

Washington Public Power Supply System  
A JOINT OPERATING AGENCY

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August 16, 1974  
G02-74-19

Docket No. 50-397

Mr. A. Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
Office of Regulation  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Subject: WPPSS NUCLEAR PROJECT NO. 2  
ANNUAL FINANCIAL DATA

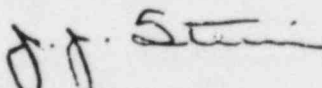


Dear Mr. Giambusso:

Washington Public Power Supply System submits herewith ten (10) copies of financial data from the participants in WPPSS No. 2 Project.

This information is submitted per 10CFR50, Appendix C, Paragraph III and updates the data shown in Amendment No. 11 to the PSAR. The information consists of two exhibits: Exhibit A provides a reference to other recent financial information filed by WPPSS, and Exhibit B includes updated information from a July 1, 1974, Revenue Bond sale for financing a portion of the WPPSS No. 2 Project.

Very truly yours,

  
J. J. STEIN  
Managing Director

JJS:GLG:cj

Enclosures

cc: PC Otness, Bonneville Power Administration

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EXHIBIT A

FINANCIAL STATEMENT OF PROJECT PARTICIPANTS

Reference is made to schedule III of Exhibit A in the WPPSS Nuclear Project No. 1 Application (Docket No. 50-460) for Financial Statement of the Project Participants.

NEW ISSUE

\$80,000,000

Ratings: { Moody's: A-1  
Standard & Poor's: AA

# WASHINGTON PUBLIC POWER SUPPLY SYSTEM

A Municipal Corporation and a Joint Operating Agency of the State of Washington

## Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1974

Dated: July 1, 1974

Due: July 1, as shown below

Principal and semi-annual interest (July 1 and January 1, commencing January 1, 1975) payable at The National Bank of Commerce of Seattle, Seattle, Washington, Continental Illinois National Bank and Trust Company of Chicago, Chicago, Illinois, and Morgan Guaranty Trust Company of New York, New York, New York. Coupon bonds in the denomination of \$5,000 registrable as to principal only and fully registered bonds in the denomination of \$5,000 or any multiple thereof and interchangeable. Continental Illinois National Bank and Trust Company of Chicago, is Bond Fund and Construction Fund Trustee.

The 1974 Bonds maturing on July 1, 1999 and on July 1, 2012 are subject to redemption by operation of the Bond Retirement Account at 100% plus accrued interest to satisfy sinking fund installments, on January 1, 1995 and on January 1, 2000, respectively, and on any interest payment date thereafter.

The 1974 Bonds may be redeemed prior to maturity, at the option of the Supply System on or after July 1, 1984, as a whole at any time, or in part in inverse order of maturities and by lot within a maturity, on any interest payment date at prices ranging from 103% for the period July 1, 1984, to and including June 30, 1989, to 100% after June 30, 1999, plus accrued interest to the date fixed for redemption in each case, as further described herein. The 1974 Bonds may also be redeemed under special circumstances as further described herein.

*Interest exempt, in the opinion of Bond Counsel, from federal income taxation under existing laws and regulations and specific rulings received from the Internal Revenue Service with respect to the Bonds.*

The 1974 Bonds are being issued to finance a portion of the cost of acquisition and construction of the Washington Public Power Supply System Nuclear Project No. 2. The Project's entire capability has been sold by the Supply System to certain statutory preference customers of the Bonneville Power Administration and assigned by such preference customers to the Bonneville Power Administration under Net Billing Agreements herein described. The 1974 Bonds and the interest thereon are payable solely from the Bond Fund created by the Resolution and the moneys pledged to such fund are limited to the income, revenues, receipts and profits derived by the Supply System through the ownership and operation by it of the Project, including all payments to be made to the Supply System pursuant to the Net Billing Agreements, and bond proceeds. The Net Billing Agreements provide that each such preference customer is obligated to pay the Supply System its share of Project annual costs whether or not the Project is completed, operable, or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output.

### AMOUNTS, MATURITIES, COUPONS AND YIELDS OR PRICES

Amount	Due	Coupon	Yield or Price	Amount	Due	Coupon	Yield or Price
\$2,500,000	1978	6½%	5.90%	\$2,100,000	1989	6.60%	100%
2,500,000	1979	6½	6.00	2,200,000	1990	6.70	100
2,500,000	1980	6½	6.05	2,300,000	1991	6.80	100
2,500,000	1981	6½	6.10	2,400,000	1992	6.80	6.85
1,800,000	1987	6½	6.40	2,600,000	1993	6.90	100
1,900,000	1988	6½	100	2,700,000	1994	6.90	100

**\$15,000,000 7% Term Bonds Due July 1, 1999**  
Price 100%

**\$37,000,000 7¾% Term Bonds Due July 1, 2012**  
Price 100%  
(Plus Accrued Interest)

The 1974 Bonds are offered when, as and if issued and received by us and are subject to the approval of legality by Wood Dawson Love & Sabatine, New York, New York, Bond Counsel to the Supply System, and Houghton Cluck Coughlin & Riley, Seattle, Washington, Special Counsel to the Supply System. It is expected that the Bonds in definitive form will be ready for delivery on or about August 7, 1974.

July 23, 1974

# WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Principal Office—Richland, Washington

## BOARD OF DIRECTORS

A. J. Benedetti\*  
Kirby Billingsley  
Lane Bray  
Gerald C. Fenton  
Ed Fischer\*  
Alvin E. Fletcher  
John Goldsbury  
D. E. Hughes\*  
W. G. Hulbert, Jr.\*  
Arnold J. James

Rolf E. Jemtegaard  
Harold W. Jenkins  
Thomas F. Kroupa  
Francis Longo  
Howard Prey  
E. Victor Rhodes\*  
James A. Tannahill  
Edwin W. Taylor  
John L. Toevs  
Gordon Vickery\*  
Glenn C. Walkley\*

\* Executive Committee Member.

## OFFICERS

Howard Prey  
Alvin E. Fletcher  
E. Victor Rhodes

President  
Vice President  
Secretary

## ADMINISTRATIVE STAFF

Managing Director  
Deputy Managing Director  
Senior Project Manager  
Director of Administration  
Manager, Compliance Programs  
Manager, Operations  
Manager, Engineering  
Manager, Planning  
Treasurer and Controller  
Auditor  
Counsel

J. J. Stein  
L. L. Humphreys  
R. D. Sahlberg  
Neil O. Strand  
Duane L. Renberger  
V. V. Johnson  
O. E. Trapp  
H. R. Kosmata  
James T. Bobo  
C. W. Godfrey  
Richard Q. Quigley

## SPECIAL COUNSEL

Houghton Cluck Coughlin & Riley

## BOND COUNSEL

Wood Dawson Love & Sabatine

## CONSULTING ENGINEER

R. W. Beck and Associates

## CONSTRUCTION ENGINEER

Burns and Roe, Inc.

## FINANCIAL CONSULTANT

Blyth Eastman Dillon & Co. Incorporated

The information contained in this Official Statement has been obtained from the Supply System and other sources deemed reliable. No representation or warranty is made, however, as to the accuracy or completeness of such information, and nothing contained herein is, or shall be, relied upon as a promise or representation of the Underwriters. This Official Statement, which includes the cover page and exhibits, does not constitute an offer to sell the 1974 Bonds in any state to any person to whom it is unlawful to make such offer in such state. No dealer, salesman or other person has been authorized to give any information or to make any representations, other than those contained in this Official Statement in connection with the offering of the 1974 Bonds, and if given or made, such information or representation must not be relied upon.

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## SUMMARY STATEMENT

(Subject in All Respects to More Complete Information Contained in This Official Statement)

### The Supply System

The Supply System, organized in 1957, is a municipal corporation and a joint operating agency of the State of Washington. Its members are 18 operating public utility districts and the Cities of Richland, Seattle and Tacoma, all located in the State of Washington. The Supply System has the authority, among other things, to acquire, construct and operate plants, works and facilities for the generation and transmission of electric power and energy.

In addition to a hydroelectric project, the Supply System presently owns and operates the Hanford Project, a steam electric generating plant operated in conjunction with the United States Atomic Energy Commission's New Production Reactor on the AEC's Hanford Reservation, near Richland, Washington. This steam plant has a name plate rating of 860,000 kilowatts, has been in operation since 1966 and is currently one of the two largest producers of nuclear generated electricity in the United States. The Supply System is currently undertaking, in addition to the Project, the development of two other nuclear generating plants. One will be located on the Hanford Reservation near the Project and is a 1,250,000 kilowatt plant to be in operation by 1980. The other is a 1,240,000 kilowatt plant in Grays Harbor County, Washington, to be jointly owned by the Supply System (70%) and four investor owned utilities (30%) and to be in operation by 1981.

