were a long-term surplus, pressure could develop to build new interties with other regions. This impact is similar to that of a resource deficiency in that the same facilities are involved, except that in this case, the purpose is export of power rather than import. The environmental impacts of construction of interties would occur in both regions.

If an excess of generating facilities were short-term, the result might be economically beneficial. Depending on the type of facilities and the rate of escalation in costs, it could be more economical to build the resource at an earlier time. Exports could provide revenues until the plant's output was required within the region. If the excess were long-term, however, the sponsors of the facilities would seek guaranteed long-term markets outside of the region.

3.2.2 Federal Base System (FBS) Resources

3.2.2.1 Explanation of Issue and Alternatives

The size of the FBS will determine the minimum amount of power available to the preference customers and Federal agencies which guarantees their preference rights. The size of the FBS depends on which resources are included and their firm capability. Additional issues which affect the size of the FBS are (1) whether the FBS should be reduced for commitments made from contractual resources to utilities when the resource was acquired by BPA, (2) whether contractual resources should be replaced when the contract term expires, and (3) the loss of energy due to fisheries enhancement, irrigation withdrawals, navigation, and other authorized uses which reduce firm capability.

The contracts provide a description of the FBS resources for the purpose of defining the firm capability of these resources and determining the amount of capability which will be allocated from these resources. The resources from which the firm capability will be calculated are the Federal Columbia River Power System (FCRPS) hydroelectric projects and the capability of long-term contracts in force on the effective date of the Regional Act which include Hanford, WNP Nos. 1 and 2, 70 percent of WNP No. 3, 30 percent of Trojan, peak/energy exchange contracts with both Pacific Northwest and Pacific Southwest utilities, and the Goodnoe Hills wind turbines. The contracts provide that the firm capability of the FBS increases to the capability of the hydroelectric projects and the contractual resources acquired by BPA prior to the Regional Act, and would be reduced thereafter only for reduction in the capability of the hydroelectric project due to other authorized uses of the river which were planned prior to the effective date of the Regional Act. BPA will replace any reductions in the capability of the FBS resources which occur for any of the following reasons: (1) actual performance of those resources, (2) expiration of the long-term contracts, and (3) reductions in capability of Federal hydroelectric projects due to other uses of the river authorized after the effective date of the Regional Act, such as increased irrigation withdrawals or reductions in generation capability due to fish and wildlife operations. The contracts do not reduce the FBS for stautory commitments such as the Montana Reservation or contractual commitments such as the Columbia Storage Power Exchange (CSPE).[2/]

In response to public comment, the contracts do not define the firm capability of the contractual resources in the FBS. The Public Power

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2/ The Act which authorized construction of the Hungry Horse reservoir in the State of Montana provides that power generated at such project is primarily for use in the State of Montana. CSPE is power produced at FCRPS projects due to the storage projects constructed in Canada pursuant to a treaty with Canada. The treaty granted the Canadians the right to one/half of the increased power generation at FCRPS projects due to the storage projects. The Canadians have marketed this power to Pacific Northwest and Pacific Southwest utilities as CSPE.

Council (PPC) and members of the public objected to the use of plant factors based on the current regionally adopted planning assumptions. They felt these plant factors were unreasonably large. BPA will be required to select appropriate plant factors for thermal plants when determining its policy for acquiring replacement resources for the contractual resources in the FBS.

The firm capabilities of the FBS resources are determined by the resources' contribution to BPA's Firm Energy Load Carrying Capability[3/] while reflecting constraints on use of the rivers due to other authorized uses. The FBS does not include, for allocation purposes, the generation used to serve the irrigation pumping loads of the Bureau of Reclamation and to supply electric energy losses resulting from the delivery of Federally-owned firm power.

The PPC proposed an alternative that would limit the capability of the Federal base system resources to the actual output of contractual resources acquired under long-term contracts in effect on the date of the Act. The PPC would not have replaced the contractual resources upon expiration of the contracts and would have required approval of at least two-thirds of the public body and cooperative customers before BPA could have acquired any resources to replace reductions in capability of the FBS based on actual performance. BPA has agreed to consult with its customers before acquiring any resources.

3.2.2.2 Impacts

The size of the FBS determines how early a notice of insufficiency to preference customers and Federal agencies could take effect. A large FBS would make the likelihood of a period of insufficiency for preference customers and Federal agencies starting during the term of this contract very small, based on the current load forecasts for preference customers and Federal agencies.

The PPC position would increase the possibility of a period of insufficiency during the term of this contract. If BPA could not replace contractual resources upon expiration of the contracts, the difference in the size of the FBS could move the initial year in which a notice of insufficiency could take effect forward by approximately two years. This position regarding replacements of resources reduces the certainty of the size of the FBS in the event one or more of the contractual resources acquired by BPA does not come on-line at its planned energy production date.

It is important to note that the issue of definition does not affect the total loads and resources in the region, nor the development of resource mixes to meet the loads. The impact would be one primarily of rates since

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3/ Firm Energy Load Carrying Capability is a contractual method specified in the Pacific Northwest Coordination Agreement for determining the ability of BPA to meet its firm load obligations when its resources are operated in coordination with the resources of other generating utilities to meet all regional firm loads.

the cost of replacement resources could be greater than the cost of "other resources" which would be used to serve public agency loads under section 7(b).

3.2.3 Allocation Formula

3.2.3.1 Explanation of Issues and Alternatives

The Regional Act specifies that the power sales contracts contain a formula for determining each customer's allocation on a uniform basis. BPA has included a formula which allocates the FBS on a pro rata (proportional) basis based on the customer loads in the year prior to insufficiency.

The Regional Act provides that such loads will be reduced by customer resources which the customer had used in the year prior to the date of the Regional Act to serve its firm load, or had determined would be used for that purpose. BPA had originally proposed that such resources be those shown in the September 2, 1980 Blue Book (PNUCC 1980) as planned to serve a customer's firm load, reduced to include only those resources it actually chooses to use to serve its firm load. Upon showing of broad support from the public agencies, BPA decided that only those resources used in the year prior to enactment of the Regional Act (5(b)(1)(A) resources) should be used to determine the FBS allocation. BPA agreed with the Public Power Council that the factors to be considered in the allocation were primarily the concern of the public agencies.

Use of 5(b)(1)(A) resources allows mid-Columbia utilities to withdraw from purchasers the power they had earlier marketed from their hydroelectric projects, to use that power to serve their own load, and still receive an allocation of FBS resources. As a consequence, BPA would provide an additional 300-400 average megawatts of power to 4 or 5 utilities. These utilities would then have adequate power supplies throughout the term of this contract without building any additional resources.

The minimum entitlement for investor-owned utilities is limited to resources sold by them to BPA. Such resources made available to BPA by preference customers and Federal agencies are added to their FBS allocation.

The Regional Act states that power under the allocation formulas which is excess to any particular customer's power requirements in any year must first be used to increase the allocations of other utilities within that class. However, the Act does not specify how this principle, known as intra-class excess entitlements, shall be applied within a given class. BPA first uses the intra-class excess entitlements to meet its obligations to supply the public body and cooperative class members and Federal agency class members with an amount of power equal to the amount actually supplied by BPA in the year preceding insufficiency.

The remaining amounts of power for the public body and cooperative class and the Federal agency class and the amounts for the investor-owned utility class will be allocated on a pro rata basis to customers in each class. BPA will first prepare an ordinal ranking of the customers, computed as the amount of resources developed by such customers divided by their load growth after the effective date of the Regional Act, or such load growth and deficits in

resources prior to the effective date for investor-owned utilities. BPA then squares the ordinal developed for each utility before developing the utility's allocation factor. Squaring the ordinal increases the amount of intra-class excess entitlements which go to those utilities which have made the greatest effort to develop resources under the Regional Act. Each utility's allocation factor is determined by dividing the resulting value for each customer after squaring the ordinal by the sum of such values for all customers in that class. This factor is then multiplied by the available amount of power to obtain each customer's share of the available intra-class excess entitlements.

BPA also will reduce a customer's allocation of intra-class excess entitlements by the amount of firm power necessary to serve the amount of the purchaser's firm loads which would have been reduced by cost-effective BPA conservation programs or equivalent customer programs which such utility declined to implement. The PPC opposed any reduction for failure to implement conservation programs.

The investor-owned utilities proposed that customers which sign residential exchange agreements be allowed to request requirements contracts during a period of insufficiency in order to obtain a share of their class' intra-class excess entitlement. BPA has stated that new requirements contracts at such time will be subject to a determination that BPA can acquire sufficient resources.

3.2.3.2 Impacts

Allocations for intra-class excess entitlements could take the form of pro rata allocations or an ordinal ranking based on criteria such as conservation or dedication of resources to load. The method chosen could potentially direct a utility's resource decisions in order to achieve a higher ranking, although the amount of energy involved in the excess entitlements is likely to be negligible.

Ordinal ranking is based on the assumption that all utilities must develop resources (including conservation) to meet their load growth if the region is to be able to serve the loads of all utilities and the direct-service industries. Along with the entitlement to resources sold to BPA, it rewards utilities which make the greatest effort to insure that resources are available to BPA to meet regional loads. It creates the greatest risk for utilities which plan to meet only a portion of their load growth. It can create an additional incentive for utility management to pursue the development of additional resources.

Pro rata allocations would ameliorate the all-or-nothing harshness of the ordinal ranking scheme, but would decrease any incentive to develop resources created by ordinal ranking. Under the ordinal ranking scheme, service to loads which could have been met by conservation would have the lowest priority during a period of insufficiency. This would penalize only those utilities which declined to implement conservation and also failed to develop an alternative means of serving their load. The allocation process has the additional effect of taking a utility to which the conservation reduction applies off of a requirements contract and making that utility responsible for its own unanticipated load growth during the period of insufficiency.

3.3 NEW LARGE SINGLE LOADS (NLSL)

Under section 3(13) of the Regional Act, "New Large Single Load" means any load associated with a new facility, an existing facility, or an expansion of an existing facility--

(A) which is not contracted for, or committed to, as determined by the Administrator, by a public body, cooperative, investor-owned utility, or Federal agency customer prior to September 1, 1979, and

(B) which will result in an increase in power requirements of such customer of ten average megawatts or more in any consecutive twelve-month period.

The following is an evaluation of the major issues that have been identified in the contract negotiation process that pertain to New Large Single Loads. Included in this discussion are the alternative positions or interpretations of the parties involved in the negotiations and a discussion of their environmental implications.

Although the resolution of these issues could influence the formation of NLSLs, with the exception of the aluminum and major paper plants, most of the loads in the region use less than 10 average megawatts.

3.3.1 When Does a Load Become a NLSL?

BPA's NLSL subgroup initially examined two interpretations of the language of the Regional Act, sections 3(13)(A) and (B), determining when a load becomes a NLSL. The primary issue is at what point in time an increase in load associated with a facility becomes a NLSL. For a preference customer, this issue affects the point in time at which an industrial or commercial facility starts being billed at the New Resource Firm Power rate. For an investor-owned utility, this affects the calculation of average system cost and the rate differential in the residential exchange agreements. While Bonneville believes that only the second of the two interpretations is based in the Regional Act, both are presented to allow for an environmental comparison.

The first, or "restrictive" interpretation, states that a load becomes a NLSL when the increase in load associated with a facility exceeds by 10 or more average megawatts as measured within a twelve-month period, the load which was "contracted for", or "committed to" as of September 1, 1979. Once the increase in load is classified as a NLSL all future increases are charged at the New Resource Firm Power rate. Monitoring of the load are on September 1, 1979, and would continue until the load exceeded 10 average megawatts and became a New Large Single Load.

The second interpretation, called the "permissive" approach, would allow service of any increase in the load of a preference customer at the Priority Firm Power rate, so long as that increase did not reach or exceed ten average megawatts in any consecutive twelve month period as measured against the preceeding 12 month period. The permissive interpretation would allow a consumer of a purchaser to bring on a load of up to 9.9 average megawatts per

year at the Priority Firm Power rate. The ability to incrementally increase load is informally referred to as "load creep". A consumer could do this year after year, so long as the load did not reach 10 average megawatts in a 12-month period. Once the load increase exceeded 10 average megawatts in 12 months, the load would be billed at the New Resource Firm Power rate.

3.3.1.1 BPA Position

In the early stages of the negotiation process, BPA advocated the restrictive interpretation. However, after BPA's staff examined the language of section 3(13) of the Regional Act and the legislative history on section 3(13), and talked with many of those who had been involved in drafting the Regional Act, it became apparent that the language of section 3(13) was never intended to support the first interpretation of load growth, and as a result BPA early on in the negotiation process dropped its advocacy of this interpretation.

3.3.1.2 Alternative Positions

The Public Power Council endorsed the permissive interpretation. They feel that the restrictive approach would discourage economic growth in the region and was unintended by the Regional Act.

The Intercompany Pool has resisted the permissive intepretation, because it leads to a more rapid drawdown of the Federal Base System (FBS) resources. This could have an impact on the residential exchange through more rapid increases in the Priority Firm Power rate as BPA has to supplement the FBS resources with new, more expensive resources. Any subsequent increase in Bonneville's Priority Firm Power rate affects the rate differential in residential exchange agreements.

3.3.1.3 Consequences/Impacts

This issue of when does a load become a NLSL is one of the most significant NLSL issues from both economic and environmental standpoints.

3.3.1.3.1 Impacts of the Restrictive Interpretation

1. The restrictive interpretation more nearly equalizes the ability of all utilities to serve and attract NLSLs. Under the Regional Act, preference customers may serve loads under 10 average megawatts with power at the Priority Firm Power rate, but power at this rate is not available to the IOUs to meet similar industrial loads. The restrictive interpretation insures that an increase in load associated with a facility shall become a NLSL, and shall be served at the New Resource Firm Power rate, as soon as the load increases by 10 average megawatts above the load committed to or contracted for on September 1, 1979, or if it is a new facility, increases by 10 average megawatts.

   The restrictive interpretation would reduce the rate incentive for a facility of 10 average megawatts or more to either migrate to the region or to relocate within the region to a preference customer service area. This interpretation could help to avoid the local impacts associated with

relocation, and would distribute the impacts of serving NLSLs more evenly throughout the region.

2. The restrictive interpretation protects the Firm Priority Power rate by preventing load creep, i.e., service to large industrial loads by FBS resources. By requiring that these loads be served at the New Resource Firm Power rate, the restrictive approach helps to offset the need to supplement the FBS pool with new and more costly generation. This has the effect of protecting the interests of the small preference customers (those not serving large industrial loads) and the IOU residential exchange rate.

   By delaying the need to add new resources to the FBS pool, two results could be expected. First, if upward pressures on residential rates are decreased, the negative socioeconomic impacts of rate increases would be reduced (refer to BPA 1979, Chapter 5). Second, to the extent rates do not increase, the residential consumption of electric energy will not be reduced in response to an elasticity of demand of between -.3 and -1.1 (see BPA 1981d, Appendix B, pp. 76-79).

   The environmental impact of any load reduction which reduced the need for additional generation would, of course, be positive in that it would lessen impacts on air, land, and water such as those described in BPA's Final Role EIS (BPA 1980, Chapter IV. B.2). While the demand for electric energy would be reduced in response to an increase in price, some of this price induced conservation would have been realized anyway as a result of Bonneville's newly implemented conservation programs. It should be remembered, too, that conservation realized because of an increase in price is a conservation investment that BPA need not pay which, in turn, reduces the impact of the Administrator's program on future rates. However, the net effect of price on consumption is dependent upon the price elasticities of the different sectors. Some analysts feel that while the residential demand may go down, it is possible that the industrial demand could increase. The net effect which depends on these relative elasticities is not expected to be substantial and could balance out.

3. Proponents of the restrictive approach maintain that, except for the BPA direct-service industries and a few very large paper companies, allowing a cumulative load increase of up to 10 average megawatts gives an industrial consumer of a preference utility sufficient power to allow for plant modernization, including the addition of environmental mitigation technologies.

3.3.1.3.2 Impacts of the Permissive Approach

1. The permissive approach, because of the rate advantage given to preference customers by allowing up to 9.9 average megawatts of load growth at the Priority Firm Power rate during any consecutive 12-month period, could provide an incentive for industrial and commercial load growth to shift from IOU service areas to preference customer service areas. This approach could also provide an incentive for industries outside of the region to move their operations into the Pacific Northwest. These

incentives would vary depending upon the disparity between the Priority and the New Resource Firm Power rates and the rates charged outside the region, as well as other costs associated with relocation and operation of an industry.

Other costs remaining equal, the greater the disparity in rates, the greater the rate incentive for industries to move. The location of new industries in the region could have significant environmental impacts such as air shed degradation, and water quality and land use impacts. The movement of industries from one site to another within the region could also have major localized environmental impacts (BPA 1980, p. IV-94 and following). With large new industries there may also be significant socioeconomic effects such as fiscal (i.e., increased income, taxes, greater employment opportunities) and infrastructure (i.e., roads, schools, utilities) impacts, changes in the economic base, and social structure and lifestyle alterations (Leistritz and Murdock 1981).

Bonneville staff believes it is unlikely that an existing large industrial consumer of an IOU, for example, a 50 megawatt plant purchasing power at the investor-owned utility industrial rate, would completely shut down and transfer to a public utility service area to take advantage of the lower preference customer rate. To accomplish this, the plant would have to be able to bring on its load in annual increments of less than 10 average megawatts over a period of several years. Economic considerations such as maintenance of market share, the costs of shut down and start up, lost sales, and other factors would have to be weighed against the benefits of an initially reduced, but ultimately unknown rate.

