

Section 8: Administrator's Record of Decision on the 2000 Pacific Northwest Loads and Resources Study

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Section 8: Administrator’s Record of Decision on the 2000 Pacific Northwest Loads and Resources Study (The White Book)

I. Introduction

The 2000 Pacific Northwest Loads and Resources Study (White Book) establishes the Bonneville Power Administration’s (BPA) long range planning basis for supplying electric power to BPA customers. The White Book is not an operational planning guide, nor is it used for BPA rate setting purposes under section 7(i) of the Northwest Power Act. The White Book includes Federal system loads and resources and regional loads and resources with detailed technical appendices. The White Book provides projections of regional and Federal system loads and resource capabilities that BPA uses to calculate the firm load obligations it must serve over the planning period and those Federal system resources that are or will be available to meet those loads. It incorporates information on forecasted loads and resource capability obtained from (1) public agency and investor-owned utility (IOU) customers to determine their individual net requirements; (2) public agency and IOU customers through their annual data submittals to the Pacific Northwest Utilities Conference; (3) the Pacific Northwest Coordination Agreement (PNCA) Operating Committee; and (4) analysis of the Federal hydroelectric power system.

Over the past twenty years BPA published the White Book in accordance with the 1981 regional power sales contracts. Those contracts are now expired and under its new regional power sales contracts, BPA no longer has a contractual purpose for publishing the White Book. However, the White Book’s long range planning basis for supplying electric power remains important as a valuable planning document for both BPA and the region. BPA will continue to update it and make it publicly available. Therefore, this 2000 White Book updates the 1999 Pacific Northwest Loads and Resources Study and represents a projection of regional and Federal system load and resource capabilities to be used as input to BPA’s resource planning process.

II. Statutory Background

With the passage of the Northwest Power Act in December 1980, Congress directed BPA to assure the Pacific Northwest an adequate, efficient, economic and reliable power supply. *16 U.S.C. §839(2)*. In order to carry out this mandate, BPA was directed by Congress to offer new power sales contracts to its regional firm power customers and to plan and acquire firm resources sufficient to meet these firm power loads. *16 U.S.C. §839c(g)*. These initial contracts had provisions that, under certain conditions, allowed purchasers to add or remove firm resources. Notably, the load and resources as determined in White Book was referenced within such provisions.

Section 5(b) of the Northwest Power Act obligates BPA to serve, in accordance with the terms of contracts, the net firm power load requirements of utilities in the Pacific Northwest, including public bodies, cooperatives, and investor-owned utilities (IOUs), and under section 5(d) authorizes BPA to serve up to a defined amount of the firm power load requirements of its existing direct-service industrial (DSI) customers. *16 U.S.C. §839c(b) and (d)*. Under section 5(b), BPA is to provide firm power from the Federal system to meet the firm regional loads of a customer in excess of the firm resources, if any, which the customer must dedicate to use or has dedicated to use for service of its own regional firm loads. *16 U.S.C. §839c(b)(1)(A) and (B)*.

BPA is also to provide electric power for those loads that were served by a customer's dedicated resource, if a customer's dedicated resource is no longer available to serve its loads due to obsolescence, retirement or loss of the resource, or loss of contract rights.

Section 6(a)(2) of the Northwest Power Act obligates BPA to acquire sufficient resources on a planning basis to meet its firm load obligations, including its section 5(b) and 5(d) contract obligations. BPA's obligations to provide firm electric power to its utility customers for their regional firm loads and its contract obligations to provide firm power to its DSI customers comprise the largest portion of BPA's firm contract obligations. *16 U.S.C. §839c(b); §839c(d)*.

III. The 2001 Utility Power Sales Contract

In October 2000 BPA executed new five and ten year power sales contracts with public agency, IOU, and DSI customers. Power service under the contracts began October 1, 2001. The new contracts do not provide customers the ability to add or remove their firm resources based on determinations made under the White Book. Fixing the amount of the firm resources a customer will use to serve load over the contract period provides BPA greater certainty in determining the amount of its load obligations plus it gives BPA greater certainty in its resource planning responsibility.