The Joint Power Planning Council, consisting of 110 public and private utilities in the Pacific Northwest and the Bonneville Power Administration, a bureau of the United States Department of the Interior, has planned through the development of the Hydro Thermal Power Program the coordination of existing and future electric resources in the Pacific Northwest. The nuclear electric generating plants, including the Project, which will be constructed and operated by the Supply System are an integral and major part of the planned electric generating power capacity for the region under that Program.

### Purpose of Issue

The purpose of the \$80,000,000 Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1974, is to finance a portion of the costs of constructing and acquiring the Project. In July 1973 the Supply System issued \$150,000,000 of Bonds for the same purpose. It has been estimated that the total permanent financing required for the Project, including the initial nuclear fuel core and interest during construction, less temporary investment income, will be \$567,000,000.

The Project will be located on the Hanford Reservation of the AEC but will be financed and accounted for independently of the Supply System's Hanford Project currently in operation on the Reservation and all other current or planned Supply System projects. The Project will consist of a boiling water nuclear electric generating plant with a nominal capacity of 1,100,000 kilowatts, together with associated facilities to deliver the output to the 500 kV transmission facilities of the Federal Columbia River Power System located in the vicinity of the Project.

### Construction Contracts and Schedule

The AEC construction permit was obtained on March 19, 1973 at which time construction of the plant proper was started. The installation of temporary facilities is complete. The reactor building substructure has been completed and the containment vessel which rests on it is 50% complete. The substructure for the turbine-generator building has been completed and work is now in progress on the turbine pedestal and the walls of the turbine-generator building. The substructure of the radioactive waste building is complete and work is starting on the superstructure. Concrete work on the spray ponds and

service water pump houses is nearing completion. Work has started on the cooling tower basins and the circulating water pump house. As of June 1, 1974, overall construction was estimated to be 6.7% complete compared to a scheduled 14% completion.

As of May 15, 1974, contracts totalling \$223,009,379 have been entered into. Further information concerning major contracts and the increase of approximately \$71,000,000 in the estimated direct construction cost of the Project since July 1973 is contained in Exhibit III.

Fuel loading is scheduled for July 1977 with start-up and power testing to be conducted prior to December 1, 1977. It is estimated by the Construction Engineer that the probability of commercial operation by December 1, 1977 is 16% and that a commercial operation date of June 1, 1978 has a 50% probability of being met.

#### **Security for the Bonds**

The Bonds, including the 1974 Bonds, and the interest thereon are payable solely from the Bond Fund created by the Resolution and the moneys pledged to such Fund are limited to the income, revenues, receipts and profits derived by the Supply System through the ownership and operation of the Project, including all payments to be made to the Supply System pursuant to the Net Billing Agreements described herein, and Bond proceeds. Interest on the 1974 Bonds will be capitalized until September 1, 1977.

The Project's entire capability will be sold by the Supply System to 94 Participants, consisting of 27 municipalities, 22 districts and 45 electric cooperatives located principally in Washington, Oregon, Idaho, Montana and California, each of whom is a statutory preference customer of Bonneville. The Participant's shares of the Project's output range from approximately 15% to 0.005%. An aggregate of approximately 22.5% of the output is shared by 64 Participants each of whom has a share of less than 1%.

*Net Billing Agreements:* Each of the Participants has entered into a Net Billing Agreement with the Supply System and Bonneville. Pursuant to these agreements, each Participant (i) will make payments to the Supply System for its proportionate share of the Project's annual costs, including debt service, and (ii) has assigned its share of the Project output to Bonneville. In consideration thereof, Bonneville will credit the payments by the Participants to the Supply System against billings by Bonneville to the Participants for power and certain other services rendered by Bonneville under other contracts. Before Bonneville entered into the Net Billing Agreements it determined that its estimated aggregate billings to each of the Participants would be not less than 115% of Bonneville's net billing obligations to the respective Participants under all agreements providing for net billing. Bonneville has agreed in the Net Billing Agreements that with respect to any future net billing agreements entered into with any of the Participants it will determine that the same estimated 115% coverage is present.

The Participants are obligated, beginning no later than September 1, 1977, to pay the Supply System their proportionate shares of the Project's annual costs whether or not the Project is completed, operable, or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output.

*Rate Covenant:* No Participant will be required to make payments to the Supply System except from revenues derived from the ownership and operation of its electric utility properties. Each Participant has covenanted that it will establish, maintain and collect rates or charges for power and energy and other services furnished through its electric utility properties which shall be adequate to provide revenues sufficient to make required payments to the Supply System.



**OFFICIAL STATEMENT**  
**OF**  
**WASHINGTON PUBLIC POWER SUPPLY SYSTEM**  
**A Municipal Corporation and a Joint Operating Agency of the State of Washington**  
*relating to its*  
**\$80,000,000**  
**Washington Public Power Supply System Nuclear Project No. 2**  
**Revenue Bonds, Series 1974**

July 23, 1974

The purpose of this Official Statement, which includes the cover page hereof and the exhibits hereto, is to set forth information concerning Washington Public Power Supply System (the "Supply System"), its Washington Public Power Supply System Nuclear Project No. 2 (the "Project") as more fully described herein under "The Project" and its \$80,000,000 Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1974 (the "1974 Bonds"), in connection with the sale by the Supply System of the 1974 Bonds and for the information of all who may become holders of such 1974 Bonds. The 1974 Bonds are to be issued pursuant to the Revised Code of Washington, Chapter 43.52, as amended (the "Act"), Resolution No. 640 (the "Resolution") adopted June 26, 1973 by the Supply System and a resolution supplemental to the Resolution, Resolution No. 711 (the "Supplemental Resolution") adopted July 23, 1974 by the Supply System. The Supply System has heretofore issued pursuant to the Resolution its \$150,000,000 Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1973 (the "1973 Bonds"). The 1973 Bonds, the 1974 Bonds and all additional series of bonds which may be hereafter issued pursuant to the Resolution to pay the cost of acquiring and constructing the Project are herein called collectively the "Bonds".

**THE SUPPLY SYSTEM**

The Supply System, a municipal corporation and a joint operating agency of the State of Washington, was organized in January 1957, pursuant to the Act. Its membership is made up of 18 operating public utility districts and the Cities of Richland, Seattle and Tacoma, all located in the State of Washington. The Supply System has the authority, among other things, to acquire, construct and operate plants, works and facilities for the generation and transmission of electric power and energy. The Supply System has the power of eminent domain, but it is specifically precluded from the condemnation of any plants, works or facilities owned and operated by any city, public utility district or privately-owned electric utility.

The Supply System has its principal office in Richland, Washington. The management and control of the Supply System is vested in a Board of Directors composed of representatives of each of the members. Regular meetings of the Board are held quarterly.

The Executive Committee of the Board administers the business of the Supply System between regular meetings of the Board. The Executive Committee holds regular meetings twice each month and special meetings as often as the business of the Supply System may require.

Members of the Supply System and their respective representatives on the Board of Directors are as follows:

Public Utility District No. 1 of Benton County .....	John Goldsbury
Public Utility District No. 1 of Chelan County .....	Kirby Billingsley
Public Utility District No. 1 of Clallam County .....	Alvin E. Fletcher
Public Utility District No. 1 of Clark County .....	Ed Fischer*
Public Utility District No. 1 of Cowlitz County .....	D. E. Hughes*

Public Utility District No. 1 of Douglas County .....	Howard Prey
Public Utility District No. 1 of Ferry County .....	Thomas F. Kroupa
Public Utility District No. 1 of Franklin County .....	Glenn C. Walkley*
Public Utility District No. 2 of Grant County .....	John L. Toevs
Public Utility District No. 1 of Grays Harbor County .....	James A. Tannahill
Public Utility District No. 1 of Kittitas County .....	Harold W. Jenkins
Public Utility District No. 1 of Klickitat County .....	Gerald C. Fenton
Public Utility District No. 1 of Lewis County .....	Arnold J. James
Public Utility District No. 3 of Mason County .....	Edwin W. Taylor
Public Utility District No. 2 of Pacific County .....	E. Victor Rhodes*
City of Richland .....	Lane Bray
City of Seattle .....	Gordon Vickery*
Public Utility District No. 1 of Skamania County .....	Rolf E. Jemtegaard
Public Utility District No. 1 of Snohomish County .....	W. G. Hulbert, Jr.*
City of Tacoma .....	A. J. Benedetti*
Public Utility District No. 1 of Wahkiakum County .....	Francis Longo

\*Executive Committee Member

The Supply System presently employs approximately 250 persons, including a highly qualified technical staff whose combined experience in the nuclear field totals over 600 man-years and whose training includes disciplines in electrical, mechanical, civil and nuclear engineering. Through the operation of the Hanford Project described below the Supply System staff has accumulated substantial experience in the operation of a large steam electric generating facility.