2. Under the permissive approach the Federal base system resources, which consist of low cost Federal base system power, would more rapidly become expensive because more commercial and industrial load increases of up to 9.9 average megawatts each per year would be served at the lower Priority Firm Power rate. As a result, BPA will have to go out and acquire new and more expensive resources to replace the Federal base system resources, which will in turn raise the Priority Firm Power rate, as well as increase the residential exchange rate to the IOUs.

3. Under the permissive approach the direct-service industries (DSIs) could have a lower rate after July 1, 1985. According to Section 7(c) of the Regional Act, the DSI rate, although it can't be lower than it will be on June 30, 1985, is to be tied in part to the prevailing rate that industrial consumers of preference customers are paying on that date. If that average rate is closer to the Priority Firm Power rate than to the New Resource Firm Power rate, the DSI rate may be lower than it might otherwise have been. Downward pressures on DSI rates would of necessity be balanced by upward pressures on the rates of other classes of customers. The lower the rates charged to the DSIs, the higher the rates charged other ratepayers in the region. Additionally, lower rates would tend to lessen the incentive to adopt more efficient production methods, resulting in higher environmental costs.

4. The permissive approach, by allowing industrial consumers of preference customers to add up to 9.9 average megawatts in a 12-month period at the

Priority Firm Power rate, removes the rate incentive of the New Resource Firm Power rate as the consumers plan for their load increases. The Priority Firm Power rate may not induce economically (based on the cost of new resources) efficient decisions. Thus, it is possible that more generation will be needed than if the energy had been priced at the higher New Resource Firm Power rate.

3.3.2 Determination of Whether a NLSL has been "Contracted for" or "Committed to" by September 1, 1979

Two considerations have been raised in negotiating this issue. The first is how will it be decided that a load has been contracted for or committed to by September 1, 1979. The second is what obligation BPA has to its customers regarding existing contracts between BPA's customers and their consumers, which only address capacity.

3.3.2.1 BPA's Position

The Regional Act expressly authorizes BPA to make the contracted for or committed to determination on a case-by-case basis. Those BPA customers who feel they have a consumer who falls into the category of having a contracted for, or committed to load as of September 1, 1979, should request BPA to make such determination. Contracted for and committed to loads are grandfathered loads and receive power, regardless of size, at the Priority Firm Power rate. To date, Cyprus mines and the Mount Tolman project have been determined by BPA to fall within the contracted for, committed to September 1, 1979, category.

In order to assist its customers in identifying which industrial loads in the region are or are not NLSLs, BPA agreed to add an exhibit to the power sales contract which has two tables. The first table lists for each individual purchaser its consumers' facilities that are to be classified as New Large Single Loads; these are loads which were not committed to or contracted for on September 1, 1979, and which will add more than 10 average megawatts of energy in any consecutive 12-month period to the load existing in the prior 12-month period. A second table shows loads as of September 1, 1979, which were contracted for or committed to. These loads are not New Large Single Loads because they are "grandfathered" in by section 3(13)(A) of the Regional Act. This exhibit will make it easier to report and monitor those loads which are New Large Single Loads, and will remove any doubt about those loads which are determined to be loads contracted for or committed to as of September 1, 1979, as those determinations are made by the BPA Administrator. This exhibit and its tables will be subject to unilateral amendment by BPA.

With regard to the second consideration, Bonneville will make a determination based on an examination of the consumer's contract on a case-by-case basis. If no limitation on load factor is found in the consumer's contract, BPA will serve the entire load which the Administrator determines was contracted for or committed to prior to September 1, 1979, at 100 percent load factor at the Priority Firm Power rate. If there is a contractual limitation on the consumer's load factor in its existing contract, then BPA will serve up to that limit at the Priority Firm Power rate. The Public Power Council (PPC) maintained that its member utilities have contracts with their customers that address capacity without limitation on load factor. Because of that existing

contract provision, the preference customers feel that for those contracts entered into by September 1, 1979, BPA is obligated to serve its customer loads at up to 100 percent load factor.

The Intercompany Pool did not want to see any diminution of the FBS resources, but recognizes the practical problems the PPC faced.

3.3.2.2 Consequences/Impacts

If BPA is required to provide energy for higher utility load factors at the lower Priority Firm Power rate, it is possible that some commercial and industrial operations would respond by increasing production capability (i.e., by adding 2 or 3 shifts). To meet this increase in demand BPA would either have to acquire additional resources or operate existing resources, including the river system, in a manner not previously anticipated. In addition to environmental impacts from increased manufacturing, additional impacts could result, including any air shed degradation, or land and water impacts associated with the construction and operation of new resources (BPA 1980, Chapter IV.B.2), or increased operations at Federal reservoirs. Depending on the timing of the utility loads in comparison to the BPA system loads, this requirement could either increase BPA's peak load and level of river fluctuation or enhance the offpeak flows, thereby minimizing fluctuations in river operation.

BPA staff, recognizing the potential for abuse of capacity-only contracts (contracted for by September 1, 1979) with no limitations on energy, negotiated language in section 8(h)(1) of the utility power sales contracts stating that the capacity in any new contract may not exceed the capacity agreed to or contracted for in the existing contract. This provision helps to minimize the types of impacts described above.

One of the major environmental issues under "committed to" has been the issue of service to the Northern Tier Pipeline. Some utilities have maintained that they have already made commitments to serve Northern Tier. This project, requiring a total of 240 MW of pumping load within the region, involves pumping stations in IOU and preference customer service areas in the states of Washington, Idaho, and Montana. In addition to the physical requirements of the pumping stations and pipelines which would have their own environmental impacts, service to these facilities would place a new and major load on the region, requiring additional generation (for a complete discussion of the impacts associated with Northern Tier, see Department of Interior 1979, Volume 1, Chapter 3). Depending upon the type of resources used to meet this load, impacts similar to those referenced above would be encountered.

3.3.3 Treatment of Prospective New Large Single Loads

When BPA and its customer cannot determine at the outset that an increase in load will become a NLSL, a methodology needs to be developed between the parties to determine when to start billing the load at the appropriate rate.

BPA's primary concern is that it does not lose any revenues. The difference in revenues between the Priority Firm Power rate and the New Resource Firm

Power rate for a 10 average megawatt load over a 12-month period is approximately $1.75 million annually.

Four billing approaches were identified in the negotiation process.

1. Rebate - BPA bills the New Large Single Load at the New Resource Firm Power rate and rebates the difference between this rate and the Priority Firm Power rate to the purchaser, if the load subsequently fails to qualify as a NLSL.

2. Backbilling - BPA bills the New Large Single Load at the Priority Firm Power rate, until it is determined to be a NLSL and then backbills the purchaser for the difference between the Priority Firm and New Resource Firm Power rates plus interest back to the date the increase in load became a NLSL.

3. Staged Billing - an early compromise proposal put forward by BPA which used a "staggered" approach to measure power in the early months of the 12-month period in order to determine when to commence billing a load at the New Resource Firm Power rate.

4. Energy Monitoring Plan - the PPC proposed that the purchaser and the consumer set up an energy plan. Each month the purchaser would report the consumer's actual energy consumption to Bonneville. Under their plan, Bonneville would have been responsible for determining whether the load would or would not become a NLSL. The plan had a rebate provision.

3.3.3.1 BPA's Position - Alternative Positions

BPA's position, based upon its reading of section 3(13)(B), which states, "which will result . . . " (emphasis added), is that an increase in load shall be billed at the New Resource Firm Power rate when it appears the increase in load will become a NLSL. This position is underscored by the fact that BPA cannot put itself in a position of facing a potential deficit of up to $1.75 million annually. BPA's position is that a potential New Large Single Load may be identified and billed at the New Resource Firm Power rate before that load actually consumes the equivalent of 10 average megawatts in a 12 consecutive month period. Bonneville is not concerned whether the purchaser chooses rebating or backbilling, so long as Bonneville does not lose any revenue.

Under the utility power sales contract, BPA gives the purchaser the option of backbilling or rebating potential New Large Single Loads. Late in the negotiating process BPA agreed, if requested to do so by the purchaser, to write purchaser specific language on this issue, so that a purchaser may have rebate only language in its contract.

3.3.3.2 Consequences/Impacts

The major impact of this issue is monetary. The Public Power council prefers rebating over backbilling, because of potential problems a utility might have collecting from its consumers, or charging rates to its consumers that could be construed as not being cost-based.

The ICP is unaffected by this issue because investor-owned utilities always pay the New Resource Firm Power rate, if they wish to purchase power from BPA to serve their NLSLs.

3.3.4 A Contracted for, Committed To Load Subsequently Served by a New Utility

The major NLSL issue involves a consumer's load (over 10 average megawatts) which has been contracted for, or committed to by a utility prior to September 1, 1979, and subsequently the utility's service area is taken over by a different or newly formed utility. The issue is whether that consumer's load should be treated as a "contracted for" load, or whether it is a new load to "such customer." If the new utility is a preference customer, the issue is whether the customer can buy power from BPA (to serve the load) at the Priority Firm Power rate or at the New Resource Firm Power rate. If the new utility is an investor-owned utility, the issue is whether the resource used to serve the load can or cannot be included in its average system cost of resources for the residential exchange.

If these loads were served at the lower Priority Firm Power rate, new resources might need to be added to existing Federal base system resources. The effect might be to increase the Priority Firm Power rate.

3.3.4.1 BPA's Position - Alternative Positions

Public Power Council (PPC) representatives of the NLSL subgroup asserted that these loads should not be considered New Large Single Loads. It is the PPC's contention that this issue is not a NLSL issue, but is an attempt to restrain the formation of new public agencies.

The ICP's position is that no constraint to the formation of new preference utilities exists. Their sole concern is to prevent existing industries that are currently not receiving FBS power from receiving low-cost power from the Federal base system. Their concern is that if industries could receive FBS power, the Priority Firm Power rate would increase.

To BPA, such loads would be NLSLs. BPA has responded to a request by Boise Cascade Corporation for an early decision on this issue on one of their plants, which had been served by Portland General Electric and might soon be served by the Columbia River PUD. Specifically, Boise Cascade wanted to know the rate consequences. In response, BPA stated in July 1981, that industrial and commercial loads which existed on September 1, 1979, and used more than 10 average megawatts in any 12-month period, and were subsequently served by a purchaser other than the purchaser serving them on September 1, 1979, would be considered New Large Single Loads for rate purposes. Such loads would receive power at the New Resource Firm Power rate, or its successor rate schedule.

3.3.4.2 Consequences/Impacts

BPA's principal reasons for determining such loads would be New Large Single Loads are:

(1) To prevent the diminution of the Federal Base Systems by large industrial loads. The facilities impacted by this decision are

facilities that were receiving power at the investor-owned utilities' industrial rate and were never eligible for Federal Base System power. If the consumer's industrial facility had continued receiving service from an investor-owned utility it would never have received power from that purchaser at the Priority Firm Power rate, because under the Regional Act investor-owned utilities that wish to serve new large industrial loads, may do so only with power purchased from Bonneville at the New Resource Firm Power rate.

(2) That the references in section 3(13)(B) of the Regional Act to "such Purchaser" refer to the contractual relationship that existed on September 1, 1979, between a specific purchaser and a specific consumer. Therefore, once a consumer begins to receive service from a different purchaser under a different contract, that contractual relationship with the new purchaser is no longer "grandfathered."

(3) A concern that allowing a consumer of an investor-owned utility which existed September 1, 1979, to receive power from a preference utility at the Priority Firm Power rate might encourage the formation of preference utilities in the immediate vicinity of a large industrial plant, solely for the purpose of providing low-cost Federal power to that industry. This would run totally contrary to the spirit of the Regional Act which was to ensure that large industrial and commerical loads pay the New Resource Firm Power rate, a rate which reflects the costs of new resources that have to be built and acquired to serve these large loads in the region.

The issue, therefore, is one of rates, whose consequences are similar to those presented under 3.3.1.3.

3.3.5 Once a New Large Single Load, Always a New Large Single Load?

The issue is whether all load increases, subsequent to the increase that was identified as a New Large Single Load, should be billed at the New Resource Firm Power rate.

3.3.5.1 BPA's Position

BPA staff proposed that once a load increase to a facility becomes a NLSL, all subsequent increases in load, regardless of size, will be billed at the New Resource Firm Power rate. BPA staff also proposed a "last on, first off" principle. This principle would mean that any load reductions would first result in reductions from the block of load being billed at the New Resource Firm Power rate. In order to be reclassified as no longer being a NLSL, a consumer would first have to decrease its load to the level existing prior to the determination that it was a NLSL by permanently removing all the equipment which imposed the increase in load.

3.3.5.2 Consequences/Impacts

Eliminating rate "pancaking" (i.e., stacking increments of load variously at the New Resource Firm Power rate and the Firm Priority rate) greatly facilitates monitoring and billing NLSLs. Environmentally, this approach has

the dual advantage of discouraging new load growth by applying the New Resource Firm Power rate while at the same time encouraging industrial conservation by providing incentives to reduce load billed at the New Resource Firm Power rate.

3.3.6 Determination of a Facility

Early in the negotiation process, the issue arose of whether it was preferable to have a definition of a facility or to develop criteria to make the determination of which constitutes a facility.

All parties concurred that BPA and the purchaser would jointly determine what constitutes a single facility, based on the following non-exclusive list of criteria:

1. Whether the load is operated by a single consumer;
2. Whether the load is in a single location;
3. Whether the load serves a manufacturing process which produces a single product or type of product;
4. Whether separable portions of the load are interdependent;
5. Whether the load is contracted for, served, or billed as a single load under the individual purchaser's customary billing and service policy;
6. Consistent application of foregoing criteria in similar fact situations; and
7. Any other factors the parties determine to be relevant.

3.3.6.1 Consequences/Impacts

The environmental concern raised by this issue is whether the load associated with a facility will be classified as a New Large Single Load billed at the New Resource Firm Power rate. Depending on the outcome of this determination, it would either result in an incentive for new industrial development with possible resultant airshed, land use, and watershed impacts, and increased demand for new resources, or if determined to be a New Large Single Load, a disincentive for new industrial development in the region.

3.3.7 Should Preference Customers be Allowed to Build Generating Resources to Serve Their Own NLSLs?

The Public Power Council has proposed that preference customers be given the option to build their own resources to serve their own New Large Single Loads.

3.3.7.1 BPA's Position - Alternative Positions

BPA feels that the Regional Act gives preference customers this option. Bonneville has noted that such a customer may wish to enter into a separate service and exchange agreement with Bonneville before exercising this option. A service and exchange agreement provides a firm planning capability for resources.

In section 8(e), Service to Load, of the power sales contracts there is language allowing a purchaser to designate a newly developed resource (or a

resource as defined by Section 5(b)(1)(B) of the Regional Act) to serve a NLSL. Thus, the load need not be served at the New Resource Firm Power rate.

The same section allows a consumer of a purchaser to provide a renewable or cogeneration resource to serve all or a portion of a NLSL associated with the consumer's facility subject to limitations in the power sales contracts. Only that portion of the load in excess of 10 average MW, if any, which is placed on the purchaser would be at the New Resource Firm Power rate. Should the consumer sell the output of the resource and by doing so increase the load on the servicing purchaser, the entire load on the purchaser will be at the New Resource Firm Power rate.

3.3.7.2 Consequences/Impacts

Some of the preference customers feel they can build new resources at a cost lower than that reflected in BPA's New Resource Firm Power rate.

The Regional Act establishes a priority for cogeneration and renewable resources, and BPA encourages such development of resources. However, should preference utilities or their consumers develop such resources, the result could be that more generation would be built in the region than might otherwise have been the case. It is also possible that by constructing these resources, the preference utilities could displace or possibly preclude BPA acquisition of certain resources which have a limited regional development potential, such as cogeneration and small hydro, possibly forcing the acquisition of less environmentally benign resources. On the other hand, any load the preference utilities or their consumers serve with their own resources is a load that is not placed upon BPA.

The environmental impacts of developing these resources would be dependent upon the type of resources constructed (see BPA 1980, Chapter IV. B.2 for a discussion of the impacts of potential energy resources) and the kinds of loads these resources would serve. The development of these resources would lead to impacts on air, land, and water quality. As a consequence of providing services, primarily shaping, the Federal Columbia River Power System would be affected. The main impact of shaping is increased fluctuation of the river system (i.e., hydropeaking). A more detailed discussion of this impact and the effect of these services on resource development is contained in BPA's Final Role EIS (BPA 1980, Chapter IV. A, pp. IV-7 to IV-30 and Chapter IV. D., pp. IV-281 to IV-290).

Chapter 4

ENVIRONMENTAL CONSIDERATIONS RELATED TO DSI POWER SALES CONTRACT ISSUES AND ALTERNATIVES

This chapter discusses direct-service industrial (DSI) customer power sales contracts. The DSI contracts are discussed apart from other customer contract issues for several reasons. First, several issues for DSI contracts differ from those of other customers. Secondly, the environmental effects of DSI contract issues merit separate discussion. Finally, public comment has traditionally focused on the BPA-DSI relationship as an independent subject, including comments raised during the implementation of the Regional Act. Therefore, although DSI power sales contracts should not be considered unrelated to other power sales contracts, separate coverage is given.