The following sets forth BPA's firm 2001 power sales contract load obligations projected for the study period:

- Beginning October 1, 2001, this study assumes that BPA's public agency customers' net requirements will be met by BPA through September 30, 2011. These obligations range from 5,800 average megawatts in OY 2002 to 7,300 average megawatts in OY 2011;
- The agency's IOU obligation, that begins October 1, 2001, is up to 258 average megawatts through September 30, 2006. Beginning October 1, 2006, this analysis assumes BPA's obligation to the IOUs increases to 2,200 average megawatts through the end of the study period; and
- BPA's DSI customers signed 5-year contracts beginning October 1, 2001 through September 30, 2006. During this term, BPA's contract obligations to the DSIs can range up to 1,442 average megawatts. After September 30, 2006, Federal service to the DSIs is not assumed because the DSIs do not have signed contracts in place for service. This assumption does not represent a decision by BPA on post-September 30, 2006 firm DSI power sales.

III. Excess Federal Power

This White Book is not a recalculation of or change in BPA's earlier published calculations of the amount of excess Federal power that may be sold by BPA. However, this White Book does provide a calculation of surplus firm power under section 5(f) of the Northwest Power Act. Surplus firm power is the amount of firm power in excess of BPA's firm obligations. This power, if any, may be sold as either excess Federal power under Public Law (P.L.) 104-46, consistent with BPA's calculations of excess Federal power, or as surplus power under P.L. 88-552 and section 9(c) of P.L. 96-501 (Northwest Power Act). To the extent that BPA has annual amounts of planned firm power that are surplus to its firm contract obligations, BPA may market all or a portion of that surplus power as excess Federal power. The duration of these sales will be as stated in BPA's Excess Federal Power Policy. For purposes of this White Book, a sale of excess Federal power with delivery occurring for a year or more is considered a firm obligation on BPA and is included as a firm obligation in Federal loads.

CONCLUSIONS:

For the foregoing reasons the methodology and the assumptions in the 2000 White Book are approved.

Issued in Portland, Oregon on 15 March 2002.

/s/ Stephen J. Wright
Stephen J. Wright
Administrator and Chief Executive Officer

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Section 9: Glossary and Acronyms

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Glossary

Average Megawatts (aMW) – A unit of electrical consumption or production over a year. It is equivalent to the energy produced by the continuous use of 1 megawatt of capacity served over a period of 1 year. One average megawatt is equivalent to 8.76 gigawatt hours, 8,760 megawatt hours.

Bonneville Power Administration (BPA) – BPA is a power marketing agency, responsible for acquiring and delivering power to meet contractual obligations and electrical needs of its customers.

Canadian Entitlement Return for Canada – The public agencies' obligation to return the Canadian Entitlement allocation to Canada under the Columbia River Treaty that began April 1, 1998.

Canadian Entitlement Return for Columbia Storage Power Exchange (CSPE) – The public agencies' obligation to return the Canadian Entitlement allocation to Canada that was purchased by the CSPE participants. This agreement began to expire April 1, 1998 and will fully expire March 31, 2003.

Capacity – The maximum power that an electrical system or machine such as a hydro powered or thermal powered generating plant can produce under specified conditions.

Capacity Factor – The ratio of the average load on a machine or piece of equipment over a given period to maximum power rating of the machine or equipment.

Cogeneration – The sequential production of more than one form of energy, such as heat and electricity. Large industrial plants often are sources of electricity cogenerated as a byproduct of a heating process.

Columbia Storage Power Exchange (CSPE) – Sales to Northwest utilities of the Canadian share of downstream benefits created by the Canadian storage projects in the Columbia basin. These contracts began to expire April 1, 1998 and will fully expire March 31, 2003.