#### The Supply System's Generating Projects

The Supply System owns and operates an 860,000 kilowatt electric generating plant and associated facilities (the "Hanford Project") located on the Hanford Reservation of the United States Atomic Energy Commission (the "AEC"), which was constructed in accordance with agreements between the Supply System, the United States of America, Department of the Interior, acting by and through the Bonneville Power Administrator ("Bonneville"), and the AEC. The Hanford Project is currently one of the two largest producers of electricity generated from nuclear energy in the United States. Steam is provided for the Hanford Project from the New Production Reactor (the "NPR") owned and operated by the AEC. In 1963, the Supply System issued \$122,000,000 Hanford Project Electric Revenue Bonds (the "Hanford Project Bonds"), of which \$61,190,000 were outstanding as of February 1, 1974. The Supply System also owns and operates the Packwood Lake Hydroelectric Project with a nameplate rating of 27,500 kVA. In 1962 and 1965, the Supply System sold \$10,500,000 and \$3,200,000 Packwood Lake Hydroelectric Project Revenue Bonds, of which \$13,181,000 were outstanding as of February 1, 1974.

The Supply System has begun preliminary work on a 1,250,000 kilowatt nuclear electric generating plant, known as the Washington Public Power Supply System Nuclear Project No. 1. In June 1974 the Supply System issued \$77,000,000 principal amount of revenue notes in order to pay a portion of the costs of such preliminary work. This plant will be constructed on the Hanford Reservation of the AEC at a site near the Project and is presently scheduled to begin commercial operation in 1980.

The Supply System has also begun preliminary work on a 1,240,000 kilowatt nuclear plant at a site near Satsop, in Grays Harbor County, Washington, to be known as Washington Public Power Supply System Nuclear Project No. 3, which will be 70% owned by the Supply System and 30% owned by four investor owned utilities, and it has financed its ownership share of preliminary work in connection with such plant with the proceeds of a \$29,000,000 note issue. Commercial operation is scheduled for 1981.

In response to a request of the Public Power Council, consisting of more than 100 statutory preference customers of Bonneville, the Supply System is undertaking the investigation of the financing and construction of two additional nuclear power plants for operation in 1982 and 1983, respectively.

The Supply System has issued \$2,500,000 of revenue notes to finance this work and expects to issue approximately \$15,000,000 of additional revenue notes in the near future to continue such work.

All projects heretofore undertaken by the Supply System have been financed as separate systems. The obligations issued with respect to each project are payable solely from the revenues of that project. The Project will similarly be financed as a separate system.

On the basis of the estimated cost and interest during construction for the Supply System's Nuclear Projects Nos. 1, 2 and 3, it is estimated that the Supply System will require long-term financing between now and 1980 in excess of \$1,700,000,000. The first long-term financings for Project No. 1 and Project No. 3 are projected for the second half of 1975. Additional long-term financing for the Supply System's fourth and fifth nuclear projects, if undertaken, will be required before 1980.

The schedule of financing for the Project contemplates, in addition to the sale of the 1974 Bonds, the sale of additional Bonds totaling approximately \$337,000,000 as described in more detail under the caption "The Project—Project Financing Requirements". The next sale is presently contemplated for the spring of 1975.

### SECURITY FOR THE BONDS

Principal of and interest on the Bonds are payable solely from the Bond Fund created by the Resolution and the moneys pledged to such Fund are limited to the income, revenues, receipts and profits derived by the Supply System through the ownership and operation by it of the Project, including all payments to be made to the Supply System pursuant to certain agreements (the "Net Billing Agreements") described below, and bond proceeds. Interest on the 1974 Bonds will be capitalized to September 1, 1977. The Bonds are not general obligations of the Supply System and neither the faith and credit of the Supply System or of the State of Washington nor any revenues of the Supply System derived from other projects which have been or which may hereafter be undertaken by the Supply System are pledged to the payment thereof.

The Supply System has entered into Net Billing Agreements with Bonneville and 94 preference customers of Bonneville listed in Exhibit I to this Official Statement (the "Participants"). Pursuant to the Net Billing Agreements (i) the Supply System has sold the Project's entire capability in shares to the Participants which, in turn, have all assigned their respective shares to Bonneville, (ii) each Participant will pay the Supply System its pro rata share of the annual costs (including principal of and interest on the Bonds) of the Project and (iii) in consideration of these assignments, Bonneville will credit the amounts paid by the Participants to the Supply System against amounts owed Bonneville by the Participants for power and services provided under other contracts with Bonneville. This system of offsets or credits is called "net billing".

Payments by the Participants to the Supply System will commence on the date when the Project is ready to be operated on a commercial basis, or January 1, 1977, whichever is earlier; provided that such payments prior to the date the Project is ready to be operated on a commercial basis, or September 1, 1977, whichever is earlier, are limited to such amounts as Bonneville and the Supply System agree may be included in the Annual Budgets, as defined in the Net Billing Agreements. Bonneville and the Supply System have agreed that at least an amount equal to one-half of the maximum annual interest on the Bonds issued prior to September 1, 1977 plus \$6,000,000 will be included in such Annual Budgets for the period January 1 to September 1, 1977. The Resolution provides that such amounts will be used, first, to deposit in the Bond Fund for credit to the Reserve Account the amount required to establish such Account in the amount required by the Resolution; second, to deposit \$3,000,000 in the Reserve and Contingency Fund established in the Resolution and; third, to provide \$3,000,000 for working capital for the Project.

Payments and credits under the Net Billing Agreements are required to be made whether or not the Project is completed, operable or operating and notwithstanding the suspension, reduction or curtailment of the Project output.

## THE PROJECT

The Project will be constructed, owned and operated by the Supply System pursuant to an agreement (the "Project Agreement") between the Supply System and Bonneville as part of the Hydro Thermal Power Program, a program designed to meet the anticipated needs for power in the Pacific Northwest. The Hydro Thermal Power Program is described in a later section.

### Location of the Project

The Project, with the exception of the administrative service building, is under construction on the AEC Hanford Reservation, approximately three miles west of the Columbia River and 12 miles north of the City of Richland in Benton County, Washington. The Project site has been leased from the AEC for a term, including options, extending beyond July 1, 2012. A lease of the land in the bed of the Columbia River necessary for the water intake and discharge facilities is to be executed shortly with the Washington State Department of Natural Resources. The Hanford Reservation lies mostly in Benton County and encompasses 559 square miles of barren desert land in a sparsely settled area of central Washington. The Reservation has served as a nuclear industrial center since 1943. Proximity to nuclear support industries on the Reservation gives the site a decided advantage for a nuclear power project. Favorable geographic, geological, seismological and climatological characteristics, adequate water supply, as well as remoteness from large population centers, are features of the site that also contribute to its desirability for a nuclear power site. Seattle is approximately 160 airline miles from the site and Portland is approximately 180 airline miles from the site.

### Description of the Project

The Project will consist of a single unit, boiling water reactor electric generating station, having a nominal capacity of approximately 1,100,000 kilowatts, the necessary transformation and related facilities to interconnect the generating station with the Federal Columbia River Power System and an administrative service building. The plant layout and design includes consideration of possible future expansion by the addition of another generating unit.

The seven basic structures comprising the generating station are (1) reactor building, (2) radioactive waste building, (3) turbine-generator building, (4) diesel generator building, (5) cooling towers and circulating water pump house, (6) river makeup water plant and (7) service building.

The nuclear steam supply system will contain a General Electric Company ("GE") boiling water reactor of proven design with a guaranteed rating of 3,330 megawatts thermal. It will supply approximately 14,295,000 pounds of steam per hour at 985 psia. The system will be complete with steam separators and driers, recirculating pumps and subsystems including those required for normal operation and for shutdown.