Direct-service industrial customers are BPA's second largest customer bloc. BPA sells power to 15 DSI customers operating a total of 21 plants in the BPA service area (see Figure 4-1). Seven of the plants are in Oregon, twelve are in Washington, and two are in Montana. BPA has also contracted to sell firm energy to Alumax for the production of aluminum in the State of Oregon. Alumax has proposed a plant to be located at Umatilla, but has not yet committed to construction. Union Carbide has shut down its Portland, Oregon, ferroalloy plant, and has sold it to Elkem Metals Company. BPA has agreed to the assignment, and Elkem will replace Union Carbide as a DSI. Plans to resume operation of the plant have not yet been disclosed.

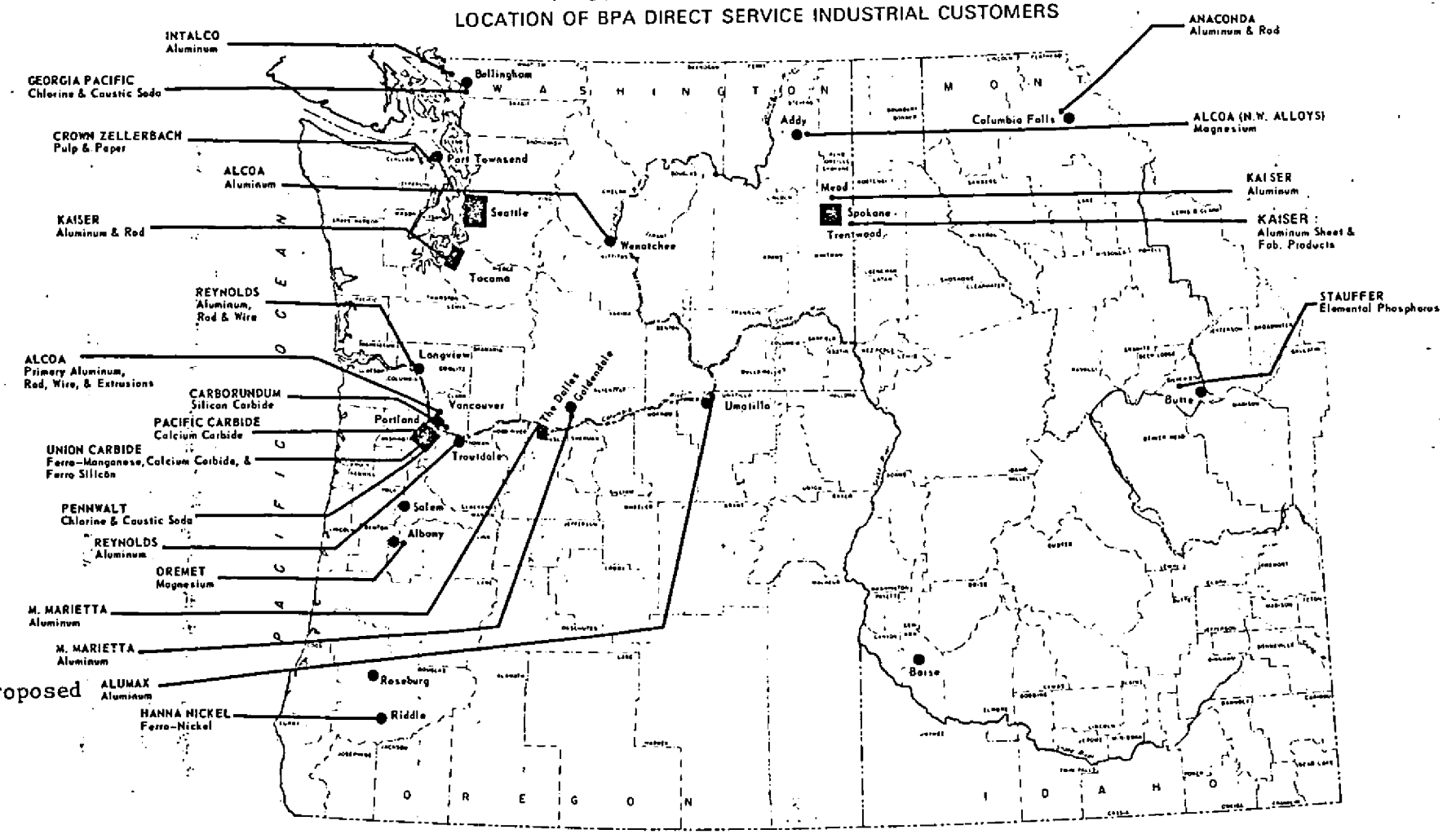
Ten of the existing plants are aluminum reduction plants and account for about one-third of the nation's aluminum production. The remainder produce a variety of other products, such as calcium carbide, phosphorus, chlorine and caustic soda, ferro-nickel, titanium, other metals, and pulp and paper.

The primary aluminum plants account for approximately 90 percent of BPA's industrial sales revenues. As a group, the DSIs purchase approximately 35 percent of BPA's total energy and contribute nearly one-third of its annual revenue.

A principal benefit which service to the DSIs has afforded BPA and its customers is that, like a standby generating plant, the DSIs provide reserves to the region to cover shortages the Administrator may experience in meeting his firm load obligations. These reserves are provided through BPA's restriction rights on DSI load. BPA would otherwise need additional standby generating resources, or other arrangements to meet those reserve obligations, which are common to all prudent utility operations. Although BPA is able to sell power to meet DSI loads and earn revenues, BPA can restrict DSI loads should such restrictions be needed to serve firm loads. BPA has determined that, in order to insure that it can meet its obligations, it must continue to have reserves available.

Figure 4-1

LOCATION OF BPA DIRECT SERVICE INDUSTRIAL CUSTOMERS



4.1 MID-TERM CONTRACT REVIEW

4.1.1 Explanation of Issues and Alternatives

BPA is offering the DSIs a "Mid-Term Contract Review" provision to facilitate the parties' mutual planning needs. The provision establishes three time periods during the 20-year contract term when BPA and the DSIs will formally review the status of the Administrator's planned and existing resources and forecasts of BPA's firm loads. The parties will also exchange views regarding their then-current expectations regarding ability and intent to negotiate new contract service for later time periods. Each DSI desiring service beyond the term of the existing contract must request a new contract eight years before the termination of the existing contract. BPA is under no obligation to subsequently offer the DSI a new contract, but is obligated to attempt to acquire sufficient resources to offer a new contract. The request will allow BPA time to plan for such service. In the event of a DSI not signing a new contract after making an earlier request, it shall be obligated to reimburse BPA for unrecoverable costs associated with the planning effort.

BPA's mid-term contract review provision is in response to a DSI proposal that the contracts include language obligating BPA to ". . . plan for the acquisition of sufficient resources . . ." to serve its firm loads, ". . . including 75 percent of the Operating Demands of the industrial purchasers, during the period following the expiration of this contract." (Emphasis added.) Under the DSI proposal, BPA would have given the DSIs notice of any inability to offer "a new power sales contract at the expiration of the [initial] contract," but notwithstanding such notice would ". . . continue to use its best efforts thereafter to attain load/resource balance and become able to offer such contract."

BPA believes that the DSI proposal could be construed to require BPA to offer follow-on contracts (i.e., subsequent power sales contracts to be entered into upon expiration of the contracts currently being negotiated). Pursuant to section 5(a) of the Bonneville Project Act, "Contracts [are to] be effective for such period or periods, including renewals or extensions, as may be provided therein, not exceeding in the aggregate twenty years from the respective date of the making of such contracts." Section 5(a) of the Bonneville Project Act is expressly reaffirmed by the same section of the Regional Act.

On the other hand, BPA recognizes that the Regional Act contemplates the possibility of subsequent DSI contracts. Section 5(d)(1)(B) provides that ". . . the Administrator shall offer . . . to each existing direct-service industrial customer an initial long-term contract . . ." (Emphasis added.) The House Commerce Committee Report explaining section 5(d) offers clarification. "Initial long-term contracts are to be offered by BPA . . . Subsequent contracts for these DSIs are authorized but not mandated." (Emphasis added.) This legislative history is to be considered together with the section 6(a)(2) directive to BPA to acquire sufficient resources under the Regional Act to meet contractual obligations, and concurrently achieve the implicit goal of regional load/resource balance. In short, BPA believes that the Act and its legislative history envision BPA's acquisition of adequate resources to serve all loads for indefinite time periods while conditioning

such service on the agency's practical ability to acquire the resources to accomplish this goal. BPA has included in the DSI contract a preamble clause which recognizes the Regional Act's directive to acquire adequate resources with the goal of achieving load/resource balance.

In the event BPA is unable to acquire adequate resources to achieve load/resource balance, the Administrator may, at the expiration of the new DSI power sales contracts, choose to amend BPA's present policy of DSI service, condition such service on different contract principles, or not offer new DSI contracts. In this event, the DSIs' options are to secure their power within the region from some entity other than BPA or to leave the region.

4.1.2 Environmental Effects of Mid-Term Contract Review

Mid-term contract review is a planning tool and as such has no known environmental effects. Should the DSIs receive follow-on contracts, their operations and environmental impacts would likely remain relatively unchanged, although guarantee of follow-on contracts might also encourage additional plant improvements, including environmental mitigation measures. Environmental consequences, including impacts on fish and wildlife, associated with DSI operations are discussed in Appendix C of the Draft Role EIS (BPA 1977, pp. IV-118 to IV-212).

If the DSIs were not served by BPA after their new contracts expired, there would be a possibility of plant closures. The impacts of such a possibility are addressed in a draft BPA paper entitled Direct-Service Industrial Customers (Peterson 1980, pp. 53-56).

BPA is obligated by the power sales contracts (section 12) to attempt to acquire sufficient resources to continue to serve the DSI loads after expiration of the new 20-year power sales contracts, if they so request by July 1, 1993. Such acquisitions will have environmental impacts as a result of development and operation of new generating resources and conservation measures which would have to be acquired in excess of the amount which would be needed if the DSI service were not to be continued. If BPA service to the DSIs is not continued after the expiration of the initial contracts (in 2001), there would be a net decrease in the amount of electrical resources required regionally and this would be environmentally beneficial in an overall sense. If the DSIs secured other sources of power, with the same grade of service, there would be no regionally significant change in the amount of resources needed, but the types of resources may be different than if BPA had continued service, creating potentially different environmental impacts. An improved grade of service to the DSIs, which they may be able to obtain through development of their own firm resources or through other utilities, would both increase the impacts of DSI operations (since their downtime would be reduced) and of electrical generation (since more resources would be required regionally). Environmental impacts of various types of generating and conservation resources are discussed in BPA's Final Role EIS (BPA 1980, Chapter IV., B-2). The environmental impacts of the various possibilities regarding future DSI service and its effects on resource development are speculative beyond the general trends indicated above because future resource mixes and actions by the DSIs cannot be accurately predicted at this time.

Should some or all of the BPA/DSI relationships terminate with expiration of the new contracts, there would be environmental impacts associated with FCRPS operational changes such as spill and/or conflicts with minimum flow requirements for fishery mitigation as a result of loss of the DSI loads at nighttime; and changes in load shape as a result of the loss of DSI loads which have a high load-factor. These operational changes could impact fish and wildlife, recreation, navigation and other river uses, although to what extent is not known. (See also the related discussion in this chapter on Improving Availability for the First Quartile, section 4.8.) BPA would also be required to look elsewhere in the long term for the reserves currently provided by the DSIs to protect the Administrator's firm loads. The acquisition of reserves, to the extent it required construction of new generating facilities, would adversely impact the environment. The environmental impacts would vary with the type and location of the resource used to provide reserves.

4.2 DSI RESOURCE ACQUISITIONS

4.2.1 Explanation of Issues and Alternatives

The question of whether BPA's DSI customers are authorized to independently acquire resources to serve that portion of their top quartile not otherwise served by BPA ("topping off" resources) has been discussed during the negotiations but is not addressed in the power sales contracts. Instead, specific DSI resource proposals will be dealt with individually under separate contracts.

Some DSIs expressed interest in acquiring resources to assure themselves of essentially firm service in the event of BPA restrictions to their top quartile of contract demand. Their position was based on the economics of operation. This applies, principally, to the costs of shutting down aluminum reduction cells or "pots," and losing production when top quartile service is restricted. The argument was that the amount of power needed to continue service is frequently minimal; that is, the megawatthours made available by BPA to the DSIs sometimes fall just short of what is necessary to keep production ongoing. The DSIs which sought to acquire their own resources maintained that the development of "topping off" resources therefore made economic sense. The DSIs also maintained that they could independently construct such resources as a matter of law, and that nothing implicit in their receiving service from BPA impinged on this authority.

BPA viewed the matter from a different perspective and believes that for several reasons the DSIs should not acquire "topping off" resources. First, under the Regional Act, the DSIs sought and achieved a significantly improved service: ". . . a quantity of power . . . based on the proportion of total industrial requirement, on a long-term average (currently estimated to be between 85 and 96 percent of the total DSI load)" (Senate Report 96-272, p. 59). There is no showing that where the DSIs elect to receive service from BPA, they should also be able to independently acquire their own resources. This is particularly true where construction of such resources could adversely impact BPA's own ability to acquire resources to meet its own power supply responsibilities. This could occur if state siting councils or others with

authority to license projects based on resource need concluded that regional resources were adequate because of DSI generation. However, because DSIs are not utilities and have no utility responsibility, there would be no assurance that other BPA customers and their consumers would have access to them during the period of greatest need - critical water.

Finally, BPA also has a strong concern regarding equity in treatment of all customer classes. BPA will be serving the DSIs under the Regional Act with an improved quality of power. This Congressionally mandated improvement in quality of service will result in less secondary or nonfirm energy being available for other customer classes. BPA does not believe that the DSIs should receive both higher quality of power and be able to build resources which are needed only during infrequent periods of restriction, while also displacing those resources to their economic advantage whenever possible.

4.2.2 Environmental Effects of DSI "Topping Off" Resource Acquisition

The major environmental effect of this issue would be the development of topping off resources by the DSIs. Combustion turbines would be the logical choice for such a resource, assuming exemptions could be secured under the Power Plant and Industrial Fuel Use Act for the use of natural gas or oil as fuel. A preference for combustion turbines is partly due to the need for relatively non-capital intensive resources which could be constructed within a short time frame by DSIs which might find themselves needing such resources in the mid-1980s. Environmental impacts of combustion turbines are discussed in BPA's Final Role EIS (BPA 1980, pp. IV-194-196). Acquisition of topping off resources by the DSIs may affect fish and wildlife through their construction and operation, but these impacts cannot be addressed at this time in other than a very generic sense, because the number, location, and capacity of topping off resources which might be developed is uncertain. If combustion turbines were used, the principal potential impact on wildlife would be displacement of habitat. BPA estimates that approximately 1000 megawatts would be needed to serve the entire top quartile, and expects under normal conditions to serve ". . . between 85 and 96 percent of the total DSI requirements" (Senate Report 96-272, p. 59).

The economic and environmental impacts associated with restrictions of power deliveries to DSIs, in the event they are unable to independently acquire resources or short-term purchases of power to mitigate BPA curtailments, depend upon how long the restriction lasts and how much notice is given. In the past, such restrictions have resulted in plants reducing operations, or closing down until power can be restored. Social and economic impacts to laid-off workers are one result. The loss of production of aluminum is also a result. Pollutants associated with plant operations are temporarily reduced.

Since DSIs are not utilities, BPA need not provide transmission, storage, shaping, and other similar services for any topping off resources the DSIs may acquire. Therefore, any impact on the Federal system is discretionary on the part of BPA. BPA would avoid providing services with overall adverse effects on the Federal system.

4.3 RESTRICTION OF THE SECOND QUARTILE

4.3.1 Explanation of Issues and Alternatives

BPA believes that the legislative history of the Regional Act supports the proposition that the DSIs should provide expanded reserves. As noted in the House Commerce Committee Report (House Report 96-976, Part 1, 1980, pp. 62-63): "The Committee amendment calls for new DSI contracts. The amendment . . . provides BPA with considerable flexibility to prepare and negotiate contracts and adopt rates that insure that conditions relating to reserves are not so stringent as to render the reserves . . . largely ineffective." The need for greater DSI reserves was also cited during hearings before the Energy and Power Subcommittee of the House Interstate and Foreign Commerce Committee on H.R. 3508 and H.R. 4159, predecessors of the Regional Act (October 19, 1979, at pp. 166, 310). The DSIs contended that the second quartile be used only for resource delay and initial operating problems of new resources. The current BPA contracts provide for expanded reserves.

BPA will use the second quartile as a reserve for delay in commercial operation of a planned resource or for a resource unable to operate initially at design capability, and also as a reserve for an operating resource that is delayed or unable to operate at expected capability due to unexpectedly poor performance. BPA also will use the second quartile as a reserve for a resource not previously accepted for commercial operation, which is shut down or unable to operate at initially established capability due to an order of any governmental agency having jurisdiction, except for that resulting from laws or ordinances enacted by legislative bodies or through ballot measures. "Resources," as used in this section, includes conservation.

