Summary Non-Federal Participation in AC Intertie Final Environmental Impact Statement

Background

In April 1988, Bonneville Power Administration (BPA) published the Intertie Development and Use Environmental Impact Statement (IDU eis). This eis studied the environmental and economic effects of the use of the Pacific Northwest-Southwest Intertie (Intertie), including the proposed Third Alternating Current (Third AC) Intertie addition. The Third AC project is part of the Intertie, authorized by Congress to accomplish three major objectives: (1) to provide an additional market for surplus BPA power to enable BPA to increase its revenues and thereby help BPA repay the U.S. Treasury in a timely manner; (2) to serve loads in the Pacific Northwest (PNW) and Pacific Southwest (PSW) more economically by taking advantage of diversity of load patterns and resource types between the two regions; and, (3) to provide surplus PNW energy, when available, to displace higher-cost PSW generation. (Non-Federal Participation Study, March 1988)

BPA, PGE, and PacifiCorp each own portions of the facilities north of the Oregon-California border comprising the PNW-PSW Intertie. Ownership of the existing PSW portion is divided among private and public utilities and the Western Area Power Administration. The southern portion of the Third AC Intertie is called the California-Oregon Transmission Project (COTP). The COTP resulted from a July 1984 congressional authorization that directed the Secretary of Energy to participate with non-Federal entities in developing the COTP.

In a September 1988 Record of Decision subsequent to the IDU eis, BPA explained its decision to proceed with the Third AC construction project using its own funding. At that time, BPA's decision on non-Federal ownership access to the added capacity was deferred to a separate non-Federal participation policy development process. BPA must make prudent use of transmission facilities such as the Intertie with California for transfers into and out of BPA's system. As a Federal agency owner and operator of transmission facilities linking the PNW and

PSW, BPA must provide to non-Federal parties reasonable access to Intertie transmission capacity for extra-regional transactions. BPA has provided access to existing AC and DC Intertie capacity under the provisions of the May 17, 1988, Long-Term Intertie Access Policy (LTIAP), adopted after examination in the IDU eis.

Members of Congress asked BPA to give full consideration to non-Federal participation in the financing and use of the Third AC Intertie expansion. Also, utilities were interested in gaining transmission access under more flexible terms and for longer than the 20-year maximum terms allowable under the LTIAP to obtain the greater value of longer-term commitments. The NFP eis will lead to a decision on inclusion of non-Federal parties in the funding and use of the added AC Intertie transmission capacity.

Purpose of and Need for Action

BPA and other PNW entities need interregional transfers with the PSW region using the PNW/PSW Intertie.

The means of providing interregional transfers must serve the following purposes:

1. Provide fair Intertie access to non-Federal parties;
2. Support BPA's obligation to assure recovery of the costs of the Federal Columbia River power and transmission systems;
3. Support acceptable environmental quality;
4. Benefit overall economic and operational efficiency of the PNW and PSW systems connected by the Intertie.

Alternatives and Preferred Alternatives

BPA is considering alternatives in two areas: first, non-Federal access to the AC Intertie; and second, BPA Intertie marketing to make better economic use of BPA's hydro system resources. The alternatives selected at the completion of the review process may include action in both areas. BPA's preferred alternative for non-Federal Intertie access is the Capacity Ownership alternative combined with the Increased Assured Delivery -- Access for Non-Scheduling Utilities alternative; the preferred alternative for BPA Intertie marketing is the Federal Marketing and Joint Ventures alternative.

Table S-1 Summary of NFP eis Alternatives

Alternative:	Features:

No Action	.	Non-Federal access under LTIAP only. All 800 MW allocated for Assured Delivery assumed fully used in accordance with LTIAP Exhibit B limitations. Federal marketing and joint ventures with PSW parties assumed to be existing contracts only. Third AC assumed operational.