The turbine-generator will consist of a high-pressure turbine section on the same shaft with three low-pressure turbine sections and an electric generator with a nominal capacity of approximately 1,100,000 kilowatts. Transformation from 25 kV to 500 kV will be provided.

The condenser cooling water will be discharged from the turbine-generator building to six mechanical draft evaporative cooling towers. Makeup water to replace the evaporative losses of the circulating water will be obtained from the Columbia River.

In addition to the service building at the site of the generating station, the Project includes an administrative service building located off-site in the vicinity of Richland, Washington, which has been completed and provides administrative space for the Project and other Supply System activities.

### Initial Fuel Core

The initial fuel core is being supplied by GE as part of the reactor contract. The fuel assemblies included in the initial core will be essentially identical to initial core fuel assemblies being supplied by GE to other electric utilities in the United States in the period 1975 through 1981. GE expects to provide over 30 initial fuel cores during that period to some 19 different utilities located in various parts of the United States.

### Construction Contracts and Schedule

The AEC construction permit was obtained on March 19, 1973 at which time construction of the plant proper was started. The installation of temporary facilities is complete. The reactor building substructure has been completed and the containment vessel which rests on it is 50% complete. The substructure for the turbine-generator building has been completed and work is now in progress on the turbine pedestal and the walls of the turbine-generator building. The substructure of the radioactive waste building is complete and work is starting on the superstructure. Concrete work on the spray ponds and service water pump houses is nearing completion. Work has started on the cooling tower basins and the circulating water pump house. As of June 1, 1974, overall construction was estimated to be 6.7% complete compared to a scheduled 14% completion.

As of May 15, 1974, contracts totalling \$223,009,379 have been entered into. Further information concerning major contracts and the increase of approximately \$71,000,000 in the estimated direct construction cost of the Project since July 1973 is contained in Exhibit III.

Fuel loading is scheduled for July 1977 with start-up and power testing to be conducted prior to December 1, 1977. It is estimated by the Construction Engineer that the probability of commercial operation by December 1, 1977 is 16% and that a commercial operation date of June 1, 1978 has a 50% probability of being met.

### Project Financing Requirements

The \$150,000,000 of 1973 Bonds have been and the 1974 Bonds are being issued to finance a portion of the costs of constructing and acquiring the Project. Additional Bonds necessary to complete the financing of the Project in the estimated aggregate principal amount of \$337,000,000 will be issued as the need arises during construction of the Project. Based on the present construction schedule and assuming the remaining Bonds will be issued in more than one series, it is expected that the next series will be issued in the spring of 1975. The amount of financing has been based on an annual 5.66% interest rate for the 1973 Bonds, an annual 7.05% interest rate on the 1974 Bonds and an assumed 7% interest rate for the balance of the Bonds.

Based on the foregoing the total financing requirements for the Project are shown in the following tabulation:

#### ESTIMATED PROJECT FINANCING REQUIRED

Structures and Improvements .....	\$ 49,886,200
Reactor Plant Equipment .....	109,652,500
Turbo-Generating Plant .....	97,719,300
Accessory Electric Equipment .....	20,399,000
Miscellaneous Power Plant Equipment .....	1,487,500
Station Equipment .....	4,784,000
Other .....	3,553,000
Subtotal Direct Construction <sup>1</sup> .....	<u>\$287,481,500</u>
Nuclear Fuel <sup>2</sup> .....	38,980,000
Sales Tax <sup>3</sup> .....	16,323,100
Engineering and Construction Management <sup>1</sup> .....	48,924,500
Owner's Direct Cost <sup>4</sup> .....	44,100,000
Escalation and Contingencies .....	53,470,700
Estimated Bond Discount and Other Financing Expenses .....	8,537,000
Capitalized Interest During Construction .....	98,929,000
Gross Requirement .....	<u>\$596,745,800</u>
Less: Estimated Income from Temporary Investments .....	29,745,800
Net Requirement .....	<u><u>\$567,000,000</u></u>

(1) Based on estimates by Construction Engineer contained in Exhibit III.

(2) As estimated by the Supply System.

(3) Includes sales tax on nuclear fuel.

(4) As estimated by the Supply System; includes cost of an administrative service building.

At the time of sale of the 1973 Bonds, the Project financing requirement was estimated to be \$476,000,000.

In addition to the foregoing amounts obtained through issuance of Bonds, present planning contemplates that amounts to be paid by the Participants during the period beginning January 1, 1977 and extending to September 1, 1977 under the Net Billing Agreements will be as follows:

Reserve Account in Bond Fund .....	\$18,860,000
Working Capital .....	3,000,000
Reserve and Contingency Fund .....	3,000,000
Fuel Contingency .....	8,000,000 <sup>1</sup>
<b>Total .....</b>	<b>\$32,860,000</b>

(1) Estimated amount to be provided from advanced net billing to permit leveling of annual fuel costs in the event of a critical period of power supply. Amounts provided will be included as a part of working capital. Amount subject to further analysis and approval by the Supply System and Bonneville.

If for any reason such amounts (other than the fuel contingency) are not provided under the Net Billing Agreements they will be provided through the issuance of additional Bonds.

### Licenses and Permits

The Project site on the Hanford Reservation has been certified for the State of Washington by the Washington State Thermal Power Plant Site Evaluation Council as required by state law. An AEC construction permit was issued for the Project on March 19, 1973. Prior to that date certain site preparation was undertaken in accordance with an exemption issued by the AEC. The certification by the State of Washington and the permits issued by the AEC were the subjects of intensive investigation and public hearings. The construction permit requires that the Project be constructed in accordance with applicable rules and regulations of the AEC including those formulated to protect the environment and the public. Extensive quality control procedures are being implemented by the Supply System to assure that the requirements of the construction permit with respect to quality of construction of the Project will be met. Prior to operation an operating license must be obtained from the AEC.

Additional permits to be acquired prior to operation of the Project include the following: (1) National Pollution Discharge Elimination System Permit to be issued by the Thermal Power Plant Site Evaluation Council of the State of Washington, (2) permit to be issued by the U. S. Corps of Engineers under the Federal Rivers & Harbors Act of 1899, (3) various building and installation inspection permits by the Washington State Department of Labor and Industries, and (4) a Water Withdrawal Permit, if required, to be issued by the Washington State Department of Ecology.

### Project Output

The Project is expected to have a net peaking capability of 1,093,000 kilowatts and is expected to be capable of producing about 7,200,000,000 kilowatt hours annually. During a critical period of power supply in the Pacific Northwest caused by water shortage, it is expected that the Project would be called upon to produce the full amount of energy that it is capable of producing. During other periods, however, there will be times when surplus water will be available to generate power at existing hydroelectric projects thereby permitting a reduction in the total amount of energy produced at the thermal electric projects to be constructed under the Hydro Thermal Power Program.

### Project Annual Costs

Estimated annual costs of the Project based on 1974 costs of labor and materials escalated to the year 1978 are given in the following table. This table assumes generation of 7,200,000,000 kilowatt hours annually. The costs reflect those operating costs that would be characteristic of a mature plant. The Supply System anticipates additional expenses of \$250,000 and \$125,000 during the first two operating years, respectively, for Project monitoring.

## ESTIMATED PROJECT ANNUAL COSTS

### FIXED COSTS:

Interest and Amortization <sup>1</sup> .....	\$42,177,000
Payments to Reserve and Contingency Fund .....	4,218,000
Insurance .....	2,000,000
Operation and Maintenance (Fixed) <sup>2</sup> .....	5,525,000
Administrative and General <sup>2</sup> .....	1,315,000
Subtotal .....	\$55,235,000
Less: Surplus of Prior Year's Payment to Reserve and Contingency Fund <sup>3</sup> .....	2,818,000
Total Fixed Costs .....	\$52,417,000

### VARIABLE COSTS:

Fuel Cost .....	\$11,700,000
Operation and Maintenance (Variable) <sup>2</sup> .....	683,000
Taxes .....	1,440,000
Total Variable Costs .....	\$13,823,000

TOTAL ANNUAL COSTS .....	\$66,240,000
Less: Interest Earnings on Reserve Funds <sup>4</sup> .....	2,090,000
NET ANNUAL COSTS .....	\$64,150,000
NET ANNUAL COST PER KILOWATT HOUR (7,200,000,000 kWh) .....	8.91 mills

(1) Based on level debt service, 35-year amortization, 5.66% annual interest rate on the 1973 Bonds, 7.05% annual interest rate on the 1974 Bonds and 7% annual interest rate on the balance of the Bonds.