Conservation – Any reduction in electrical power as a result of increases in the efficiency of energy use, production, or distribution.

Critical Period – That portion of the historical streamflow record during which the recorded streamflows, combined with all available reservoir storage, produced the least amount of energy.

Dedicated Resources – Generating resources owned by a utility and used to serve its firm loads. These resources are declared in each utilities' power sales contracts with BPA.

Direct Service Industries (DSI) – A group of industrial customers that purchase electric power directly from BPA. Most DSIs are aluminum and other primary metal smelting plants.

Energy Load – The demand for power averaged over a specified period of time.

Export – Electricity generated in the Pacific Northwest that is sold to another region, such as California.

Federal Columbia River Power System (FCRPS) – The FCRPS consists of 31 Federal hydroelectric projects constructed and operated by the U.S. Army Corps of Engineers (COE), U.S. Bureau of Reclamation (USBR), plus BPA's transmission facilities.

Federal System – The Federal system is a combination of BPA's customer loads and contractual obligations, and resources from which BPA acquires the power it sells. The resources include plants operated by the U.S. Army Corps of Engineers (COE), U.S. Bureau of Reclamation (USBR), and hydroelectric projects owned by the city of Idaho Falls, Lewis County PUC, and Energy Northwest (ENW). BPA markets the thermal generation from the Columbia Generating Station, operated by ENW.

50-Hour Peak Capacity – The amount of capacity that can be sustained for 10 hours a day during peak-load hours for a 5-day week.

Firm Capacity – Maximum on-peak electrical energy that is considered assured to meet all contractual peak load requirements over a defined period for a customer or customer group.

Firm Energy – Electric power that is considered assured to the customer to meet all contractual energy load requirements over a defined period for a customer or customer group.

Fiscal Year – In this study, fiscal year (FY) is the 12-month period October 1 to September 30. For example, FY 2000 is October 1, 1999, through September 30, 2000.

Forced Outage Reserve – Capacity that is held in reserve, for use in case a generating unit malfunctions.

Forced Energy Sale (Spill) – Electrical energy that cannot be accepted into the system and must either be sold or spilled due to constraints and limitations of hydro projects.

Forebay – The portion of the reservoir at a hydroelectric plant that is immediately upstream of the generating station.

Historical Streamflow Record – The unregulated streamflow database of the 50 years from August 1928 to July 1978.

Hydroregulation – A study simulating operation of the Pacific Northwest electric power system that incorporates the historical streamflow record, monthly loads, thermal and other non-hydro resources, hydroelectric plant data for each project, and the constraints limiting each project's operation.

Independent Hydro – The output from hydropower plants that are not part of the regulated system. These plants are generally run-of-river. Examples are Cowlitz Falls or other smaller hydro plants whose output is used to serve load in the utility service territory in which it is located.

Import – Electricity that comes to the Pacific Northwest from another region. Examples would be purchases within the region from PowerEx, California, or western Montana.

Interruptible Loads – Loads that can be interrupted in the event of a power deficiency on the supplying system.

Intra-regional Transfer – Sales of power between two parties within the Pacific Northwest region. Sales from an IOU to a public utility within the region are intra-regional transfers, as well as FPS sales from BPA to public utilities. These also include SSP and chase product sales.

Investor-Owned Utility – A privately owned utility organized under State law as a corporation to provide electric power service and earn a profit for its stockholders.

Load Diversity – An adjustment applied to peak loads to reflect the fact that all peaking electrical demands do not occur simultaneously across the region.

Megawatt (MW)– A unit of electrical power equal to 1 million watts or 1,000 kilowatts.

Non-firm Energy – Electrical power produced by the hydro system that is available with water conditions better than those of the critical period without appreciably jeopardizing reservoir refill. It is available in varying amounts depending upon season and weather conditions.

Non-firm Energy Load – Load that is served with additional hydro energy that is available in better than critical period water conditions.