Previously the second quartile could only be restricted during a Contract Year (July 1 - June 30) on notice given by June 1 before that Contract Year. In the new contracts, BPA has the right to restrict during a Contract Year both for the inability of a resource to attain initially designed capability and for an operating resource that is shut down. This restriction right is limited to one-half the amount of energy by which BPA estimates it is unable to serve its firm obligations as a result of such occurrence, before purchasing to serve the deficit. Simultaneously with any actual restriction, BPA shall publicly call for a regionwide voluntary curtailment of non-essential uses. BPA retains the ability to resume the full amount of restriction for each occurrence caused by delay or failure of a resource to reach initially designed capability during the following Contract Year after giving Annual Notice.

BPA will give Annual Notice between June 1 and August 15 for the Contract Year beginning July 1. Notice of a possible second quartile restriction will be given June 1, for restriction to begin July 1, with final notice to be given not later than August 15 for restriction to begin September 1. Annual notice could cover any second quartile right, in addition to the mid-year notice of restriction for unexpectedly poor resource performance occurring during a year referred to above.

The new contracts limit a second quartile restriction to up to seven years from the shut down, unexpectedly poor performance, initially planned date of

acquire conservation measures, and under 6(e)(2) of the Regional Act the Administrator shall make maximum practicable use of customers and local entities in carrying out conservation (pg. 25). Because of this language, the BPA Administrator must implement practicable, cost-effective conservation measures unless he lacks specific authority to do so (pg. 25).

Idaho Consumer Affairs, Inc., 7/13/81.

Would rather see WPPSS 4 and 5 money spent on conservation and renewables (pg. 2).

Noted that two million solar heaters costing $5,000 each could be purchased for the $10 billion WPPSS 4 and 5 will cost, and would save more energy for the region than the WPPSS plants will produce during their plant life. Another example of what could be done with conservation is that 10 million older electric homes could be insulated at a cost of $1,000 each for what it costs for WPPSS 4 and 5 (pg. 2).

BPA must consider conservation options first before obligating ratepayers of the region to excessive cost of WPPSS 4 and 5 (pg. 2).

Wanted BPA and the Council to give conservation the same consideration that BPA is giving to procuring generating facilities, particularly WPPSS 4 and 5 (pg. 2).

Rose City Ratepayers Association, 6/81.

Power sales contract should be used by BPA as a tool to implement the priorities in the Regional Act (pg. 3).

BPA should stop worrying about acting in an "overbearing manner" towards its customers (pg. 3).

The Regional Act repeatedly states BPA shall pursue conservation as a priority energy resource (pg. 3).

BPA has a legal obligation to implement a new law with a new set of priorities (pg. 4).

Supported NRDC proposal that BPA require as a condition of receiving BPA power, that utilities participate in BPA's regional conservation program or a program of their own that would accomplish the same results (pg. 4).

Increased rates caused by overbuilding will encourage conservation, but as more money is paid for excess resources, less is available for the necessary conservation measures (pg. 5).

Columbia River Inter-Tribal Fish Commission, 7/10/81.

Supported the inclusion of effective energy conservation and renewable resource language in BPA's long-term contracts (pg. 6).

plant expansion. The terms and conditions under which such allowances may be provided are intended to be specified in contracts, and the allowances are intended to be available throughout the term of the new contracts.

The power quality provided the direct-service industries is determined by the reserve obligations set forth in their contracts . . . . One intended result of these procedures is that there will be no increase in firm power commitments to the direct service industrial customs (sic), except for technological improvements purposes (Senate Report 96-272, p. 28).

The House Interior and Insular Affairs Committee Report also refers to the continuance of technological allowances in the new DSI contracts (House Report 1980, Part II, p. 48) . While BPA believes the Regional Act obligates it to supply increases up to 1 percent of the initial contract demand per year for technological reasons in some form, BPA reserves discretion over what types of actions by a DSI would qualify a DSI for such an increase, with those increases actually granted then treated as firm loads.

4.4.2 Impacts

Technological allowances apply, among other purposes, to improvements for environmental control and may therefore reduce the adverse environmental impacts of DSI operations. Actions by DSIs which would qualify them for technological allowances will over time result in a greater amount of power being committed to the DSIs. The resultant increase in demand would require development and acquisition of additional resources to serve the increased loads, although it is not possible to predict at this time the types or quantities of additional resources which may be required as a result of different alternatives in defining actions qualifying DSIs for technological allowances. Environmental impacts of generating and conservation resources are generically discussed in Chapter IV of the BPA Final Role EIS (BPA 1980). These resources may also adversely impact fish and wildlife through loss of habitat, release of air and water pollutants, impoundment of water, stream regulation, and other means.

The DSIs' combined contract demand is about 4000 MW. If BPA granted to each DSI its full allotment of technological allowance each year and these allowances were all firm, approximately 40 additional average MW of generation capability or conservation would have to be achieved each year.

4.5 PERIOD OF INTERRUPTION STABILITY

4.5.1 Explanation of Issue and Alternative

The new DSI contracts will increase the period of time for which the entire DSI load can be interrupted without notice for system stability purposes from 5 minutes to 15 minutes.

4.5.2 Impacts

BPA currently interrupts power deliveries to DSIs as necessary for system stability, but makes a best effort to make such interruptions as short as possible. Interruptions can cause serious disruptions and expense to

industries if they are excessively long. The proposed contractual change is an attempt to make the contracts more realistic in this respect and to reflect more accurately the needs of the region. The change will not affect operations, nor actual service to the DSIs. Since interruptions are of short duration and BPA would still be required to carry out best efforts to minimize such interruptions; the change in time periods for interruption will have no environmental or fish and wildlife impacts.

4.6 ALUMAX

4.6.1 Explanation of Issues and Alternatives

Under the Regional Act, the Alumax power sales contract is dealt with separately from that of other DSIs since Alumax had not yet ". . . received electric power" prior to the effective date of the Act. Section 5(d)(4)(A), together with section 5(g)(1)(D), requires that BPA offer a power sales contract to Alumax by defining "existing direct service industrial customers" to mean ". . . any direct service industrial customer . . . which has a contract for the purchase of electric power on the effective date of the Act." Section 5(d)(4)(C) specifies conditions under which such service may occur. Service to Alumax will not begin until the end of a period of time the Administrator deems necessary on a planning basis to assure acquisition of sufficient resources to serve the load. ". . . electric power delivered under such new contract shall be conditioned on the Administrator reasonably acquiring, in accordance with this Act and within such estimated period of time (as specified in the contract) as he deems reasonable, sufficient resources to meet, on a planning basis, the load requirement of such customer."

The following facts reflect BPA's implementation of section 5(d)(4)(C) and the legislative history in the Interstate and Foreign Commerce Committee Report, as they apply to the Alumax contract:

a. BPA offered, and Alumax signed a contract in 1981 to deliver power to the company from the time of commercial operation of the plant (but not before 7/1/81), until the contract would expire, which could be no later than 2001.

b. The Alumax contract will be for a term of 20 years and will expire in 2001. Alumax must select a preliminary date of commercial operation, which, subject to provisions of the contract relating to adjustments and delays, shall not be earlier than July 1, 1987, nor later than December 5, 1989. Thus, the commitment of delivery to Alumax will be limited to a period of 11 to 13 years. The 20-year limitation clause of section 5(b) of the Bonneville Project Act is controlling and is expressly incorporated in the Regional Act by section 5(a) which provides: "All power sales under this Act shall be subject at all times to preference and priority provisions of the Bonneville Project Act . . . and, in particular, sections 4 and 5 thereof."

c. BPA deemed that within seven years it might reasonably acquire resources on a planning basis to serve the firm portion of the Alumax load (75 percent of 320 MW total load is 240 MW). This determination was made prior to offering the contract and is incorporated into the

Alumax contract. The seven-year lead time period was derived initially by considering the five year notice of insufficiency required for investor-owned utilities and the eight year notice for new large single loads then being considered in the utility power sales contracts. The seven year figure was weighted toward the eight year notice in the assumption that a greater share of resources to be acquired by BPA to serve its firm loads would be required from the preference customers. Ultimately, the utility contracts provided a seven year notice period for new large single loads in lieu of the prior eight year period, while the DSI notice period remained at seven years. The seven-year lead time was also utilized for technological allowances of new large load size in all direct-service industry contracts. BPA has also followed the recommendation of the Interstate and Foreign Commerce Committee and conditioned its contract with language providing firm contractual assurances regarding the dates of completion and operation of the plant. Alumax must commit to receive power and energy pursuant to the contract by written notice no later than October 1, 1983. In other words, the BPA power sales contract requires a firm commitment from Alumax to build the plant for which the resources are to be provided.

One concern regarding the Alumax contract relates to Alumax's stated intent to "make maximum use of contract demand increases for technological improvements in order to implement this plan . . . (of) an agressive (sic) program of technological improvements upon commencement of operation of its facility" (Clough 1981). BPA does not believe that a new, technically advanced aluminum plant should require additional electrical energy for technological reasons, and, therefore, does not anticipate initially providing technological allowances to Alumax.

d. The Alumax contract contains the following obligations designed to provide efficient use of regional energy resources:

1. Alumax must build a plant at least as efficient as their new South Carolina plant.

2. Alumax must investigate and implement cost-effective measures to recover and use waste heat, including at-site fabricaton, secondary manufacturing, and agricultural applications.

3. Alumax must cooperate with BPA in the design, development, and operation of the plant to provide facilities and assistance for conservation studies to reduce consumption of power.

4. Until December 5, 1987, the third and fourth quartiles are interruptible:

   (a) if BPA has restricted all DSI second quartiles;
   (b) if BPA is unable to acquire a resource to serve Alumax; and
   (c) if BPA is unable to serve all its other firm obligations.

4.6.2 Impacts

The Regional Act provisions governing the offering of an Alumax contract could result in a comparatively short time for which Alumax would be assured power, depending on as yet uncertain construction plans. The shorter the time for which power is assured, the less likely it may be that Alumax would commit to construction, although many other factors will also be relevant to Alumax's decision.

Construction and operation of the Alumax aluminum reduction plant would have significant physical and socioeconomic impacts. BPA has filed a final environmental impact statement (BPA 1981f) on service to the proposed Alumax aluminum reduction plant at Umatilla, Oregon, which addresses these impacts.

A second area of environmental concern results from the need to acquire on a planning basis the necessary generation to serve the firm portion of the plant's load. It is not possible at this time to predict what kind of resources would be developed and/or acquired to meet the load. However, 320 MW of capacity of a resource having a capacity factor of 75 percent are required to meet the firm portion of Alumax load. A brief generic discussion of the environmental impacts of generating and conservation resources is given in Chapter IV of BPA's Final Role EIS (BPA 1980).

4.7 WHEEL TURNING LOAD (WTL)

4.7.1 Explanation of Issues

The power sales contracts include provisions which authorize BPA to decrease the DSIs' present contract demand by the amount of electrical load which is not integral to its industrial process, is not a part of a technological allowance, and which may be metered separately for billing purposes (Wheel Turning Load, or WTL).

This equal decrease and increase in the amount of a DSI's non-process WTL being shifted, respectively, from BPA to a preference customer or investor-owned utility (IOU) provides a tradeoff of benefits and costs to the DSI: the DSI still receives the same amount of power, but that amount from a preference entity is at a relatively lower rate; and BPA decreases the DSI's contract demand by the amount shifted to a preference customer or IOU. This decrease in the DSI's contract demand with BPA precludes the DSI from indirectly increasing its load.

4.7.2 Environmental Considerations

The chief effect of the WTL issue is a rate effect. Of further concern is that the level of reserves could be reduced by shifting WTL from BPA to the preference customers or IOUs. Therefore, additional reserve resources could be required by BPA.

4.8 IMPROVING AVAILABILITY FOR THE FIRST QUARTILE

4.8.1 Explanation of Issues

The Regional Act and the accompanying Congressional Reports define the DSIs' quality of power. The quality of power under the Regional Act changes from

what it was prior to the Act. BPA is to continue to plan firm resources to serve 75 percent of the total DSI requirement in addition to its other firm loads. Now, as specifically stated in the Senate Energy Report (p. 59), the balance of the DSI load is to be served with resources which are in excess of critical planning amounts but which are operated to meet the entire DSI load "as if it were firm." The Senate Report goes on to state that while treating the maximum amount of the DSI load as a firm load, not all of it can be covered under critical streamflow planning. Therefore, the operation of the system to meet this maximum load is to occur in the initial period of the Critical Period [1/], by shifting FELCC[2/] to serve the first quartile, while protecting firm loads against the worst historical streamflow and maintaining an ability to restrict an equivalent amount of the DSI load in the later period.

An alternative to shifting FELCC is to serve the first quartile load with Advance Energy. The North Pacific Division, Corps of Engineers (Corps), the Pacific Northwest Region, Bureau of Reclamation (Bureau), and BPA have agreed to the provisional operation of Corps and Bureau reservoirs (Dworshak, Libby, Hungry Horse, and Grand Coulee) for the production of energy to be delivered by BPA pursuant to provisions of power sales contracts with its Industrial Customers (Advance Energy). Allowable amounts of provisional storage draft for the delivery of Advance Energy have been established for each reservoir, such that the resulting reservoir elevation will not have a major adverse impact on nonpower uses and assure a reasonable probability of reservoir refill (BPA 1978a). The allowable total delivery of Advance Energy (presently 800,000 megawatthours) from storage draft below the lower of the Energy Content Curve (ECC)[3/] or proportional draft level are the maximum amounts to be outstanding at any time.

Provisional draft for delivery of the Advance Energy may be made only during the period August 1 through the date that the January 1 volume runoff forecasts are available, subject to a specified limit on drafts for this energy between August 1 and the first Monday in September. As a guide for planning the delivery of Advance Energy from August 1 through the first Monday of September, the initial provisional draft plus the planned draft indicated by the first year critical rule curve for August 31 for such reservoir should not exceed 5 feet from full.

1/ The Critical Period is the multimonth period of adverse streamflows of record during which the release of all reservoir storage is required to produce the firm energy load carrying capability of all the coordinated system parties. See section 2(h) of the Pacific Northwest Coordination Agreement.

2/ BPA's firm energy load carrying capability (FELCC) is its aggregate firm energy load that it can supply from firm resources. The shift of FELCC is an action allowed under the Pacific Northwest Coordination Agreement. See section 2(h), Pacific Northwest Coordination Agreement or Jolliffe, et al., 1964.

3/ A seasonal guide to the use of storage water from each reservoir operated by a party to the Pacific Northwest Coordination Agreement (BPA 1975).

During contract negotiations the Intercompany Pool (ICP) and BPA's preference customers suggested that BPA use Advance Energy instead of shifted FELCC to serve the DSIs' first quartile loads. Various reasons have been suggested for this preference for Advance Energy, but it can generally be characterized as an economic issue to BPA's utility customers. However, physical differences do exist between Advance Energy and shifted FELCC which include the following: Bonneville FELCC affects all Coordinated System reservoirs, while Advance Energy affects only the Federal System reservoirs; replacement of Advance Energy may be made annually, and cancelled to the extent replacement would cause a spill, whereas replacement of shifted FELCC will occur in a subsequent year and may be required even after the system refills; and the probability of not refilling may be somewhat greater with shifted FELCC than it is with Advance Energy, although not significantly when looking at a 40-year historical water record. On the other hand, average availability of service to the DSIs' first quartile loads is greater using shifted FELCC in view of the fact that the quantity of Advance Energy is presently limted to 800,000 MWh (enough energy to serve the DSIs' first quartile loads for about 6-1/2 weeks).

BPA proposed a compromise during contract negotiations in an attempt to minimize any problems of shifted FELCC. This proposal involved using a combination of Advance Energy, shifting from later years of a Critical Period into the first year, and borrowing from the latter part of the first year of a Critical Period into the first part of the first year of the Critical Period. The DSIs would have to replace the borrowed FELCC and the Advance Energy during the latter part of the contract year during which the energy was made available (usually the first contract year of a Critical Period). This proposal also calls for the forgiveness of the replacement of Advance Energy and the borrowed FELCC in some proportion as water conditions approach refill. The amount of energy served with shifted FELCC would be subject to replacement in a later year or years of the Critical Period. Shifting FELCC would only be implemented during the first year of a Critical Period, which occurs only if the Coordinated System reservoirs are full (July 31).

A more recent concern, expressed by the North Pacific Division, Army Corps of Engineers, addresses operational changes associated with increased service to the DSIs' first quartile loads. Operating limits for the Corps' major storage reservoirs have been developed through limited internal environmental review and public involvement, and reflect the multiple-use nature of the Federal reservoirs. The Corps is concerned that improving the service to the DSIs' first quartile loads (whether through Advanced Energy and/or shifted FELCC), would increase the frequency of adverse impacts on these multiple uses. If this were to occur, the Corps feels that additional environmental review and public involvement would be required. This same concern was voiced by several others during the public comment period.

BPA understands the concern expressed by the Corps. The techniques proposed to be used for first quartile service are, however, not new to the operation of the system and are permitted by the Coordination Agreement and BPA's other existing contracts. The contracts, as written, contain a series of options for improving the availability of service to the DSIs' first quartile load. These options are not limiting, however, since they allow the identification and development of other alternatives, in the future, which will maintain this

improved service to the DSIs while minimizing impacts on other uses of the reservoirs. In the near term, the identified options are based on an acceptable level of draft at Coordinated System reservoirs.