(2) Estimated labor and materials costs escalated to 1978 levels.

(3) Computed as follows:

Payment to Reserve and Contingency Fund .....	\$4,218,000
Less: Estimated amount required for renewals, replacements and additions .....	1,400,000
Net surplus .....	\$2,818,000

Net surplus may be used for purposes other than reduction in power costs in accordance with the Resolution.

(4) Computed on the basis of 7% interest earnings.

The total annual costs referred to above are based on level debt service over a 35 year period and on estimated 1978 levels of labor and materials. The Supply System and Bonneville anticipate that maturities of the Bonds will not be scheduled to yield level debt service throughout the period. Present planning provides for scheduling increased maturities from 1978 to 1981, and scheduling few, if any, maturities in the period of 1982 through 1986. Variations in annual costs will result from such scheduling to the extent that actual debt service varies from the assumed level debt service.

Reference is made to the reports of R. W. Beck and Associates, included herein as Exhibit II, and Burns and Roe, Inc., included herein as Exhibit III, for more detailed information regarding the Project and its costs.

## BONNEVILLE POWER ADMINISTRATION

Bonneville, a bureau of the U. S. Department of the Interior, was established by the Bonneville Project Act of August 20, 1937, to build transmission facilities and to market power from Federal hydroelectric projects in the Pacific Northwest. Such projects now number 27 with an installed capacity of 10,485,900 kilowatts. These projects and authorized new projects and additions at existing projects will have, when completed, an installed capacity of approximately 21,617,280 kilowatts. Bonneville's transmission facilities include over 12,050 miles of 115 kV to 500 kV ac and 800 kV dc transmission lines. These transmission facilities together with the hydroelectric projects mentioned above comprise the Federal Columbia River Power System.

### Bonneville Revenue by Major Classification of Customers(1)

Fiscal Year Ended June 30	Preference Customers	Other Electric Utilities	Industrial	Transmission Service and Other	Total
1968.....	\$49,134,719	\$12,515,810	\$39,498,338	\$16,739,045	\$117,887,912
1969.....	55,752,314	16,967,117	46,204,161	18,353,608	137,277,200
1970.....	58,419,581	20,319,033	50,063,203	18,878,209	147,680,036
1971.....	64,078,043	25,120,610	45,418,745(2)	21,060,576	155,677,974
1972.....	69,452,035	37,918,589	45,733,067(2)	22,990,720	176,094,411
1973.....	74,669,546	37,146,777	44,014,159(2)	21,543,674	177,374,156

(1) From Bonneville Summary Financial Data.

(2) The decline in industrial revenues was primarily due to shutdown of aluminum potlines in the area and to curtailment by Bonneville of interruptible power to certain of its industrial customers.

The major part of the 500 kV and 230 kV backbone transmission system in the Pacific Northwest is owned by Bonneville as a result of its role in constructing transmission facilities as part of the Federal Columbia River Power System. Bonneville transmits over the Federal Columbia River Power System the major portion of the power from 11 nonfederal projects to various private and public utilities in the Pacific Northwest. This system represents approximately 80% of the bulk power transmission capacity for the Pacific Northwest.

The Federal Columbia River Power System has interconnections with other regions in the United States and Canada. Three high voltage transmission line interconnections (two 500 kV ac, one 800 kV dc) of the Pacific Northwest-Pacific Southwest Intertie have been completed and are now in operation. Two 500 kV ac lines interconnect the Federal Columbia River Power System with British Columbia, Canada, and several 230 kV ac lines interconnect the eastern portion of the system with utilities in adjacent Canadian provinces and the Mountain States. These interconnections provide, in addition to mutual support in the event of a breakdown or emergency, the means to carry capacity and energy which is surplus to the Pacific Northwest needs to these areas, and conversely to carry surplus capacity and energy from these areas into the Pacific Northwest.

#### Additional Power Supply

In addition to the Federal hydroelectric projects, Bonneville has acquired additional power supply and hydro storage to enable it to continue to meet its customers' requirements. Under agreements executed in 1963 by Bonneville, 76 utility customers of Bonneville and the Supply System, Bonneville exchanges firm power from its system for the output of the Hanford Project of the Supply System. In 1964, Bonneville, acting jointly with the U. S. Army Corps of Engineers as the United States Entity, pursuant to the Treaty Between the United States and Canada Relating to the Cooperative Development of Water Resources of the Columbia River Basin, and pursuant to certain agreements executed in connection with such Treaty, obtained certain rights to 15,500,000 acre-feet of hydro storage on the Columbia River in Canada.

Under the Hydro Thermal Power Program, Bonneville will obtain through the Net Billing Agreements the capability of the Project upon its completion and through similar agreements the Supply System's share of the capability of Nuclear Project No. 1 and Nuclear Project No. 3 and the City of Eugene, Oregon's 30% share of the Trojan Nuclear Project.

After 1983 Bonneville will no longer acquire electric power from new thermal projects to meet the lead growth of its preference agency customers. Rather, under Phase 2 of the Hydro Thermal Power



Program, Bonneville expects to act as agent for many of its preference agency customers in acquiring the electric power and energy necessary from thermal projects to meet these agencies' future load growth.

### **Bonneville Contracts**

Bonneville and each of the Participants have entered into one or more contracts requiring payments to Bonneville for the purchase or exchange of power, the operation and maintenance of facilities or the transmission of power over the Federal Columbia River Power System.

Bonneville markets power to 149 customers, including 104 statutory preference customers in the Pacific Northwest (public bodies and cooperatives which have preference and priority upon power from the Federal Columbia River Power System pursuant to the Bonneville Project Act, as amended) under the terms of various power sales contracts. Each of the Participants is a preference customer and is a party to at least one such power sales contract. These contracts generally provide for the sale and delivery of firm power to a Participant in the amount of its requirements for power over and above the generating resources, if any, that the Participant has available to serve its own loads. Bonneville's obligation to meet a preference customer's requirements is effective for the term of the contract unless Bonneville gives the Participant at least eight years' prior notice of insufficiency of supply.

These power sales contracts with preference customers are usually for a term of twenty years and contain provisions for a rate review once each five years, the next review date being December 20, 1974. Bonneville expects to negotiate new 20-year power sales contracts with all preference agencies to supply their load growth requirements until 1983 and fixed amounts thereafter. The Public Power Council and Bonneville are currently studying the allocation of power to these agencies after July 1, 1983.

## **THE HYDRO THERMAL POWER PROGRAM AND POWER SUPPLY IN THE PACIFIC NORTHWEST**

The Hydro Thermal Power Program was conceived by the Joint Power Planning Council, consisting of 110 electric cooperatives, public utilities and private utilities in the Pacific Northwest and Bonneville, in order to plan the coordination of existing and future thermal and hydroelectric resources in the Pacific Northwest. The major part of the power supply in the region has been historically from hydroelectric resources, but the remaining hydro projects to be developed will be essentially for peaking power rather than for base load. Thermal power will provide an increasing portion of the base load resources in the future. The combination of hydro peaking and large scale thermal generating plants was found by the Council to be the soundest plan to achieve the aims of the Hydro Thermal Power Program. The principles of Phase I of this Program and the Federal government's participation through Bonneville, the Army Corps of Engineers and the Bureau of Reclamation have been endorsed by current and previous administrations and by the Congress.

The members of the Joint Power Planning Council have concluded that the Hydro Thermal Power Program will:

1. Best preserve the environment and natural beauties of the Pacific Northwest.
2. Make efficient and economic use of the Federal Columbia River Power System.
3. Obtain the economies of scale from large thermal generating plants.
4. Meld the output from large thermal generating plants with that from existing hydro generating units and the peaking generation units which will be installed at existing dams, to achieve the most economic and reliable power supply to meet the power requirements of the Pacific Northwest.