Non-Federal Intertie Access Alternatives

Capacity Ownership	.	Non-Federal access under LTIAP assumed to remain fully used. 725 MW open for Capacity Ownership, assumed fully used. Two generic contract scenarios: seasonal exchanges, firm power sales. Additional scenario included beyond the preferred 725 MW offer with 1,450 MW assumed available for Capacity Ownership.
Increased Assured Delivery	. .	725 MW added to 800 MW LTIAP Exhibit B. Additional scenario with 1,525 MW (725 MW + potential 800 MW more). Also looks at removal of current LTIAP constraints on contract type.
Increased Assured Delivery --Access for Non-Scheduling Utilities	.	Same as Increased Assured Delivery except assumes that non-scheduling parties interested in Capacity Ownership are eligible for Assured Delivery.
Economic Priority	. .	Non-Federal access must meet contract-specific economic benefit test to be applied by BPA. Two generic contract scenarios: seasonal exchanges, firm power sales.

BPA Intertie Marketing Alternatives

Federal Marketing & Joint Ventures	. .	Assumes new BPA contracts to increase value of hydro fish operations. New contracts would use hydro flows for fish. Contracts to be flexible as to type and size.

- Example generic contracts studied: (A) 1,100 MW seasonal exchange of BPA power/capacity for fall/winter energy, (B) 1,100 MW joint venture 10-month firm power sale with 2-month power/energy exchange.
- Non-Federal access via joint ventures.
- Additional scenario addresses potential contracts up to 2,200 MW.

Environmental Effects of Non-Federal Intertie Access Alternatives

1. Effects of Increased Non-Federal Autonomy. The non-Federal access alternatives differ from each other principally in the degree of autonomy and related business certainty they present to the parties. The differences in autonomy and business certainty may increase the probability of long-term firm transactions and new resource development, but the increased probability is not quantifiable. Differences in non-Federal autonomy would not change the west coast market influences which affect the desirability of seasonal exchanges, power sales, or other types of contracts. It should be noted that the removal of market obstacles assumed for the Capacity Ownership alternative may be the law of the land under the transmission access provisions of Section 721 of the 1992 Energy Policy Act.

2. Type of Contract. Whether Intertie contracts were predominantly seasonal exchange or firm power sale did produce environmental differences for both regions, as described below for marketing alternatives. Capacity Ownership includes the greatest degree of utility flexibility of use and autonomy and therefore less business uncertainty for proposed transactions. Capacity Ownership might therefore result in more firm contracts of any type compared to No Action, Assured Delivery, or Economic Priority, but not by a quantifiable amount. Information on proposed transactions indicated that a mix of seasonal exchange and power sales contracts would be likely. Hypothetical new resource development cases were reviewed to provide information on maximum effects. (See Environmental Effects of Combined Alternatives, below.)

3. Operation and Development of Resources. The impact analysis for non-Federal Intertie access alternatives did not reveal significant differences among the alternatives except to the extent that the features of the alternatives influenced the assumed mix of Intertie contract types. These impacts are described below under Environmental Effects of Marketing Alternatives.

4. Other Issues. The Capacity Ownership alternative may require decisions allocating the available capacity among requesters. The allocation variations studied did not cause significant environmental changes. The Capacity Ownership alternative also incorporates a BPA policy on PNW Power Act Section 9(c) addressing a utility's ability to request future additions to its requirements service in view of resource exports outside the region. This policy was found to have no significant environmental effects in that BPA resource acquisitions would be unchanged.

Environmental Effects of Marketing Alternatives

The Federal Marketing and Joint Ventures alternative showed potential to produce some operational and environmental differences compared to No Action due to seasonal operations and resource development. This would apply equally to non-Federal access alternatives to the extent they may result in similar types of contracts. The No Action case with respect to Federal marketing and joint ventures consists of existing Intertie long term contracts and projected long term nonfirm marketing. The impacts associated with Federal marketing or non-Federal access

were strongly affected by the assumed predominant contract type -- seasonal exchange or firm power sale.