4.8.2 Alternatives

During the contract negotiations process, several alternatives were suggested on how BPA might serve the DSIs' first quartile load as a firm load without planning resources for this load. Alternatives considered have gone through an evolutionary process reflecting concerns over economic impacts, system reliability, and environmental impacts. As mentioned in the previous section, the contracts now reflect a range of available alternatives to serve the DSIs' first quartile load. These include, but are not necessarily limited to the following: shifting of FELCC from one year of a Critical Period to another; borrowing FELCC within given years of a Critical Period; using surplus FELCC available to Bonneville prior to the beginning of a Critical Period in the early months of a Critical Period; the use of Advance Energy and other provisional reservoir draft; and the use of any surplus FELCC.

4.8.3 Environmental Impacts

In October 1978, BPA's then Division of Power Management prepared an environmental review of a proposal to advance 400,000 MWh of energy to Portland General Electric Company while their Trojan Nuclear plant was undergoing modification and repairs (BPA 1978a). It was noted in this assessment that Federal storage reservoirs would be drafted earlier and to a greater depth to serve this Advance Energy. This assessment also summarized environmental impacts associated with drafting storage reservoirs for provision of Advance Energy. Shifted FELCC, which also results in the drafting of reservoirs, can be expected to cause similar physical impacts at and adjacent to Coordinated System reservoirs.

As an example of the types of impacts to be expected from reservoir drawdown, the reader is referred to a Corps document entitled "Impact Assessment of Drawdown at Dworshak Dam and Reservoir" (appended to BPA 1978a). At Dworshak Dam, year-around commercial navigation and debris cleanup operations are affected by exposure of shoals, stumps, and mudflats. Recreation is disrupted by visual qualities of denuded shorelines; mini-camps, docks, and boat ramps become physically unusable; biological productivity of reservoirs decreases and fishing is degraded; reservoir transportation is disrupted; and reservoir area and capacity is reduced. Any changes in the reservoir Regulation Plan, substantially altering the normal operation of the reservoir, could create strong public resentment and opposition to Corps activities. Downstream from the dam, riverflow conditions are altered, reducing bank accessibility, increasing velocities, and causing cooler water temperatures; and downstream fishing can be disrupted, since studies have shown feeding activities decrease or stop after significant changes in riverflows. Finally, temperature changes from increased reservoir releases can severely affect some temperature-dependent fish populations since successful migrations of certain species are dependent on proper streamflows and temperature and altered flows can affect these populations.

Similar information on the impact of drafting reservoirs to serve energy loads or other downstream uses is available for the Corps' Libby Dam and reservoir. To a lesser degree, information on the impact of reservoir drafts is available for the Bureau of Reclamation's Hungry Horse and Grand Coulee dams and reservoirs. Such impacts relate to a deterioraton in recreational use at lower reservoir levels and impacts to prime fisheries both at the project and downstream.

A more recent concern is the effect of reservoir drafts on special spring fish flows for juvenile anadromous salmonids in the mid-Columbia and lower Snake River. Generally, special flows for fish are affected primarily by winter snowfall and the resultant spring runoff. Reservoir elevations and consequently the amount of water available to supplement streamflows are more directly controlled by flood control rule curves. However, during those years with lower than average snowfall, reservoir drafts for power generation prior to the first runoff forecast (usually available by January 10) can affect spring fish flows by reducing the amount of water stored in such reservoirs.

Early in the contract negotiations process BPA's Branch of Power Capabilities and Division of Power Supply analyzed the effect of shifting FELCC and the provision of increased amounts of Advance Energy on the power system. Fish and wildlife technical staff carried this review one step further by analyzing how the operational changes associated with shifted FELCC and Advance Energy affect reservoir elevation and streamflows. While this preliminary review looked specifically at those operations needed to firm up the DSIs' first quartile load for the entire operating year (an operation which is no longer deemed acceptable to BPA and its customers), the review is helpful in identifying the possible scope of such changes.

A full shift of FELCC (over 3.0 billion kWh) was shown to draft reservoirs earlier in the operating year and to levels below those currently accepted under existing operating agreements. A similar effect was shown when Advance Energy was used to serve the DSIs' first quartile load for the entire operating year. Streamflows were not drastically altered, although this analysis did not include special spring fish flows and would not be expected to show an impact on such flows. No attempt to quantify impacts of such operations on other uses of the reservoirs was made during this analysis. However, this preliminary analysis does show the need for additional review if existing mechanisms to serve the upper quartile load are not sufficient.

As pointed out elsewhere in this discussion, there are additional impacts, primarily economic, that were identified during the contract negotiations process. Some of these impacts have been identified in section 4.8.1 and are restated here:

1. Increased Exposure to Not Refilling the Reservoirs

   Shifting FELCC to provide firm service to the DSIs' first quartile load from a later year of the Critical Period to the first year of the Critical Period will draft more water from reservoirs than without such shift. However, drafting the reservoirs to a lower level does not significantly increase the probability of exposure to not refilling when looking at the 40 year historical water records. It is recognized that in low runoff

years, the amount of reservoir deficiency will be greater. If critical water conditions are experienced, this should not result in the curtailment of other firm loads since BPA contracts with the DSIs will result in the restriction of the DSI load only. The use of Advance Energy, as opposed to borrowing FELCC, does not affect the probability of refill, assuming that all Advance Energy can be returned within the operating year if needed.

2. Loss of Interchange

By shifting FELCC to the early part of the critical period, parties to the Coordination Agreement will have greater net interchange energy obligations to BPA in the first year of the Critical Period. Should the Coordinated System refill, those rights and obligation accounts would be settled at the interchange energy price as established by the Coordination Agreement. Under this scenario, the utilities that had obligations are in effect selling their hydro resources to BPA to enable BPA to serve the DSIs and are being compensated for that resource only at the price established in the Coordination Agreement for interchange energy. This is offset, however, potentially to the point of actually increasing their total revenues, because of the additional energy available from hydro resources as a result of the FELCC shift. The concern that BPA may not have the ability to return interchange is likely an invalid concern. This is because BPA is obligated to make such return under the Coordination Agreement, even if economic penalties are required to do so.

Chapter 5

ENVIRONMENTAL CONSIDERATIONS RELATED TO RESIDENTIAL EXCHANGE CONTRACT ISSUES AND ALTERNATIVES

5.1 INTRODUCTION

The Regional Act establishes residential exchange provisions primarily designed to enable the residential and farm consumers of investor-owned utilities (IOUs) to share with BPA's preference customers in the benefits of the Federal base system resources, including Federal hydroelectric projects, although the exchange may be entered into with any Pacific Northwest utility. This chapter discusses various issues related to the execution of the residential exchange contracts, including issues involving nondiscretionary actions by BPA.

The residential exchange contracts basically amount to an exchange of costs, rather than a physical exchange of energy. For the region's nine major IOUs, with total 1979 sales of 64,283,526 megawatthours (MWh), residential sales represent approximately 50 percent of their load. For comparison, BPA's preference customers had 1979 sales of 80,643,491 MWh. Table 5.1 lists the various IOUs eligible for the exchange and their 1979 sales.

Table 5.1

INVESTOR-OWNED UTILITIES IN BPA SERVICE AREA

Utilities	1979 Sales Data (MWh) 1/
California-Pacific Utilities Co.	538,311
Idaho Power Company	9,378,792
Montana Light and Power Co.	53,817
Montana Power Company	2,222,748 2/
Pacific Power & Light Co.	17,681,958
Portland General Electric Company	13,139,147
Puget Sound Power & Light Co.	13,116,098
Utah Power Company	1,670,559 2/
Washington Water Power Co.	6,482,096
Total	64,283,526

1/ All data from FERC Form 1, except Montana Power Co. which is from FERC Form 12. Excludes sales for resale.

2/ Includes only those sales in the BPA service area.

5.1.1 Nondiscretionary Actions in Implementing the Residential Exchange Contracts

The Regional Act requires that, when requested by an electric utility, BPA will purchase power at the utility's average system cost (ASC). In exchange, BPA shall sell an equivalent amount of power to the utility for resale to its residential users within the region (section 5(c)(1)). The rate at which BPA sells the power to the utility is established in section 7(b)(1) as the Priority Firm Power rate to BPA's preference customers. Section 5(g)(1)(C) calls for the offering of contracts to cover this exchange within 9 months of the effective date of the Regional Act.

Beginning October 1, 1981, 60 percent of the residential load is eligible for exchange. This increases in equal annual increments until 100 percent of the residential load is eligible for exchange beginning July 1, 1985, and each year thereafter. The residential load is defined to include all usual residential, apartment, seasonal dwelling, and farm electrical loads or uses, but only the first four hundred horsepower during any monthly billing period of irrigation and pumping for any farm.

Prior to July 1, 1985, the Administrator must recover the net costs of the exchange program through the rate outlined in section 7(c)(1)(A), the Industrial Firm Power rate of the DSIs, except to the extent allocation resources and costs are assigned to another customer class. Beginning July 1, 1985, the costs are to be allocated across other rate classes.

The ASC of each utility is to be determined by BPA on the basis of a methodology which has been developed in consultation with BPA's customers, the Regional Council, and appropriate state regulatory bodies. The methodology has been filed and is awaiting approval by the Federal Energy Regulatory Commission (section 5(c)(7)).

5.1.2 Discretionary Actions in Implementing the Residential Exchange Contracts

While there is a large body of information regarding the accounting, financial, and rate practices of electric utilities from which to develop the ASC methodology, standardized procedures are not available for treating all costs to be included in the methodology. Thus, within the requirements specified in section 5(c)(7), BPA was able to choose from various specific techniques and practices to formulate an overall ASC methodology. The price at which BPA will acquire power from utilities and the net cost incurred due to the exchange will vary with the composition of the methodology.

The benefits of the exchange program are to accrue to the residential consumers of the exchanging utility. In defining the residential load eligible for exchange, the Regional Act neither defines what constitutes a farm nor provides a method for calculating the 400 horsepower load limitation. Thus, during negotiations, BPA had some opportunity to affect the size and composition of the group benefitting from the exchange program.

5.2 DISCUSSION OF IMPACTS RELATED TO NONDISCRETIONARY ACTIONS

In establishing the residential exchange program, the Regional Act allows residential consumers, especially of IOUs, to benefit from the Federal base system, including its low-cost hydro power. Costs associated with the exchange will likely be primarily assigned to the DSI rates until July 1, 1985, while the benefits, in the form of the preference customer rate, have been assigned to the residential consumers. Therefore, the residential exchange program itself, apart from those discretionary actions of BPA described above, will have certain rate impacts. The environmental implications of these rate changes have been reviewed and are summarized here.

5.2.1 Impacts on DSI Customers

Through June 30, 1985, BPA's direct-service industrial customers (DSIs) will likely be primarily making up in their rates any BPA revenue deficit which results from the residential exchange sale agreements. That is, the DSIs make up the difference between the cost of the power purchased at the individual utility ASCs and BPA's firm power revenues from exchanging utilities, to the extent such resources are not assigned to BPA's other customers. Depending on the choice of ASC methodology and the extent of participation by utilities eligible for the exchanges, the DSIs will see 1981-82 operating year rates ranging from perhaps 17 to 21 mills per kilowatthour (mills/kWh), before application of the rate adjustment reflecting the value of reserves provided by the DSIs. Before July 1, 1981, the DSIs paid approximately 6 mills per kilowatthour. After June 30, 1985, the rates to the DSIs will be tied to the retail rates charged by BPA's public body and cooperative customers to their industrial consumers. However, BPA's rate to the DSIs after July 1, 1985, shall not fall below that charged for the contract year ending June 30, 1985.

5.2.1.1 Aluminum DSIs

As a class, the aluminum DSIs exhibit a relatively inelastic response to changes in electrical energy price. Several studies have indicated that significant rate increases could be absorbed by Northwest aluminum plants. According to a study by Ernst & Ernst (1976a), a cost of up to 21 mills/kWh could be absorbed, while Bosworth (1978) calculated the break-even point at from 23.9 to 33.0 mills/kWh. The 1979 study by Chris Kristenson and Joseph Correia of the U.S. Department of Commerce also indicates that while at 29 mills/kWh the Northwest aluminum plants would lose much of their competitive advantage in Eastern and Midwestern markets over the Tennessee and Ohio Valley facilities, the other major U.S. areas for aluminum reduction, production would continue due to increasing demand and prices for aluminum. Furthermore, the aluminum companies in the Pacific Northwest have purchased industrial replacement energy (energy which is obtained in place of that portion of the interruptible load which BPA has restricted) at prices up to 40 mills/kWh. Such purchases have usually been for short periods of time and for relatively small percentages of their total loads and may not represent a price they would be able to pay for normal production. Nevertheless, these observations tend to indicate that, at the margin, the continued operation of the Pacific Northwest aluminum plants would be unaffected by the projected rate increases. The increase in rates, however, makes plant modernization a more attractive investment, especially for the least energy-efficient plants.

Because BPA's DSI contracts are for a given block of energy, any reduction in energy use per pound of aluminum may not appear as a load reduction. Instead, the firm may elect to expand capacity, utilizing the conserved energy.

The decision to utilize any energy conserved via modernization through capacity expansion would be based on several factors. Each firm would have to weigh the market demand for aluminum, future prices for aluminum, interruptibility of the power supply, availability of power supplies and costs in other U.S. regions and the world, and whether the conserved block of energy is sufficient to support an economical expansion of capacity, among others. Thus, the Pacific Northwest has seen modernization both with and without expansion of capacity (see Kristenson and Correia (1979) for a further discussion of this topic).

5.2.1.2 Nonaluminum DSIs

Operational impacts on nonaluminum DSIs are not as clear. The ability of a firm to adjust to an increase in the price of electrical energy depends on the elasticity of demand for the firm's output and the ability of the firm to absorb the increase in reduced profits. On a plant by plant basis, there is no published source of the data needed to make such an analysis. In general, though, the ferronickel, ferromanganese, and ferrosilicon industries seem most susceptible to significant rate increases. DSIs using minerals indigenous to the Pacific Northwest, such as the ferronickel installation in Riddle, Oregon, may apply for rate relief under section 7(d)(2) if they can demonstrate adverse impacts associated with the rate increases. BPA developed such a reduced rate in its 1981 wholesale power rate case--rate schedule SI-1. BPA must determine that such impacts will be significant and then condition the special rate on the ability to interrupt, curtail, or withdraw all power sold to the DSI to meet BPA's firm loads in the region. Presumably, if rate relief is found to be necessary and is granted, it is likely that the plant(s) would continue to operate as planned. The positive and negative environmental and socioeconomic impacts now present would continue. Without rate relief it is possible, though not certain, that a given facility would close. Such closure would be accompanied by the reduction and/or elimination of the positive and negative environmental and socioeconomic impacts which accompany the operations.

Since their primary raw minerals are not indigenous to the region, the ferromanganese and ferrosilicon industries are not eligible for rate relief under section 7(d)(2). The products of these two industries, used principally to make steel, are marketed primarily in the Midwest with some also marketed in California. The energy efficiency of the Pacific Northwest plants is considerably less than that of similar plants elsewhere in the U.S. In the past, the lower energy costs in the Pacific Northwest offset the higher energy usage and higher transportation costs of reaching the Midwest markets. At the present time, however, the Pacific Northwest industries are facing increased foreign competition, and increasing costs for labor, transportation, pollution control equipment, and energy. For example, Union Carbide recently announced its intent to close its Portland, Oregon, plant later this year, citing price competition from foreign producers having significant advantages in labor, raw materials, and government regulations.

The impact of increased power costs on the operation, sales, and profits of the BPA nonaluminum DSI customers is extremely difficult to determine in that the data needed to analyze these effects are not available from published sources. The impact on sales and profits depends on many factors, including the extent of the pass-through of the increased power costs, the cost profile of the particular plant, the price of the product, and the price elasticity of demand for the product.

5.2.1.3 Environmental Consequences

Due to their heavy industrial nature, BPA's DSI customers have significant impacts on the region's physical environment. While the most extensive of these impacts occur in the area of air quality, there are also water quality, land use, and terrestrial environmental impacts associated with their operations.

Industrial plants must generally meet two types of restrictions imposed by state or Federal environmental agencies limiting air pollution: (1) they must not cause concentrations of air pollutants in the atmosphere to exceed ambient air quality standards; and (2) they must limit their emissions of air pollutants to quantities permitted for their plant.

Ambient air quality often does not meet standards in major metropolitan areas and heavily industrialized areas because of the large number of pollutant sources concentrated in a limited area. Of BPA's 21 DSI customer plants, 11 are distributed among three such areas. However, the amounts of air pollutants emitted by BPA's industrial customers in each of these areas are a relatively small portion of the areawide totals, and frequently the pollutants emitted in the largest quantities by the industrial customers' plants are not those for which ambient standards are being exceeded (BPA 1980).

The impact on water quality from BPA's DSI customers depends on the types and quantities of pollutants discharged into local receiving waters. The environmental effects of the major pollutants vary with the types of industry and the geographic location in different drainage basins. Four of the DSIs have total water recycling systems, with no discharge to public waters, and consequently no impact upon water quality. The other industrial customers contribute negligibly to the existing water quality problems in the region (BPA 1980).

The DSI impacts on the terrestrial environment depend upon types of air emissions, geographic location, and existing vegetation, wildlife, and wetlands habitat. Using air quality and vegetation standards as a guideline, 19 of the DSI plants have been found to have negligible effects on the surrounding terrestrial environment. The two DSIs located in Montana have caused damage to vegetation, wildlife, and wetlands around their individual plant sites due to fluoride emissions. These impacts are currently being mitigated through the installation of additional pollution control systems at the plants (BPA 1980).