Phase 1-Hydro Thermal Power Program thermal generating plants scheduled for installation through 1981 are tabulated below:

<u>Plant No.</u>	<u>Principal Sponsor</u>	<u>Location</u>	<u>Type</u>	<u>Rated Capacity (MW)</u>	<u>Proposed Date of Commercial Operation</u>
1	Pacific Power & Light Co. and The Washington Water Power Company (Centralia Project) .....	Centralia, Wn.	Coal-fired	1,400	(1)
2	Portland General Electric Company (Trojan Project)	St. Helens, Or.	Nuclear	1,130	July 1975
3	Pacific Power & Light Co. (Jim Bridger Project) ....	Rock Springs, Wy.	Coal-fired	500 500	Sept. 1975 Sept. 1976
4	Washington Public Power Supply System (Nuclear Project No. 2) .....	Hanford, Wn.	Nuclear	1,100	Dec. 1977- June 1978(2)
5	Portland General Electric Company (Boardman Project) .....	Boardman, Or.	Nuclear	1,260	July 1980
6	Washington Public Power Supply System (Nuclear Project No. 1) .....	Hanford, Wn.	Nuclear	1,250	Sept. 1980
7	Washington Public Power Supply System (Nuclear Project No. 3) .....	Satsop, Wn.	Nuclear	1,240	Sept. 1981

(1) Currently in operation at reduced capacity.

(2) It is estimated by the Construction Engineer that the probability of commercial operation by December 1, 1977 is 16% and that a commercial operation date of June 1, 1978 has a 50% probability of being met.

The area utilities have identified projects which are currently under investigation to meet forecasted load growth through 1986. While the specific role of Bonneville has changed somewhat from Phase 1 of the Hydro Thermal Power Program, the area will continue to build generation and transmission facilities on a cooperative schedule. The thermal generating plants under investigation are tabulated below:

<u>Plant No.</u>	<u>Principal Sponsor</u>	<u>Location</u>	<u>Type</u>	<u>Rated Capacity (MW)</u>	<u>Proposed Year of Commercial Operation</u>
1	Pacific Power & Light Co. (Jim Bridger Project No. 4)	Rock Springs, Wy.	Coal-fired	333	1978
2	Pacific Power & Light Co. and The Washington Water Power Company (Centralia Project No. 3) .....	Centralia, Wn.	Coal-fired	700	1978
3	Portland General Electric Company (Boardman Coal Project) .....	Boardman, Or.	Coal-fired	500	1979
4	Puget Sound Power & Light Company (Skagit Project)	Sedro Woolley, Wn.	Nuclear	1,290	1981
5	Washington Public Power Supply System (Nuclear Project No. 4) .....	Washington	Nuclear	1,250	1982
6	Washington Public Power Supply System (Nuclear Project No. 5) .....	Washington	Nuclear	1,240	1983
7	Pacific Power & Light Co. (PP&L Nuclear Project No. 1) .....	Oregon	Nuclear	1,260	1983
8	Portland General Electric Company (PGE Nuclear Project No. 2) .....	Oregon	Nuclear	1,260	1985

In addition to the foregoing major projects in the Pacific Northwest, The Montana Power Company, Puget Sound Power & Light Company, Pacific Power & Light Company, Portland General Electric Company and The Washington Water Power Company are constructing a coal-fired steam electric generating plant at Colstrip, Montana. A portion of the output of this project will be used outside of the Pacific Northwest coordinated system and the balance of the output will be used by these companies to assist meeting their needs within the Pacific Northwest.

### Power Requirements and Resources

Long-range planning of resources in the Pacific Northwest is based on annual forecasts of loads and resources for the area prepared by the Pacific Northwest Utilities Conference Committee. An analysis of the most recent forecast by that committee, dated April 5, 1974, adjusted for presently planned operating dates and capabilities of Supply System plants, is shown in the following table:

#### LOADS AND RESOURCES NORTHWEST POWER POOL, WEST GROUP(1)

<u>Year Ending June 30</u>	<u>Estimated Requirements</u>	<u>Estimated Resources(2)(3)(4)</u>	<u>Additional Resources Required(5)</u>	<u>The Project</u>	<u>Balance of Resources Required(5)</u>
PEAK CAPABILITY—KILOWATTS (000)					
1975 .....	23,548	21,915	1,633	—	1,633
1976 .....	24,490	24,262	228	—	228
1977 .....	26,642	25,735	907	—	907
1978 .....	28,255	27,880	375	—	375
1979 .....	29,613	30,433	(820)	1,100	(1,920)
1980 .....	31,083	30,453	630	1,100	(470)
1981 .....	32,756	32,794	(38)	1,100	(1,138)
1982 .....	34,001	33,687	314	1,100	(786)
1983 .....	35,754	33,290	2,464	1,100	1,364
1984 .....	37,372	33,029	4,343	1,100	3,243
1985 .....	39,246	32,576	6,670	1,100	5,570
ENERGY CAPABILITY—AVERAGE KILOWATTS (000)					
1975 .....	15,252	13,771	1,481	—	1,481
1976 .....	15,640	15,044	596	—	596
1977 .....	16,758	15,890	868	—	868
1978 .....	17,622	16,206	1,416	47(6)	1,369
1979 .....	18,432	16,126	2,306	672(6)	1,634
1980 .....	19,331	16,421	2,910	825(6)	2,085
1981 .....	20,310	17,829	2,481	825(6)	1,656
1982 .....	21,145	18,927	2,218	825(6)	1,393
1983 .....	21,976	19,168	2,808	825(6)	1,983
1984 .....	23,003	19,120	3,883	825(6)	3,058
1985 .....	24,122	19,058	5,064	825(6)	4,239

(1) Area served by the utility members of the Joint Power Planning Council.

(2) After deducting reserves under Pacific Northwest Utilities Conference Committee Planning Guidelines.

(3) Includes Phase I plants, except the Project.

(Footnotes continued on next page)

(4) Rated capacity and operating dates as used herein:

WPPSS No. 1	1,250 MW	September 1980
WPPSS No. 2	1,100 MW	June 1978
WPPSS No. 3	1,240 MW	September 1981

(5) Parenthesis denotes surplus.

(6) Project energy capability. Computed under Pacific Northwest Utilities Conference Committee Guidelines.

## THE PARTICIPANTS

The Project has 94 Participants, of which 27 are municipalities, 22 are districts and 45 are co-operatives. The municipalities have contracted to purchase approximately 22.6% of the plant capability, the districts have contracted to purchase approximately 56.9% and the cooperatives, the remaining 20.5%. Exhibit I attached hereto lists each Participant and indicates its share of the Project capability purchased.

The Participants, all of whom are statutory preference customers of Bonneville, currently obtain all or part of their power supply from Bonneville, and, under their power sales contracts, will have an estimated net billing capacity which in the aggregate is estimated to be in excess of their share of the estimated Project's annual costs paid to the Supply System. Each Participant's share of such annual cost will be net billed or credited against the billings made by Bonneville to the Participant on a monthly basis under its power sales contract(s).

Each of the Participants has executed a Net Billing Agreement, as more fully described below, with the Supply System and Bonneville.

In the Net Billing Agreements, each Participant assigns its share of the Project's capability to Bonneville, and the entire output of the Project will be added to and pooled with the other power sources available to Bonneville.

Since the Participants' payments to the Supply System will be net billed, the cost of the power produced by the Project will be borne by Bonneville customers. Bonneville has assured Congress that "any costs or losses to Bonneville under these agreements will be borne by all Bonneville rate payers through rate adjustments, if necessary."

## THE NET BILLING AGREEMENTS

A summary of certain provisions of the Net Billing Agreements follows. The full text of the form of Agreements may be obtained from the Supply System.

The capitalization of any word or words which is not conventionally capitalized (e.g. Project, Participants) indicates that such words are defined in the Net Billing Agreements. (The same practice is followed in the summaries of the Project Agreement and the Resolution which follow.)

### Term

Each Net Billing Agreement became effective upon execution and delivery and will terminate on the date that the Project Agreement terminates except as provided in Section 10(c) (see the sub-caption "Termination") and as to accrued obligations and liabilities.

Although the Net Billing Agreements may be terminated prior to the maturity of any Project Bonds, the obligation of each of the Participants thereunder to pay its proportionate share of debt service on any

Project Bonds shall continue until the Project Bonds have been retired, and Bonneville will continue to be obligated to offset or credit these payments against payments pursuant to the Participant's Bonneville Contracts.

### **Ownership and Operation**

The Supply System will use its best efforts to arrange for the financing, design, construction, operation and maintenance of the Project.

### **Sale, Purchase and Assignment**

The Supply System sells, and each Participant purchases, its Participant's Share of the Project Capability and each Participant in turn assigns its Participant's Share of such Capability to Bonneville. The amount of each Participant's Share of Project Capability is shown in Exhibit I attached hereto.