1. Seasonal Resource Operations and Environmental Effects. The potential operation changes due to increased seasonal coordination between the PNW and PSW were variable and sensitive to assumed loads and hydro conditions. Resulting air emissions, for example, could increase or decrease for the same alternative as assumed loads and hydro conditions were varied. The operations changes were generally small in magnitude whether positive or negative (except in cases of high new resource acquisition addressed in connection with firm power sales below). Under seasonal exchange contract scenarios for any non-

Federal access or BPA marketing alternative, PNW annual average generation of all resource types tended to decrease slightly. Firming the May-June assumed fish flows shifted a small amount of PNW thermal generation from winter to May and June, as would be expected.

Analysis of generic contracts showed that annual average net amounts taken by PSW from the PNW decreased, increasing net annual PSW generation and therefore air emissions somewhat and shaping some generation from summer to fall/winter. However, experience with actual shorter term exchange contracts indicated that the seasonal shaping of generation may reduce overall annual nitrogen oxides (NOx) emissions despite the increase in annual generation by use of plants with lower NOx emission rates. Seasonal exchanges may defer some PNW thermal resource acquisitions in the long run, such as gas-fired combustion turbines to support winter service. Deferral of thermal resource construction in the PSW is also possible and, to some degree, is already incorporated into California resource planning processes. Seasonal exchanges are associated with the environmental benefit of increased Columbia River anadromous fish passage facilitated by increased spring flows.

2. Air Impacts Under Firm Power Sales. Under firm power sales scenarios for any alternative, PNW emission of criteria air pollutants and other impacts of power generation increase somewhat due to addition of new resources to provide the firm power. The seriousness of environmental impacts and health significance of the new emissions is dependent on siting. The increased PNW air emissions would be associated with displacement of PSW emissions. PSW air quality effects would be small compared to total California air emissions, and the overall impact would be positive.

3. Resource Acquisition Changes and Environmental Effects. Seasonal exchange scenarios resulted in reduced resource acquisitions by all parties. The resource acquisition effects of hypothetical large power sales cases are potentially significant. The California State regulatory environment would not favor in-State thermal resource additions based on PNW-PSW Intertie contracts. However, municipal and publicly owned utilities in California are not subject to the same regulation and may have an interest in adding resources for Intertie transactions. As explained for non-Federal access alternatives, above, PNW or Canadian

parties may have incentive to add resources to serve PSW contracts. Utilities may advance their resource stacks, resulting in added conservation and renewable resources as well as thermal generation. Some utilities and independent power producers may also plan resource additions largely for export.

Cumulative Environmental Effects of Combined Alternatives

If more than one of the alternatives were adopted simultaneously and if power sales predominated on the Intertie, the development of thermal-type generating resources could be accelerated on the west coast. The effects of accelerated resource development could be of concern, but would only occur if high levels of Intertie firm power sales contracts are assumed to be economically attractive to many parties. Long-term west coast electric power market projections, economic uncertainty, and the risk management strategies of many utilities and utility regulators indicate that Intertie contracts are more likely to be a mix of products, including seasonal exchanges, firm power sales, capacity and other services, and economy sales. This mix of contracts would not be likely to result in a great acceleration of new resource development.

Since resource development is a key environmental concern, a large hypothetical power sales export case was constructed to display a likely upper bound. This large hypothetical case assumed adoption of the Capacity Ownership alternative for 725 MW, the Federal Marketing and Joint Ventures alternative, and other possible access expansions (additional Capacity Ownership or Increased Assured Delivery for approximately 800 MW). Under this hypothetical case, approximately 2,500 aMW of new resources could be developed for transfer on the Intertie. For the PNW, the maximum combustion turbine and coal plant development would be greater than the maximum cases studied in the Resource Programs eis for combustion turbine and coal development. Air emissions could increase between 6 and 35 percent over that projected in the Resource Programs eis. PSW new resource development could also increase if transfers to the PNW increased, for example, supplies of winter energy. Gas-fired combustion turbines would appear to be the resource type of choice. Increased west coast thermal resource additions could have environmental significance, but site location information would be needed to assess seriousness.


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