Overall, no significant operational changes are expected to accompany the rate increases to the DSIs. The environmental impacts which are now occurring are, therefore, likely to remain. Should a DSI elect to expand its capacity within

its contracted energy limits, there may be some changes in pollutant level. Any such changes would have to be approved by the responsible state and Federal environmental agencies (see BPA 1977b, Appendix C, pp. IV-143-212, for a more complete discussion of specific impacts associated with the operation of the DSIs).

5.2.2 Impacts on Residential Consumers

Since the exchange is designed to reduce the disparity between the rates of IOU and preference customer residential consumers, the residential and farm consumers of IOUs are likely to see rate reductions or smaller and/or fewer rate increases if their servicing utility elects to participate in the exchange program. The magnitude of any of these rate impacts depends on the utility's ASC and BPA's Priority Firm Power rate. It is expected that, to some degree, consumers will respond to the rate changes. BPA is aware of studies which indicate the elasticity of demand of residential consumers for electricity to be anywhere from -0.3 to -1.1. This means that for a 10 percent decrease in price there would be a 3 percent to 11 percent increase in consumption, all else being equal. It is this consumer response to a rate decrease which may have potential environmental implications.

5.2.2.1 Implications for Conservation

Consumers implement conservation measures based, in part at least, on the price of electric energy. If electric energy prices decline relative to prices of alternatives (conservation in this case), there may be an incentive to consume more electricity, or at least delay conservation measures. By lowering electrical energy prices, the residential exchange program may have this effect on consumers. However, there are reasons for believing that any disincentives to conservation will be small and temporary in nature.

A consumer's expectations of future prices influence actions taken in the present. If a rate reduction is viewed as an isolated exception to steadily increasing energy prices, then conservation may still be perceived as a good investment. With this long-term view, consumers are unlikely to make major new commitments to increasing their electrical energy use, such as would be the case of converting to electric space heat.

Nevertheless, consumers often fail to take the economically justified conservation steps. Returns on investments (i.e., insulation, efficient refrigerators, etc.) are frequently discounted very heavily, dissuading many people from the action. Thus, even though a conservation investment may pay for itself in a relatively short period of time, the initial out-of-pocket costs dominate the investment decision. This is evident in the lack of consumer-installed hot water heater wraps, the purchase of relatively energy inefficient appliances, lack of sufficient insulation, and so forth (PNUCC 1980a). The Regional Act has provisions which should help to encourage more appropriate consumer decisions. BPA has the authority to promote and acquire cost-effective conservation on a regional basis. By actually paying for the energy saved through conservation, many such measures should be in place sooner than they otherwise would be.

Somewhat related to conservation is the concept of fuel substitution. As the price of electrical energy changes, the economic attractiveness of alternative fuels or sources varies. Higher electrical energy prices may make solar energy more attractive economically, for example. The 1979 Wholesale Rate EIS discusses substitution and conservation responses to electrical energy rate changes (BPA 1979b, pp. IV-17-21).

5.2.2.1.1 Environmental Consequences -- If the conservation effort fails to achieve the level of energy savings that would have been achieved without the residential exchange, there will be a need to bring some new generation on-line sooner than otherwise required. Each generating resource has particular environmental impacts depending on fuel type, location, size, and other factors. Coal plants, for instance, have significant air quality and land use impacts while hydro facilities may have significant impacts on land use, water quality, and fish and wildlife. The specific impacts of a reduced conservation effort would depend on the resource mix used to meet the load (see BPA 1980, Chapter IV and Equitable Environmental Health 1976, Chapter III, for a more complete discussion of the impacts associated with various types of resources). The trend towards a lower per capita consumption of energy, an increased "energy awareness", expectations for future price increases, and the acquisition of conservation measures under the Regional Act should tend to minimize any initial lapses in the conservation effort and the negative environmental impacts which would accompany any generating resources needed to fill in for a reduced conservation effort. Thus, while the exchange program, by itself, could negatively affect the conservation effort, the overall effort should not be reduced under the Regional Act.

5.2.2.2 Implications for Irrigation

The size of an irrigation load is, in part, a function of the price of electrical energy. Energy is consumed both in lifting the water and in pressurizing the sprinkler irrigation systems. A rate reduction for IOU consumers would be expected to affect irrigation decisions. A study by Norman K. Whittlesey (1978) concluded the short-run elasticity of demand for electricity by irrigators to average -0.30 over a range of real price increases from 0 to 100 percent. Thus, a ten percent decrease in energy prices would cause a 3 percent increase in consumption in the short run, all else being equal.

Any response to rate reduction by irrigators should be considered in the wider context of recent rate increases. Irrigators, viewing any rate reductions resulting from the exchange as temporary rollbacks, may delay capital investments which would improve irrigation efficiency. Instead they could attempt to take fuller advantage of available pumping capacity by changing their cropping patterns. More water intensive crops yielding a greater return could be substituted for current crops. Thus, even without an increase in acreage there could be an increase in water use and energy consumption.

Conversely, an irrigator could increase the acreage being irrigated through the acquisition of additional equipment and suitable land. Presumably the acquisition decision would include some long-term rate considerations for

continued profitability. Here again there would be increased water use and energy consumption.

It is difficult to anticipate the size and nature of any response by irrigators to potential rate changes. As mentioned before, such response depends in part on an irrigator's expectation of future energy costs. Seventy percent of the region's IOU irrigation load is served by the Idaho Power Company (IPC) with irrigation rates that are comparable to the irrigation rates of the preference customers in the region. It might be expected, therefore, that should IPC participate in the exchange, any rate reductions would be small. Correspondingly, the rate incentive to increased water and energy use would be reduced.

The total irrigation load is five percent of the region's entire electrical usage. Approximately 2/5 of the irrigation load is served by IOUs and might possibly be exchanged under the contracts. Any foreseeable increase in the regional irrigation load resulting from the exchange would, therefore, have only a minor impact on total energy use.

5.2.2.2.1 Environmental Consequences -- Any increase in water use and energy consumption due to reduced rates for irrigation carries with it potential environmental consequences. Increased surface water withdrawals reduce the ability of streams to assimilate pollutants and decrease the water available for fish and wildlife, recreation, and power generation. Irrigation runoff increases the load of silt and agricultural chemicals in receiving streams resulting in possible increased algae growth, eutrophication, increased biological oxygen demand, damage to spawning areas, and other harmful impacts. And, of course, increased energy use requires additional generation.

However, the water withdrawn from the Columbia River system for irrigation is unavailable for use in power generation. As described by Hamilton and Whittlesey (Hamilton 1978), each acre-foot of water dropped through one foot of head generates about 0.87 kilowatthours of electricity. By withdrawing one acre-foot of water from behind Grand Coulee, for instance, 1015 kWh of generation are lost from the 11 downstream dams. This is energy which would have to be acquired in some other manner, with environmental impacts depending on the generating resource.

Any additional development of irrigation will primarily be of the sprinkler type. With proper application of water, these systems will not contribute to the runoff problems commonly associated with gravity irrigation. Additionally, the Regional Act contains fish and wildlife provisions which, combined with the minimum flow requirements, should help to minimize the negative effects on the river system from an increased irrigation load. Thus, while there may be an irrigation response to the lowered rates, no significant irrigation development with attendant environmental impacts is expected over and above that which would have occurred in the absence of the exchange.

5.3 DISCUSSION OF IMPACTS RELATED TO DISCRETIONARY ACTIONS

Under the Regional Act, BPA does have some discretionary authority in defining terms. In particular, BPA has some ability to define what average system cost is, what contitutes a farm, and what is meant by 400 hp of irrigation load.

It is primarily through these three discretionary actions that BPA may influence any overall impacts which accompany those impacts stemming from the nondiscretionary nature of the residential exchanges.

5.3.1 Explanation of Issues and Alternatives of the ASC Methodology

The residential exchange program is a purchase and sale of power. The "exchange" is one of power costs and not one of a physical flow of power. There is no physical impact on power generation, transmission, or system operation. The ASC methodology, developed pursuant to BPA's published procedures for public participation (46 FR 26368, May 12, 1981), establishes the price at which BPA acquires power from the exchanging utility. While the Regional Act specifically excludes certain costs from the methodology, the decision as to which other costs are to be included, and in what manner, is not addressed. Cost items such as fuel, depreciation, return on investment, operation and maintenance, and income taxes have been identified as appropriate for inclusion. However, BPA had some discretion as to how to incorporate these costs into the structure of the methodology. Thus, any environmental impacts associated with the adoption of an ASC methodology are a function of the marginal differences in rates resulting from the use of one methodology or another.

5.3.1.1 Impacts on DSIs

The final rate which DSIs pay for the 1981-82 operating year will probably be between 17 and 21 mills/kWh. This range is due in part to potential differences in the final structure of the ASC methodology. The choice of one methodology over another will, therefore, have a marginal effect on the final rate to the DSIs. However, the marginal difference is much less than the overall rate impact associated with the exchange itself. For the aluminum DSIs there is no indication that the maximum potential rate effect associated with the choice of an ASC methodology would affect decisions regarding continued operation. The nonaluminum DSIs, however, are more sensitive to rate increases. Even here, though, the overall rate increase will dominate any operating decisions, rather than the smaller differences attributable to the choice of one methodology over another. While acknowledging a significant rate change, there is no evidence to suggest that marginally lower or higher rates associated with the choice of a particular ASC methodology would significantly affect the operation of any DSI.

5.3.1.1.1 Environmental Consequences -- Given that there is no evidence to suggest operational changes due to the marginal rate differences attributable to variations in form of the ASC methodology, no significant environmental impacts are expected to accompany the choice of a particular ASC methodology. Section 5.2.1, Impacts on DSI Customers, includes a discussion of the overall rate impacts on DSIs resulting from the exchange and their environmental consequences.

5.3.1.2 Impacts on Preference Customers and Investor-Owned Utilities

The preference customer rate will be unaffected by the exchange until the Federal base system (FBS) resources are insufficient to serve the preference customer loads or until June 30, 1985. Currently, the FBS resources are

sufficient to serve these loads. After July 1, 1985, the preference customer rate could also be affected by the exchange if revenues from the DSIs are less than the cost of resources, including resources exchanged, used to serve the DSI load.

After July 1, 1985, section 7(b)(2) of the Regional Act requires that the projected revenue from preference customers for any 5-year period not be greater than the revenue from these customers assuming the Regional Act were not in place. This test, if triggered, would limit the impact of the ASC methodology on the preference customers. At this time, however, there is insufficient information regarding the size of load which will be exchanged and the ASCs of the particular utilities which may elect to participate to make meaningful estimates of the impacts associated with a choice of a particular methodology.

A preference customer whose ASC is or will be higher than the BPA rate to preference customers may wish to exchange. The impact of the choice of an ASC methodology on the residential rates of such customers will be similar to the impact on exchanging IOUs, discussed below, whose ASC exceeds BPA's Priority Firm Power rate.

The Regional Act mandates that power be sold to the exchanging utilities at that rate which BPA's preference customers receive, the Priority Firm Power rate. To the extent that the ASC methodology does not change the Priority Firm Power rate, no rate impacts associated with a particular ASC methodology are expected.

However, the intent of any ASC methodology is to identify the average cost of the generation and transmission, less the cost of certain excluded resources, used to serve the total loads of the exchanging utilities. Other costs of serving the utility's load, such as distribution costs, are excluded from the utilities' ASC. These excluded costs are not eligible for exchange. The choice of a methodology, then, determines the amount of costs in addition to the BPA Priority Firm Power rate to be included in the retail rate structure of the residential consumers. That is, the greater are the costs included under the methodology, the fewer are the costs which must be recovered over and above the Priority Firm rate.

In a theoretical sense, then, the adoption of an ASC methodology could have a wide range of impacts on the final retail rate of IOU consumers. A number of factors, however, limit the discretion as to what costs have been included, and in what manner, in the methodology. Operating within the provisions of the Regional Act and generally accepted electric utility ratemaking, accounting, and regulatory practices, an extreme position on the methodology is unlikely. The consultation process provided for in the Regional Act also ensured that the resolution of remaining issues lead to a final methodology which balances the various interests of the region. Thus, from a practical view, the formulation of an ASC methodology does not have the potential for causing extreme variations in the retail rate. A dollar estimate of the possible variation depends on a utility's costs, rate structure, capital investments, and the like. In a general sense, though, the rate impacts due to variations in the ASC methodology are small when compared to the overall rate impact of implementing the exchange program.

Disagreements over what should be included in ASC would be expected during the implementation of the exchange regardless of the methodology chosen. The magnitude of the rate impacts resulting from these disagreements is unknown until after BPA and its customers have gained experience in applying the selected ASC methodology. However, standard utility practices combined with BPA and state regulatory agency experience can be expected to eliminate significant differences.

5.3.1.2.1 Environmental Consequences

To the extent that the adoption of an ASC methodology does not influence the preference customer rate, the choice of a methodology will carry no significant rate impacts or potential environmental consequences. While there clearly is the potential for some rate impacts, the magnitude is small in comparison to the overall rate changes which will accompany the exchange. Of particular concern has been the issue of including construction work in progress (CWIP) costs in the ASC methodology.

Resources are financed through equity, debt, or a combination of the two. If CWIP costs are entered into the rate base, the utility is allowed to earn a rate of return on an investment which is not yet generating output. Thus, the cost of financing construction is recovered from the ratepayers prior to plant operation. As an alternative, these financing costs may be self-capitalized (covered by additional debt) and recovered through the rate base once the resource is on-line.

BPA has elected to allow CWIP in the ASC methodology so long as this is allowed by the jurisdiction (the appropriate state utility commission or public agency board) in which the utility files its rates. While there are many issues surrounding CWIP, the environmental issues seem to focus on whether the inclusion of CWIP encourages construction of thermal plants or would encourage the construction of resources which would not be built without the inclusion of CWIP.

One can categorically state only that the inclusion of CWIP will not discourage investments in any capital intensive project -- anything from active solar to nuclear. Additionally, decisions to build are not solely based on the time period in which costs are recovered. With the inclusion of CWIP, the beginning of recovery of costs of financing occurs sooner than if cost recovery does not begin until the resource is operating. In either case, the costs are recovered.

The ASC methodology allows for either stance on CWIP. If the CWIP costs are excluded, such costs are eligible for exchange later once the costs have entered the rate base as an investment cost. Or they may enter the exchange through CWIP now. Importantly, any CWIP costs which are exchanged relating to a plant later terminated must be recovered with interest and reallocated to the customer classes from which they were collected.

Thus, while the adoption of a methodology may have some rate impacts, depending on the customer, no particular environmental implications appear.

5.3.2 Explanation of Issues and Alternatives of the 400 Horsepower Limitation on Irrigation Pumping

The Regional Act provides for the inclusion of the first 400 horsepower (hp) of irrigation load of each farm as part of the residential load eligible for exchange. Through contract negotiations, BPA identified six alternatives for calculating this load. They are:

1. if measured demand $\leq$ 400 hp X (0.746), then all measured energy included

   if measured demand > 400 hp X (0.746), then no measured energy included

2. $\frac{\text{number of hours before 400 hp X (0.746)}}{\Sigma \text{ hours in billing period}}$ X measured energy

3. $\frac{\text{400 hp X (0.746)}}{\text{measured demand}}$ X measured energy (ratio $\leq$ 1)

4. 400 hp X # hours in billing period X 0.746

5. $\frac{\text{400 hp X \# hours in billing period X 0.746}}{\text{efficiency of pump}}$

6. 400 hp X # hours in billing period (assumes pump efficiency = 0.746)

(0.746 kW/hp is the factor for converting horsepower to kW)

(Method No. 2 requires integrated demand meters.)

The alternatives are in order of increasing amounts of energy eligible for exchange. The first is the strictest interpretation of the Regional Act. The sixth is the most liberal interpretation, allowing the greatest exchange. For example, an 800 hp pump at full load would not be eligible to exchange any of its energy requirements under alternative 1, up to 222,000 kWh under alternative 4, and 297,600 kWh under alternative 6.

The negotiating teams agreed on the fourth alternative. As defined in negotiations, the selected alternative allows a maximum of 222,000 kWh per month per farm to be exchanged by a participating utility. The amount of the exchange is independent of the actual horsepower rating of the irrigation pumps and the load factor. Thus, pumps larger than 400 hp running at less than 100 percent load may have all or a large portion of their energy requirements eligible for exchange.

The selection was based on several considerations. One was simply the ease of administration. An alternative such as 5 would require specific data on individual pumps. Since some irrigation loads are not demand metered, and those that are metered are not metered consistently, alternatives 1, 2, and 3 are impractical. Alternatives 3 and 5 tend to encourage inefficient pumps, which is neither economically nor environmentally sound. Additionally, nothing in the Regional Act or the legislative history indicates that the 400 hp limitation was to constrain actual pump size, such as would be the case with alternative 1, but rather simply the amount of energy used for irrigation

or pumping on a farm. Thus, alternative 4 was selected because it does not require demand metering, does not penalize efficient pumps, is easy to administer, and is consistent with the mandate in the Bonneville Project Act that BPA "encourage the widest possible use" of electric power and the mandate in the Regional Act that BPA "encourage conservation and efficiency in the use of electric power."

5.3.2.1 Environmental Consequences

The interpretation of the 400 hp limitation means that a majority of the region's irrigation load will be eligible for exchange benefits. This could affect water and energy use as discussed in section 5.2.2.2. Any response to the possible rate reductions and the accompanying environmental impacts will be tempered by expectations of future rate increases.