The purchase price to be paid by each Participant in each Contract Year will be the amount specified in the Billing Statement rendered to the Participant by the Supply System. The amount of the Billing Statement is determined by multiplying the Annual Budget or any amended Annual Budget by the Participant's Share. The Annual Budget shall provide for all of the Supply System's costs with respect to the Project in the Contract Year, including debt service. The Participant is obligated to pay the Supply System whether or not the Project is completed, operable, or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output, and such payments are not subject to reduction and are not conditioned upon the performance or nonperformance by the Supply System or Bonneville or any other Participant under the Net Billing Agreements or any other agreement or instrument.

The Participant assigns and Bonneville accepts the assignment of the Participant's Share. In consideration of such assignment, Bonneville will offset or credit the amounts paid by the Participant to the Supply System under the Net Billing Agreement against amounts owed Bonneville for power purchased and certain services rendered under the Participant's Bonneville Contracts. This system of offsets and credits is termed "net billing". Net billing will begin on January 1, 1977, or the Date of Commercial Operation, whichever is earlier, or at some earlier date if the Project is terminated pursuant to the Project Agreement, as hereinafter described.

Bonneville is obligated to make the offsets and credits specified in the Net Billing Agreements whether or not the Project is completed, operable, or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output. Such offsets and credits are not subject to reduction and are not conditioned upon the performance or nonperformance by the Supply System or Bonneville or any other Participant under the Net Billing Agreements or any other agreement or instrument.

### **Payment**

Each Participant is obligated to pay the Supply System on a monthly basis its Participant's Share of the Supply System's annual expenses incurred in connection with the operation of the Project. Each month's payments will be based on the amount of net billing credit received by the Participant during the preceding month on its Bonneville billings. If the credits received from Bonneville are less than the Participant's Share of expenses for a Contract Year, the Participant is nevertheless obligated to pay such share.

Bonneville may enter into net billing agreements with any or all of the Participants in connection with the construction and operation of other thermal generating plants and has entered into such agreements with all of the Participants in connection with the Supply System's Nuclear Projects Nos. 1

and 3 or the Trojan Project. Pursuant to the Net Billing Agreements, Bonneville will offset the amounts it owes under the Net Billing Agreement and all other net billing agreements which it may have in effect with each Participant against the sum of the amounts that such Participant may owe Bonneville for power and certain services, in the proportion that the amount specified in the current Billing Statement bears to the sum of the amounts to be paid by Bonneville under all such agreements for that Contract Year. Each Net Billing Agreement provides that Bonneville and the Participant shall not enter into any agreements providing for payments to the Participant by Bonneville which Bonneville estimates will cause the aggregate of Bonneville's billings to the Participant to be less than 115 percent of the Bonneville net billing obligations to the Participant under all agreements providing for net billing.

If Bonneville is unable to net bill the amounts to be paid to the Supply System because the dollar obligations due Bonneville from a Participant are or are expected to be insufficient to offset Bonneville's dollar obligations to such Participant, Bonneville will use its best efforts to arrange for a voluntary assignment of all or a portion of the Participant's Share to the extent required to eliminate the insufficiency, and the Participant shall make any such assignment so arranged. The other Participants will have the first right to accept such assignment, pro rata among those exercising such right, before such an assignment is made to a customer who is not one of the Participants. If Bonneville is unable to arrange for such an assignment, the Participant will make such assignment to the other Participants, who are obligated to accept it, pro rata, provided that the sum of such assignments to a Participant shall not, without its consent, exceed either 25% of the Participant's Share of Project Capability or its estimated net billing capability.

If all or a portion of the Participant's Share is assigned as described above, the Participant will remain liable to pay the purchase price for its Participant's Share in accordance with its Net Billing Agreement as if such assignment had not been made. Such liability of the Participant will be discharged only to the extent that the assignee of all or a portion of the Participant's Share pays to the Supply System the purchase price for the Participant's Share so assigned.

If assignments cannot be made in amounts sufficient to bring into balance the respective dollar obligation of Bonneville and the Participant and an accumulated balance in favor of the Participant from a previous Contract Year is expected by Bonneville to be carried for an additional Contract Year, such balance and any subsequent monthly net balances that cannot be net billed will be paid in cash to the Participant by Bonneville, subject to the availability of federal appropriations for such purpose.

If Bonneville is unable to satisfy its obligation to an affected Participant by net billing, assignment or cash payment and determines that this will continue for a significant period, the affected Participant may direct that all or a portion of the energy associated with its Participant's Share be delivered by the Supply System for the Participant's account at a specified point of delivery, either for the expected period of such inability or the remainder of the term of the Net Billing Agreement, whichever is specified by the Participant when it elects to have such energy delivered to it. The amount of energy delivered will be limited to the amount of the Participant's Share for which payment by Bonneville cannot be made. The Participant's obligation to assign its Participant's Share to Bonneville and Bonneville's obligation to make payments to the Participant will then be appropriately modified.

### **Termination**

If the Project is ended pursuant to Section 15 of the Project Agreement, as described below, Supply System will give notice of termination of each Net Billing Agreement effective upon the date of termination of the Project Agreement. Supply System shall then terminate all activities relating to construction and operation of the Project and shall undertake the salvage and disposition or sale of the Project as provided in the Project Agreement. After such termination, the Supply System will make monthly accounting statements to Bonneville and each Participant of all costs associated with such termination. The monthly accounting statements will credit against such costs all amounts received by the Supply System from the disposition of Project assets. Such monthly accounting statements will continue until

all Project Bonds are paid or funds are set aside for such payment. If the monthly accounting statements show that such costs exceed such credits, the Participant will pay its portion of such excess costs to the Supply System. The payments will be made at times and in amounts sufficient to discharge on a current basis the Participant's Share of the amount which the Supply System is required to pay into the various funds provided in the Project Bond Resolution for debt service and all other purposes.

#### **Event of Default**

The Participant's Share of the Project Capability purchased by the Participant from the Supply System and assigned to Bonneville will be automatically increased for the remaining term of the Net Billing Agreement pro rata with that of other nondefaulting Participants if, and to the extent that, one or more of the Participants is unable, fails, or refuses for any reason to perform its obligations under its Net Billing Agreement; provided however, that the sum of such increases for each Participant, without its consent, may not exceed an accumulated maximum of 25% of its Participant's Share nor shall any such increase cause the estimate of the payments to be made by the Participant to the Supply System to exceed the estimate of Bonneville's billings to the Participant for power and certain services during the period of such increase.

#### **Participant's Rate Covenant and Sources of Payments**

No Participant will be required to make payments to the Supply System under its Net Billing Agreement except from revenues derived from the ownership and operation of its electric utility properties and from payments by Bonneville under such Agreement.

The Participant covenants that it will establish, maintain and collect rates or charges for power and energy and other services, facilities and commodities sold, furnished or supplied by it through any of its electric utility properties which shall be adequate to provide revenues sufficient to enable the Participant to make the payments to Supply System pursuant to its Net Billing Agreement and to pay all other charges and obligations payable from or constituting a charge and lien upon such revenues.

#### **Modification of Agreement**

The Net Billing Agreements shall not be amended, modified or otherwise changed by agreement of the parties in any manner that will impair or adversely affect the security afforded by its provisions for the payment of the principal, interest and premium, if any, on the Bonds.

#### **Exhibits**

The Exhibits described below are an integral part of the Net Billing Agreements.

**Exhibit A** — A list of the Participants and their respective Participant's Shares.

**Exhibit B** — Description of the Project.

**Exhibit C** — Contractual provisions required by Statute or Executive Order and relating to Contract Work hours and safety standards, convict labor, equal opportunity employment and the interest of a member of Congress. Under the provisions of Executive Order 11246 of September 24, 1965 and the Rules and Regulations and relevant Orders of the Secretary of Labor thereunder, the Supply System has been granted a limited exemption from the cancellation, termination, and suspension provisions in the event of non-compliance with the Equal Opportunity Clause contained in the Net Billing Agreements, by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

## THE PROJECT AGREEMENT

The Supply System and Bonneville have entered into the Project Agreement. That Agreement, among other things, provides standards for the design, licensing, financing, construction, fueling, operation and maintenance of the Project, and for the making of any replacements, repairs or capital additions thereto. A summary of some of the provisions of the Project Agreement follows. A copy of the Project Agreement may be obtained from the Supply System.