Non-utility Generation – generation that is owned by a third party that is not a utility, such as an industrial customer or an independent power producer.

Operating Year – For this study, operating year (OY) is the 12-month period August 1 through July 31. For example, OY 1999-2000 is August 1, 1999, through July 31, 2000.

Peak Load – The maximum demand for power during a specified period of time.

Power Sales Contract Obligation – Capacity and energy the Federal system is required to provide to public agencies and IOUs under their 1981 or 2002 power sales contracts with BPA.

PURPA Resources – Resources declared by utilities according to the Public Utility Regulatory Policies Act of 1978 (Public Law 95-617).

Region – The geographic area defined by the Pacific Northwest Electric power Planning and Conservation Act. It includes Oregon, Washington, Idaho, Montana west of the Continental Divide, portions of Nevada, Utah, and Wyoming that lie within the Columbia River drainage basin, and any rural electric cooperative customer not in the geographic area described above but served by BPA on the effective date of the Northwest Power Planning Act.

Regulated Hydro – Hydropower plants that are part of the Columbia River hydro system that is operated jointly by BPA, the Corps, and the Bureau. Most of these are part of the mainstem system on the Columbia and Snake Rivers.

Renewable Resources – Resources that use solar, wind, hydro, geothermal, biomass, or a similar source of energy that is converted into electricity.

Resource Acquisitions – Conservation or generating resources acquired in order to meet projected firm energy deficits.

Restoration – The obligation of public agencies that gained generation from the addition of Canadian storage to utilities that lost generation from it, according to the terms of the PNCA.

Spinning Reserves – Reserve generating capacity which is maintained for immediate response to load variations. This provides a regulating margin for controlling the automatic generation and frequency of power in the Federal system.

Surplus Firm Capacity – The maximum amount of assured electrical energy above the firm energy loads served by the power system.

Sustained Peak – The peaking capacity necessary to sustain a load for a given period of time.

Thermal Resources – Resources that burn coal, natural gas, or oil, or use nuclear fusion, to create heat which is then converted into electricity.

Acronyms

aMW	Average megawatt
AVWP	Avista Corporation, Washington Water Power Division
BPA	Bonneville Power Administration
CDWR	California Department of Water Resources
COE	United States Army Corps of Engineers
CRFA	Columbia River Flow Augmentation
CSPE	Columbia Storage Power Exchange
DOE	United States Department of Energy
DSI	Direct service industry
EIS	Environmental Impact Statement
ENW	Energy Northwest (formerly Washington Public Power Supply System)
EWEB	Eugene Water and Electric Board
ENI	Energy Northwest, Inc.
FCRPS	Federal Columbia River Power System
FERC	Federal Energy Regulatory Commission
FRE	Firm Resource Exhibit
FPS	Federal Power System
FY	Fiscal Year
ICP	Intercompany Pool (PGE)
IOU	Investor-owned utility
IPC	Idaho Power Company
IPP	Independent power producer
MPC	Montana Power Company
M-S-R	M-S-R Public Power Agency, whose members include the Modesto Irrigation District and the cities of Santa Clara and Redding, California
MW	Megawatt
NCPA	Northern California Power Agency
NMFS	National Marine Fisheries Service
NUG	Non-utility generating resources
OY	Operating Year
PGE	Portland General Electric
PG&E	Pacific Gas and Electric Company
PNGC	Pacific Northwest Generating Company
PNUCC	Pacific Northwest Utilities Conference Committee
PP&L	Pacific Power and Light Company
PSE	Puget Sound Energy
PUD	Public Utility District
PURPA	Public Utility Regulatory Policies Act
RCP	Resource Contingency Plan
SCE	Southern California Edison Company
SCL	Seattle City Light Company
SDG&E	San Diego Gas and Electric Company
SMUD	Sacramento Municipal Utility District
TPU	Tacoma Public Utilities
UPC	Utah Power Company
USBR	United States Bureau of Reclamation
WAPA	Western Area Power Administration