5.3.3 Explanation of Issues and Alternatives of the Definition of "Farm"

The Regional Act specifically includes the usual electrical loads of farms (with the 400 hp limitation on irrigation loads) in its definition of residential load. The legislative history indicates that the use of land be the consideration as opposed to size, ownership, or other considerations. Therefore, BPA has defined a farm as a parcel of land owned or leased by one or more persons including partnerships and corporations which is used primarily for agriculture. Agriculture is defined to include the raising and incidental primary processing of crops, pasturage, or livestock. Usual farm use has been defined to include incidental primary processing ordinarily associated with agriculture. Such incidental primary processing means those activities necessarily undertaken to prepare agricultural products for safe and efficient storage or shipment.

Such a definition avoids the irrigation loads of golf courses and pools, for example, while also avoiding such technical definitions as those used for tax purposes based on the dollar value of products sold, type of ownership, or acreage.

5.3.3.1 Environmental Implications

To the extent that this definition of farm increases or decreases the number of loads eligible for exchange and hence those which may respond to the rate changes resulting from the exchange, there may be some change in water and energy use. The implications of this are discussed in section 5.2.2.2.

5.3.4 Explanation of Issues and Alternatives of Deeming ASC Equal to the Priority Firm Rate

Utilities are most likely to enter the exchange if they feel their ASC will be above the BPA Priority Firm Power rate. Should their ASC fall below BPA's rate to them, the exchange of costs would be in BPA's favor, actually increasing the exchanging utility's rates. To overcome this, at a utility's request, BPA has agreed to deem ASC equal to the Priority Firm rate under this condition. Thus, the exchange nets at zero, with the exception of certain costs associated with section 7(g) of the Regional Act. However, a separate

account shall record any payments which would have been due either party. When a utility wishes to again receive net benefits from BPA, the account must have a balance less than or equal to zero or the utility must make payments in agreed upon installments to bring the balance to zero.

Without this clause, either fewer utilities would elect to participate, or exchanging utilities would run the risk of increasing their rates. The former case clearly does not further the intent of the Regional Act. The latter case was unacceptable to some utilities and state public utility commissions.

5.3.4.1 Environmental Implications

To the extent that the ASC equals the Priority Firm Power rate and participation in the exchange is encouraged, the aforementioned rate impacts reach additional consumers with the same environmental implications (section 5.2.2.2.1).

Chapter 6

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DATE : September 3, 1981

In reply refer to : SJ

UNITED STATES GOVERNMENT

Memorandum

TO : Peter T. Johnson
Administrator - A

FROM : Anthony R. Morrell
Acting Environmental Manager - SJ

SUBJECT: Initial Long-term Contracts Offered Under Section 5(g) of the Pacific Northwest Electric Power Planning and Conservation Act (Regional Act); Compliance with the National Environmental Policy Act (NEPA)

PART I. PURPOSE OF THIS MEMORANDUM

Over the past 9 months or so BPA environmental staff have undertaken a number of actions to assure compliance with NEPA while BPA negotiated, and has recently offered, initial long-term contracts under section 5(g) of the Regional Act. This memorandum is an accounting of the steps that were taken and decisions that were made to comply with the procedural provisions of NEPA.

At the end of this memorandum is space for your concurrence on the conclusions that are reached in this memorandum. To indicate your agreement with the conclusions that are presented here, please sign in the space provided.

PART II. STEPS THAT HAVE BEEN TAKEN AND DECISIONS THAT HAVE BEEN MADE IN COMPLIANCE WITH NEPA

BPA has taken these steps to comply with the procedural provisions of NEPA: (1) BPA staff has prepared an Environmental Report which takes the issues and concerns raised in negotiations and evaluates the environmental aspects of these issues; (2) the Environmental Report was used to inform decisionmakers and the public of these issues and concerns, and to obtain comments; and (3) although BPA staff considered a variety of approaches to preparation of an EIS, each approach was rejected as being infeasible and no EIS was prepared for the reasons set forth below in this Part.

The reasons BPA has not prepared an EIS can be divided into three categories, and are explained in the three sections in this Part. Briefly, they are:

--Section 1, which shows that EIS procedures are not compatible with negotiated decisionmaking, which makes it impossible to negotiate a decision and prepare an EIS at the same time;

--Section 2, which shows that in any event there was not enough time to prepare an EIS; and

--Section 3, which shows that BPA staff considered a variety of approaches that might have permitted preparation of an EIS, but that each approach was rejected as being infeasible.

1. BPA did not prepare an EIS because it is not possible to negotiate a decision and prepare an EIS at the same time.

a. Negotiated decisionmaking is unique. This is a case of first impression. The Federal Government almost never negotiates its decisions. Decisions are almost always made unilaterally by an official (or a group, such as a collegial body), after recommendations made by staff, in a "decision record" or in some form of action such as a license, permit, or promulgation of a rule. It is true that the Government often negotiates prices and lease terms and other such relatively insignificant details, but the underlying decision, such as whether to acquire property or grant a lease, is made unilaterally by a Federal official.

This is not the case for these initial long-term contracts. Congress made the decision that the initial long-term contracts should be offered within 9 months, but many significant details had to be supplied by negotiation:

> "As soon as practicable within nine months after the effective date of this Act, the Administrator shall commence necessary negotiations for, and offer, initial long-term contracts. . . ." Regional Act, section 5(g)(1).

There is a substantial body of legislative history which shows that these negotiations are a cornerstone in the development of the contracts. Negotiations were to be effective and were to be carried out in good faith. BPA could not offer these contracts on a take-it-or-leave-it basis. They could only be offered after negotiation so that there was a reasonable expectation that the contracts would be acceptable to BPA's customers.

b. NEPA was written for "typical" decisionmaking. The vocabulary of NEPA and the implementing Council on Environmental Quality (CEQ) regulations (40 C.F.R. Parts 1500-1508), depicts Federal decisionmaking as a five-step process: (1) prior to a proposal for action, the agency may have ideas or contemplate action, some of which may ripen into (2) a proposal for action (40 C.F.R. 1508.23, 1502.5); after staff evaluation, there is (3) a recommendation or report on the proposal (40 C.F.R. 1508.23, second sentence), after which (4) a decision is made (40 C.F.R. 1505.2), and (5) action is taken (40 C.F.R. 1506.1). For proper timing of an EIS, three rules are most important:

--First, EIS preparation should begin as soon as the agency has a proposal, 40 C.F.R. 1502.5.

--Second, EIS preparation must be complete by the time there is a recommendation or report on the proposal, 40 C.F.R. 1502.5.

--Third, the EIS "shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made;" 40 C.F.R. 1502.5, second sentence (emphasis added).

c. NEPA does not apply to negotiated decisionmaking because these five steps do not occur during negotiations. In negotiations, each party has a position and each knows it will have to compromise. After compromise, when parties agree, the decision is at hand. There is no intermediate "recommendation or report." This conclusion is supported best by the words of NEPA section 102: "The Congress authorizes and directs that, to the fullest extent possible . . . (2) all agencies of the Federal Government shall . . . (C) include in every recommendation or report . . . a detailed statement. . . ." It is not possible literally to "include an EIS in a recommendation or report" in the case of negotiated decisionmaking because there was no such step as a "recommendation or report," as there is in typical agency decisionmaking.

d. NEPA and negotiated decisionmaking could fit together two ways. Because of the "fullest extent possible" language of NEPA section 102, BPA staff looked for ways to fit an EIS into the negotiation process and could identify only two ways an EIS could be used:

(1) If an EIS were first prepared, the environmental information in it could be useful to negotiators as they met and compromised. This would be "EIS first, then negotiate in light of the EIS."

(2) Parties could negotiate proposed contract terms, then halt negotiations and prepare an EIS, and then meet to renegotiate in light of the information in the EIS, especially if the EIS indicated that changed terms were in order. This would be "negotiate a proposal, then write an EIS, then renegotiate in light of the EIS."

The important point here is that it is not possible to negotiate and prepare an EIS simultaneously. It is possible, though, to use an EIS during negotiations if one is made available prior to negotiations.

e. There simply was not enough time both to prepare an EIS and negotiate contract terms. In an explanation presented more fully in section 2 of this Part, it can be seen that an EIS takes a year or more to prepare. Congress only gave the Administrator 9 months to negotiate and offer contracts. Considering that negotiation and EIS preparation cannot proceed simultaneously, but must proceed in sequence, there clearly was not enough time both to negotiate contract terms and to prepare an EIS.

2. BPA did not prepare an EIS because Congress left so little time for BPA to negotiate and offer initial long-term contracts that Congress created an implied exemption to the EIS requirement.

The basic tenet of this section is that Congress gave the Administrator two conflicting tasks: (1) in NEPA, Congress directs preparation of an EIS, a

difficult task usually taking a year or more; and (2) in the Regional Act, Congress directs the negotiation and offer of initial long-term contracts within 9 months. When there are conflicting tasks, the normal rule is that NEPA yields and no EIS is required. The application of this rule in this case is not supported by the legislative history of the Regional Act, which is silent on the matter. Support for this rule in this case is gathered mainly from the fact that the contracts had to be negotiated, that an EIS cannot be prepared simultaneously with negotiation but must be prepared either before or after negotiation, and that in fact only about 30 days were actually available in which to prepare an EIS, a wholly impossible task.

a. In any event, no EIS is necessary on the decision to offer initial long-term contracts by September 5, 1981. We start with a fundamental rule of NEPA law that an EIS needs to be prepared only in situations where a Federal official has to make a decision. No EIS is necessary where the Federal official is merely carrying out the law without exercising discretion. The reason for this rule is simply that an EIS cannot be helpful to anyone if there is no decision to make, and if it cannot be helpful, its preparation would be absurd.

By way of analogy we turn to the case of South Dakota v. Andrus, 462 F.Supp. 905 (D. S.D. 1978), aff'd, 614 F.2d 1190 (8th Cir. 1980), cert. denied, 14 ERC 2208 (Sup. Ct. 1980), where the Secretary of Interior had the task of granting mineral patents if the Secretary determined that a mineral deposit was "valuable." If the deposit was valuable, then under the mining laws the locator of the deposit was entitled to the mineral patent. This was ruled to be a nondiscretionary act by the Secretary and no EIS need be prepared. The reason was simply that the Secretary was performing the ministerial act of granting a patent and had no discretion not to grant the patent once the deposit was shown to be valuable. An EIS could not be helpful in this situation.

As for the initial long-term contracts, the Administrator had no discretion about whether to offer the contracts, whether to negotiate them, or whether they should be long-term. These are set forth in section 5(g) of the Regional Act. An EIS could not be helpful in these matters and thus need not be prepared on these matters. If an EIS were required at all it would be on what is left over in the contracts, the discretionary elements that are subject to negotiation.

b. Contracts must be offered by September 5, 1981. Section 5(g)(1) of the Regional Act, Pub. L. 96-501, directs the Administrator of BPA to offer initial long-term power sales contracts by September 5, 1981: "As soon as practicable within nine months after the effective date of this Act, the Administrator shall commence necessary negotiations for, and offer, initial long-term contracts . . . simultaneously to [BPA's customers]." The effective date of the Regional Act was December 5, 1980. Nine months from then is September 5, 1981. The contracts must be negotiated and offered "as soon as practicable" but in no event later than September 5, 1981.

There were, in fact, over 140 contracts offered by September 5, 1981. To offer these contracts, BPA first negotiated contract issues, took public comment on these issues, and then developed draft "prototype contract" provisions. After public comment and further negotiation, the prototype contract was individualized to take into account each of the individual systems of BPA's more than 140 customers while maintaining consistency in all major respects with the prototype.

There were six relevant steps in the decisionmaking process that began on December 5, 1980, and will end by September 5, 1981:

(1) Negotiations leading to a draft prototype contract with proposed contract terms. Negotiations began shortly after passage of the Regional Act. There was a series of technical meetings, town hall meetings, and negotiation sessions with customers. All meetings and negotiation sessions were publicly announced in advance and were open to the public. One purpose of the negotiations was to define issues and develop alternatives. A draft prototype contract was written in late May and early June.

(2) The public was invited to raise issues to be discussed in public meetings held in May on the contracts.

(3) Draft prototype contract with proposed contract terms. BPA published a summary of the proposed contract provisions and announced the availability of the draft prototype contract and an environmental report in the Federal Register on June 12, 1981 (46 Fed. Reg. 31238). The draft prototype contract for the first time presented the issues and alternatives (as they existed at that time) with sufficient clarity so that alternatives could be meaningfully evaluated. At this time BPA first had a proposal that would normally trigger preparation of an EIS. The 30-day review period on the draft prototype contracts and environmental report closed on July 13, 1981.

(4) Negotiations leading to a prototype contract. BPA continued to negotiate in open meetings during the 30-day public comment period and continued to negotiate until mid-August. Public comment ended by mid-July.

(5) Decisions on a prototype contract. After the public comment period closed, negotiations continued and decisions were made on the provisions of the prototype contract. These decisions were made on the basis of (1) the proposed contract terms, (2) comments received on the proposed terms, and (3) continued negotiations, as well as on the basis of principles of negotiation and the information available to all parties. Decisions were made in the period of time from mid-July to mid-August. The most significant issues related to the initial long-term contracts were resolved in this period. An EIS, if it were to have been prepared and be useful to decisionmakers, would have to have been available before this

period began, before decisions were made. At the end of this period, in mid-August, BPA prepared a prototype contract which was the basis for the individual power sales contracts.

(6) Offer of initial long-term contracts. The more than 140 individual contracts were particularized to each customer but remained consistent in all major respects with the prototype contract. The latter part of August was reserved for editing, typing, copying, and mailing all contracts so they would be received by all customers before the September 5, 1981, deadline.

c. EIS's are required "to the fullest extent possible." The procedural provisions of section 102(2) of NEPA, Pub. L. 91-190, are preceded by the phrase "to the fullest extent possible." As a general rule this has been interpreted by the courts as meaning that these procedures "must be complied with to the fullest extent, unless there is a clear conflict of statutory authority." Calvert Cliffs' Coordinating Comm. v. AEC, 2 ERC 1779, 1782-83 (D.C. Cir. 1971) (emphasis original; footnote omitted). The leading case on statutory conflict, Flint Ridge v. Scenic Rivers Assn., 8 ERC 2137, 2142 (Sup. Ct. 1976), holds that the procedures required by NEPA are to be complied with unless "there would be clear and fundamental conflict of statutory duty."

When there is a conflict between NEPA and other statutory mandates, the other statutory mandates control. NRDC v. Berklund, 13 ERC 1948, 1952 (D.C. Cir. 1979) (The limit of an agency's duty to comply with the NEPA "is reached when the NEPA policies conflict with an existing statutory scheme."). A substantial number of cases have held that agencies need not prepare EIS's when there is a statutory mandate requiring that actions be undertaken in a short period of time. Examples are the Flint Ridge case, above (30 days); 1000 Friends of Oregon v. Kreps, 11 ERC 1098, 1099 (D. Ore. 1977) (60 days); and Kadillak v. Anaconda Co., 14 ERC 1479, 1482-83 (Mont. Sup. Ct. 1979) (60 days).

d. There was no proposal on which to write an EIS until June 12, 1981. An agency need not, indeed cannot, begin preparation of an EIS until the proposal has matured sufficiently to permit meaningful analyses of impacts and development of alternatives. The CEQ regulations recognize that a proposal must have substantial form before an EIS can be meaningfully prepared:

> "'Proposal' exists at that stage in the development of an action when an agency subject to the Act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated." 40 C.F.R. 1508.23 (emphasis added).

CEQ used the phrase "at that stage in the development of an action," recognizing that at the earliest stages the proposal may be too tenuous or too poorly defined to begin EIS preparation. That is the case here. From

December 1980 through May 1981, BPA was involved in meetings and negotiations, developing the issues around which contract terms could be proposed. A unique characteristic of the Regional Act is the fact that Congress, in section 5(g)(1), ordered BPA to negotiate contract terms with its customers. During the negotiation process, BPA presented contract terms for discussion. These were not final proposals for Federal action. By its nature, the negotiation process forces alterations or rejections of preliminary proposals until an agreement on a proposal is reached. Only at this time--with the contract terms in their proposed form--could environmental considerations be properly addressed.

The Supreme Court has explicitly rejected the contention that preparation of an EIS must begin prior to formulation of a proposal. Kleppe v. Sierra Club, 427 U.S. 390, 404-06 (1976); Aberdeen & Rockfish R. Co. v. SCRAP, 422 U.S. 289, 320 (1975). It would have been impracticable to prepare an EIS prior to negotiations since the contract modifications that occurred during the negotiation process would have necessitated continual revision of an EIS. The Kleppe court stated its displeasure with any devices that "would result in the preparation of a good many unnecessary impact statements." Kleppe, at 406. Subsequently, this circuit has agreed that "an agency can only be required to analyze specific actions of known dimensions." Sierra Club v. Hathaway, 579 F.2d 1162, 1168 (9th Cir. 1978).

Here, as stated earlier, it would have been impossible to evaluate the effect of BPA's action until the actual dimensions of the draft prototype contract were defined. This was accomplished only after the December through May negotiation period.

Three separate explanations can be made as to why an EIS could not have been started prior to June 12, 1981:

(1) There was no proposal until June 12, 1981, and therefore under the rules of EIS preparation described above no EIS need have been started before June 12, 1981. See 40 C.F.R. 1508.23.

(2) Even if BPA staff had attempted to begin EIS preparation on December 5, 1980, the date the Regional Act became effective, draft EIS preparation would have been suspended and still could not have begun sooner than June 12, 1981, under the rules on scoping. See 40 C.F.R. 1501.7.

From December 1980 through May 1981, BPA held meetings and negotiation sessions to develop the issues around which contract terms could be proposed. Significant issues were not fleshed out on the effective date of the Regional Act, but became evident during the December through May period.

The procedure used during this period was the same as would be used to scope an EIS prior to preparation of the draft EIS. Several aspects of this period of negotiations were the same as aspects of the scoping process, which is used:

--To determine the scope of the issues to be addressed. 1501.7(a)(2); 1508.25.

--To "eliminate from detailed study the issues which are not significant." 1501.7(a)(3).

--For "identifying the significant issues related to a proposed action." 1501.7(a)(2).

--To "identify other environmental review and consultation requirements." 1501.7(a)(6).

Because of the indefinite nature of the contract terms as they existed in December, the scoping process would have taken the same amount of time prior to preparation of any EIS as it did take to develop concrete contract terms. Either way it is viewed leads to the same result: draft EIS preparation could not have begun prior to June 12, 1981.

(3) The rulemaking analogy. Development of an initial long-term contract offer has been analogized to a rulemaking. In rulemaking, a proposed rule is developed and notice of availability is published. A comment period follows, after which the proposed rule and comments received on the proposed rule are turned into a final rule. To apply NEPA to this decisionmaking, the draft EIS would be issued at the same time as the proposed rule, 40 C.F.R. 1502.5(d), and the comment periods on both would run concurrently. The analogy is that BPA's proposed contract (the prototype contract issued on June 12, 1981) was viewed as roughly equivalent to a proposed rule, but actually with one important distinction. In a rulemaking, the agency unilaterally develops the proposed rule and thus the agency can simultaneously prepare the proposed rule and the draft EIS, because the agency has complete control over the elements of both. The distinction that separates rulemaking from BPA's contract development is that BPA had to, by law, negotiate the terms of the proposed contract, unlike agencies that unilaterally develop the terms of a proposed rule. It is not possible to simultaneously negotiate proposed contract terms and also prepare an EIS because BPA does not control the negotiation process. Proposed terms can only be developed by compromise and mutual agreement. After agreement (after negotiation), it can be said for the first time that BPA had a proposal. This is when preparation of an EIS could have begun, on June 12, 1981.

e. An EIS, if one were to have been prepared, would have had to be ready by July 13, 1981. One of the major purposes of an EIS is to put environmental information in front of decisionmakers before decisions are made.

> "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."
> 40 C.F.R. 1500.1(b) (emphasis added).

The CEQ's implementing regulations are replete with rules and admonishments to get EIS's done early, have them available before commitments are made, and use them in decisionmaking. See, for example, 40 C.F.R. sections 1501.1(a), 1501.2, 1502.1, 1502.5, 1505.1(d), 1506.1, 1506.10, and 1508.23.

Decisions on the terms of the initial long-term contracts were made in the period running from mid-July 1981, to mid-August 1981. Some decisions were made early in the period, negotiations continued and some decisions were made later, but all decisions were made by August 24, 1981. The reason decisions were made over a period of time rather than in a single moment is, again, that the offer had to be negotiated, negotiations had to be in good faith, and terms could not be offered on a take-it-or-leave-it basis. In order to meet with all the parties and deal with all the issues, a period of time was needed. Given the newness and complexity of the issues, it is little short of amazing that negotiations in fact were concluded in the short period that was available.

f. An EIS, if one were to have been prepared, would have had to be prepared in 30 days.

BPA staff could not have begun preparation of an EIS before June 12, 1981. To be useful to decisionmakers an EIS would have to have been complete by July 13, 1981. This would have left around 30 days to prepare an EIS. "It is inconceivable that an EIS could, in 30 days, be drafted, circulated, commented upon, and then reviewed and revised in light of the comments." Flint Ridge v. Scenic Rivers Assn., 8 ERC at 2141. A number of other courts have held that agencies operating under short deadlines of 30 and 60 days need not prepare an EIS.

It takes a year or more to prepare an EIS, according to the CEQ. 46 Fed. Reg. 18037 (1981). Agencies in fact often find it takes upwards of 2 years to prepare an EIS on complex proposals. Certainly the initial long-term contracts rank among the most complex of Federal proposals, meaning an EIS on this proposal would probably take up to two years.

g. There is a conflicting duty imposed by the Regional Act and the NEPA. The Regional Act requires the Administrator to negotiate and offer power sales contracts and gave the Administrator only 9 months to do this. More than 6 months has been spent in negotiation as required by law to arrive at proposed contract terms. One month was reserved for public review and comment. A little under 2 months is reserved for decisionmaking and producing over 140 power sales contracts.

The Administrator of BPA would have had around 30 days--the period of public review and comment--in which to prepare an EIS. This was the time between when BPA first had proposed power sales contract provisions available and when decisionmaking must begin. It was not possible to prepare an EIS on proposed contract terms before such terms came into existence. If an EIS were to be useful to decisionmaking, it would have to be complete before decisions are to be made.

It is not possible to prepare an EIS in 30 days. The United States Supreme Court has recognized that draft EIS's "on simple projects prepared by experienced personnel take some three to five months to complete." Flint Ridge v. Scenic Rivers Assn., 8 ERC at 2141, n. 10. After the draft, of course, there is a public comment period, a final EIS, and a waiting period before decisions can be made. Furthermore, offering long-term power sales contracts to over 140 customers is far from a "simple project."

It is not possible to reconcile these conflicting statutory duties. In summary,

--it was not possible to prepare an EIS in the approximately 30 days that were available;

--there is a clear and fundamental conflict between the Regional Act, section 5(g)(1), which requires the Administrator to offer initial long-term contracts by September 5, 1981, and NEPA, section 102(2)(C), which requires EIS's "to the fullest extent possible;"

--this statutory conflict is unavoidable, it being impossible to have begun preparation of an EIS before proposed contract terms were developed in early June and impossible to prepare an adequate impact statement in the time that was available; and

--therefore in this instance there is no requirement to prepare an EIS.

h. Availability of environmental report. An exemption from NEPA section 102(2)(C) does not imply an exemption from all procedures of NEPA section 102(2). These other procedures are applicable to decisions on the power sales contracts. BPA staff prepared an environmental report describing the environmental issues important to these decisions. A copy of the draft report was available for review and comment until July 13, 1981. A copy of the final report will be available in early September.

3. Over a period of time beginning in September 1979, BPA staff identified and considered a variety of approaches that might have permitted preparation of an EIS, but each was rejected as being infeasible.

a. Begin preparation of a draft EIS earlier. BPA staff briefly considered the possibility of starting preparation of an EIS on the day the Regional Act became effective, December 5, 1980. This might have allowed as much as 7 months or so to complete an EIS. This approach was rejected as being infeasible because there were no proposed terms, there was no proposed language, on which to start environmental analysis. It was physically impossible for BPA staff to sit down and scope an EIS at this early stage because so little was known about the way the contracts might ultimately read.

This position is supported by the CEQ's rules on scoping, 40 C.F.R. 1501.7. An agency first goes through a scoping process before it prepares

a draft EIS. One of the elements of the scoping process is to "determine the scope," 1501.7(a)(2). "Scope" is defined at 1508.25, and includes, for example, the range of alternatives in an EIS, 1508.25(b). This is precisely what the negotiation period from January through May was used for--to determine the range of alternatives that the parties were willing to negotiate within. This period was, essentially, scoping. BPA staff could not have started writing a draft EIS until scoping was done, or until about June 12, 1981.

Further support for the position that BPA staff could not have started EIS preparation on December 5, 1980, comes from Department of Energy (DOE) procedures implementing NEPA. BPA is an organizational entity within DOE and thus follows DOE's procedures. Section A(4)(e) of DOE's procedures, 45 Fed. Reg. 20697 (1980), requires an "EIS implementation plan" after scoping and before EIS preparation. To prepare an implementation plan, the "scope" of the EIS has to be explained. Section A(4)(e)(1)(i). See also DOE Order 5440.1A, section 4e. Clearly BPA staff could not have begun preparation of a draft EIS until after scoping and an implementation plan had been drawn up.

b. Extend the date for offering the initial long-term contracts beyond the 9-month deadline until whatever time it would take first to prepare an EIS. This approach is based on two interpretations of the Regional Act:

--First, that section 2 of the Regional Act says that the purposes of the Act are "intended to be construed in a manner consistent with applicable environmental laws." Reading NEPA and the Regional Act together, then, would lead to the conclusion that an EIS should first be prepared, then the contracts offered. BPA staff rejected this approach as being inconsistent with the purpose of having a 9-month deadline and the importance of these contracts to implementing major portions of the Regional Act. Without contracts, resource acquisition under section 6 is uncertain and so are load forecasts. Furthermore, section 2 refers only to "applicable" environmental laws. The NEPA EIS requirement is not applicable considering the short deadline in the Regional Act and implied exemption from NEPA.

The question whether agencies can extend statutory deadlines in order to make time to prepare an EIS has been presented to the Supreme Court in Flint Ridge v. Scenic Rivers Assn., 426 U.S. 776 (1976). The rule in Flint Ridge is that there must be a "basis in the statute to allow" an extension in order to prepare an EIS. Id. at 790. There was no such basis in the Flint Ridge case and there is no such basis in the Regional Act.

--Second, that the 9-month deadline did not carry penalties for noncompliance and thus should be viewed as hortatory only, not mandatory. BPA staff rejected this view as not in keeping with the plain meaning of the words of Congress. Furthermore, the 9-month deadline has the purpose

of getting major portions of the Regional Act moving, as explained above, and thus meeting the deadline is sound government as well as sound management.

c. Prepare as much of an EIS as possible within the time available. This approach was based on a reading of NEPA's "to the fullest extent possible" language as meaning "prepare an EIS to the extent possible within the time available." BPA rejected this approach as a wasteful exercise with no precedent in government or in the NEPA case law. Furthermore, there is no provision for this in the CEQ's regulations. This approach may have resulted in preparation of parts of a draft EIS in the 30-day period that was available, but BPA could not have undertaken the kind of comparative analysis needed in an EIS. See 40 C.F.R. 1502.14. BPA staff viewed this issue as being either black or white, either there was time to prepare an EIS following the rules or there was not, and in this case 30 days clearly was not enough time.

d. A speedy "fast track" EIS with short review periods as provided under the CEQ regulations. 40 C.F.R. 1506.10(d). BPA staff calculated that by reducing the review period on the draft EIS from 45 days down to 15, and review on the final from 30 days to 10, BPA could save 50 days of review period. See generally 40 C.F.R. 1506.10. However, there would still be 25 days of review time required, and at any rate these periods are insignficant overall considering the year or more it would take to prepare an EIS.

e. Start a draft EIS on June 12, 1981, and take until September 5, 1981, to complete the final. This schedule would allow almost 3 months for EIS preparation. As detailed above, EIS's are to be ready before decisions are made if they are to be useful. Preparing after-the-fact EIS's makes a sham of NEPA and certainly is contrary to CEQ regulations on timing. See 40 C.F.R. 1502.5.

f. Prepare an environmental assessment (EA) and finding of no significant impact (FONSI) in lieu of an EIS. This approach has its appeal in the generally shorter time periods required for an EA and FONSI. A FONSI might be justified on two separate grounds:

--First, that offering the initial long-term contracts does not in itself change anything in the environment. The reasoning follows a line of cases holding that mere change in ownership does not change the status quo from an environmental perspective and thus a FONSI is reasonable. Westside Property Owners v. Schlesinger, 597 F.2d 1214, 1217-8 (9th Cir. 1979); Burbank Anti-Noise Group v. Goldschmidt, 623 F.2d 115 (9th Cir. 1980), cert. denied 101 S.Ct. 1481; Marino Property v. Port of Seattle, 567 P.2d 1125 (Wash. Sup. Ct. 1977). BPA staff rejected this view as not being supportable by the record. Proposed contract terms may very well change the status quo from an environmental point of view.

--Second, that the impacts of the initial long-term contracts are socioeconomic only and thus there is no significant impact on the quality of the human environment so far as "land, air, and water" goes.

Breckenridge v. Rumsfeld, 537 F.2d 864 (6th Cir. 1976), cert. denied, 429 U.S. 1061 (1977). This view was also rejected on the basis of not being supported by the record. Some proposed contract clauses may affect river operations, for example, and not affect only economic interests. A point has been raised whether the residential exchange contracts could be considered separately from power sales contracts, and this approach was also rejected. The contracts probably are related as connected actions, 40 C.F.R. 1508.25(a), and thus must be considered together in the same environmental document.

g. Add a contract clause that holds the contract open to renegotiation and amendment on the basis of a subsequently prepared EIS. This approach would allow as much time as needed to prepare an EIS, as there would be no deadline to meet. This approach would also insert an element of uncertainty into the contract which is not desirable and would likely have made the contracts unacceptable to many, if not most, customers. BPA staff rejected this approach primarily on the grounds that it was not required by law that BPA insert this clause into the contracts. NEPA does not require that agencies modify their organic statutory duties in order to fit NEPA into existing processes. That would be "the tail wagging the dog," disapproved by at least one court. State of Louisiana v. FPC, 503 F.2d 844, 877 (5th Cir. 1974). Furthermore, even if environmental information in a subsequent EIS indicated that contract amendment is a good idea, there is no effective way at that late date to ensure agreement to amend the contracts and carry out environmental objectives.

PART III. RELATED DOCUMENTS INCORPORATED BY REFERENCE

1. Several documents have been prepared on the subject of BPA's compliance with the procedures of NEPA. Those listed in this part are available from:

Ms. Donna Geiger
Public Involvement Coordinator
Bonneville Power Administration
P.O. Box 12999
Portland, OR 97212

2. List of documents.

a. January 27, 1981, memorandum from John B. Pyrch, Senior Environmental Specialist, subject "Environmental Compliance for Power Sales Contracts Required by the Regional Act," 4 pages.

Outline of the procedure BPA will use to comply with NEPA.

b. March 4, 1981, memorandum from John B. Pyrch, Environmental Specialist, subject "Documentation of Statutory Conflict Between NEPA 102(2)(C) and the PNEPPCA Requirement to Offer Power Sales Contracts in Nine Months," 1 page.

Transmittal memorandum for documentation (item c below) that a statutory conflict exists between NEPA and the Regional Act.

c. Undated, "Application of the National Environmental Policy Act Section 102(2)(C) to the Power Sales Contracts Required under the Pacific Northwest Electric Power Planning and Conservation Act," 10 pages.

A BPA staff report tracing the statutory requirements of NEPA and the Regional Act, reviews the time ordinarily required for preparation of EIS's, examines the possibility of shortening the review periods of an EIS to allow time to prepare an EIS, and concludes that an EA is not a substitute for an EIS in this case.

d. April 16, 1981, memorandum from the BPA Environmental Manager, subject "Statutory Conflict Between NEPA 102(2)(C) and PNEPPCA Contracts," 1 page.

Transmittal memorandum covering the staff report listed above, to DOE's NEPA Affairs Division, requesting DOE staff assistance on the question of statutory conflict between NEPA and the Regional Act.

e. May 29, 1981, memorandum from Robert J. Stern, Director, DOE NEPA Affairs Division, subject "National Environmental Policy Act (NEPA) Compliance, Initial Long-Term Contracts With Existing Customers," 3 pages.

Memorandum expressing "preferable NEPA strategy" of preparing a programmatic EIS to be filed as a final by September 1, 1981, and requesting BPA comments on whether this approach is possible.

f. June 7, 1981, memorandum from John E. Kiley, BPA Environmental Manager, subject "Long-Term Power Sales Contracts and NEPA Compliance," 2 pages.

Memorandum concluding that the strategy outlined in above memorandum is not feasible.

g. August 20, 1981, memorandum from Omar W. Halvorson, BPA Assistant General Counsel, subject "BPA Power Sales Contracts--Decision Not to Prepare an EIS," 2 pages.

Memorandum concluding BPA has the necessary authority to proceed as deemed appropriate to comply with NEPA.

h. August 24, 1981, memorandum from Stephen H. Greenleigh, DOE Assistant General Counsel for Environment, subject "BPA Power Sales Contracts--Application of DOE Order 5440.1A," 1 page.

Memorandum agreeing that BPA has the necessary authority to proceed as it deems appropriate in complying with NEPA.

i. August 26, 1981, memorandum from Gabrielle Foulkes, Environmental Specialist, subject "Minutes from Administrator's Briefing on Environmental Impacts of Contract Issues; August 12, 1981," 8 pages.

Memorandum summarizing the points made at a briefing session held on August 12, 1981, attended by the Administrator, Deputy Administrator, members of the Environmental Task Force, and others.

PART IV. ADMINISTRATOR'S CONCURRENCE

I concur with the findings made in this memorandum.

SEP 1 2 1981
Date

Administrator

OLSchmidt:gm/amy:5056B

cc:
O. Halvorson - APG
O. Schmidt - APG
T. Miller - APG
H. Spigal - APP
J. McLennan - PB
J. Pyrch - PBE
Official File - SJ
Adm. Chron. File - A