### Term

The Agreement became effective upon its execution and delivery and will terminate when the Project is terminated as provided in Section 15 of the Agreement.

Section 15 provides that the Project shall terminate and the Supply System shall cause the Project to be salvaged, discontinued, decommissioned and disposed of or sold in whole or in part to the highest bidder or bidders, or disposed of in such other manner as the parties may agree when:

(a) Supply System determines it is unable to construct, operate, or proceed as owner of the Project due to licensing, financing, or operating conditions or other causes which are beyond its control.

(b) The parties determine the Project is not capable of producing energy consistent with Prudent Utility Practice or, if the parties disagree, the Project Consultant so determines, or

(c) Bonneville directs the end of Project pursuant to the provisions of Section 11(a), which provides that if the estimated cost of a replacement or repair or capital addition required by a governmental agency exceeds 20 percent of the then depreciated value of the Project, Bonneville may direct that the Supply System end the Project.

### Design, Licensing and Construction of the Project

The Supply System will among other things (i) perform its duties and exercise its rights in accordance with Prudent Utility Practice; (ii) use its best efforts to obtain all licenses, permits and other rights and regulatory approvals necessary for the ownership, construction, and operation of the Project; (iii) construct the Project in accordance with Prudent Utility Practice; and (iv) use its best efforts to schedule the Date of Commercial Operation as near as possible to September 1, 1977.

Bonneville will use its best efforts to construct, operate and maintain the necessary facilities to interconnect the Project with the Government's transmission grid so as to be ready to receive the Project's generation on or before the initial test and operation of the Project.

In the Project Agreement "Prudent Utility Practice" at a particular time means any of the practices, methods and acts engaged in or approved by a significant proportion of the electrical utility industry prior to such time, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. In evaluating whether any act or proposal conforms to Prudent Utility Practice, Bonneville, the Supply System and any Project Consultant shall take into account the objective to integrate the entire Project Capability with the hydroelectric resources of the Federal Columbia River Power System and to achieve optimum utilization of the resources of that system taken as a whole, and to achieve efficient and economical operation of that system.

### Financing

The Supply System will use its best efforts to issue and sell Project Bonds to finance the cost of the Project and the completion thereof, as such costs are defined in the Project Bond Resolution, and to



finance the cost of any capital additions, renewals, repairs, replacements or modifications to the Project; provided, however, that such Project Bonds may then be legally issued and sold.

All Project Bond Resolutions are subject to approval by Bonneville, and Bonneville has approved the Resolution and the Supplemental Resolution.

### **Budgets**

Construction Budgets and Annual Budgets will be prepared annually. The Construction Budgets and the Annual Budgets and any revision thereof are to be submitted to Bonneville and are subject to its approval. In the absence of any objection by Bonneville a budget will become effective within 30 days, in the case of the Construction and Annual Budgets, and within 7 days in the case of any revision thereof.

A monthly Construction Budget report shall be prepared by the Supply System and filed with Bonneville showing by major plant accounts or contracts, the cumulative amounts committed and expended to the date of each such report.

Costs incurred by the Supply System in an emergency or to protect the safety of the Project or the public shall be added to the Annual Budget as incurred.

All accounts shall be kept so as to permit conversion to the system of accounts prescribed for electric utilities by the Federal Power Commission.

### **Operation and Maintenance**

The Supply System will operate and maintain the Project in accordance with Prudent Utility Practice and the requirements of the AEC and other government agencies having jurisdiction.

### **Bonds for Replacements, Repairs and Capital Additions**

If in any Contract Year the amounts in the Annual Budget for renewals, repairs and replacements and for capital additions and betterments necessary to achieve design capability or required by governmental agencies ("Amounts for Extraordinary Costs"), whether or not such amounts are costs of operation or costs of construction, exceed the amount of reserves, if any, maintained for such purpose pursuant to the Project Bond Resolution plus the proceeds of insurance, if any, available by reason of loss or damage to the Project, by the lesser of:

(1) \$3,000,000 or

(2) an amount by which the amount of Bonneville's estimate of the total of the net billing credits available in such Contract Year to the Participants and the amounts of such reserves and insurance proceeds, if any, exceeds the Annual Budget for such Contract Year exclusive of Amounts for Extraordinary Costs,

Supply System will, in good faith, use its best efforts to issue and sell Project Bonds to pay such excess.

### **Bonneville's Approval and Project Consultant**

If any proposal or item subject to approval by Bonneville is disapproved by Bonneville and an alternative proposal or item is suggested by Bonneville, Supply System will either adopt such suggestion or, within seven days after receipt of such disapproval, appoint a Project Consultant acceptable to Bonneville to review the proposal or item. Proposals or items found by the Project Consultant to be consistent with Prudent Utility Practice shall become immediately effective. Proposals or items found by the Project Consultant to be inconsistent with Prudent Utility Practice shall be modified to conform to the recommendation of the Project Consultant or as the parties otherwise agree and shall become effective as and when modified. If any proposal or item referred to the Project Consultant has not been

resolved and will affect the continuous operation of the Project, Supply System shall continue to operate the Project and may proceed with the item as proposed by Supply System, or as proposed by Bonneville, or as modified by mutual agreement of Supply System and Bonneville. If the Supply System proceeds with the item as proposed by it, and the item is determined by the Project Consultant to be inconsistent with Prudent Utility Practice, Supply System shall bear any net increase in the cost of construction or operation of the Project resulting from such item without charge to the Project to the extent such item is found by the Project Consultant to be inconsistent with Prudent Utility Practice.

#### **Exhibits**

The Exhibits described below are an integral part of the Project Agreement.

**Exhibit A**—Description of the Project.

**Exhibit B**—Contractual provisions required by Statute or Executive Order. Under the provisions of Executive Order 11246 of September 24, 1965 and the Rules and Regulations and relevant Orders of the Secretary of Labor thereunder, the Supply System has been granted a limited exemption from the cancellation, termination, and suspension provisions in the event of non-compliance with the Equal Opportunity Clause contained in said Agreement by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

### **DESCRIPTION OF 1974 BONDS AND CERTAIN PROVISIONS OF THE RESOLUTION AND SUPPLEMENTAL RESOLUTION**

The following summary is a brief outline of certain provisions contained in the Resolution and the Supplemental Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution and the Supplemental Resolution, copies of which may be examined at the office of the Supply System, the Bond Fund Trustee and the Paying Agents for the 1974 Bonds.

#### **The Bonds and the 1974 Bonds**

The Resolution creates and establishes an issue of Bonds of the Supply System which may be issued from time to time to pay the Cost of Construction of the Project and to establish reserves as therein provided. The 1974 Bonds are part of such issue.

The 1974 Bonds will be dated July 1, 1974; principal and semi-annual interest (January 1 and July 1) on coupon 1974 Bonds and principal on registered 1974 Bonds will be payable at the option of the holder at The National Bank of Commerce of Seattle in Seattle, Washington, Continental Illinois National Bank and Trust Company of Chicago in Chicago, Illinois, and Morgan Guaranty Trust Company of New York in New York, New York. Payment of interest on fully registered bonds will be made by Continental Illinois National Bank and Trust Company of Chicago, Chicago, Illinois, which has been appointed the Bond Fund Trustee. The definitive 1974 Bonds will be issued in coupon form in the denomination of \$5,000, registrable as to principal only, and in fully registered form in the denomination of \$5,000 or any multiple thereof. Coupon 1974 Bonds and fully registered 1974 Bonds are interchangeable.

The 1974 Bonds will mature in the years and amounts and bear interest at the rates per annum shown on the cover page hereof. The 1974 Bonds maturing July 1, 1999 and July 1, 2012, will have the benefit of a Bond Retirement Account to operate at the times and in the amounts set forth below. (Res. Secs. 4.5, 4.7; Supp. Res. Sec. 2).

**Redemption:** The 1974 Bonds will be subject to redemption prior to maturity at the option of the Supply System on and after July 1, 1984, on at least 30 days' published notice, in whole at any time

or in part on any interest payment date, in inverse order of their maturities, and by lot within a maturity, at the respective redemption prices (expressed as percentages of the principal amount) set forth below, together with accrued interest to the date fixed for redemption:

<u>Period During Which Redeemed (Both Dates Inclusive)</u>	<u>Redemption Prices</u>
July 1, 1984 to June 30, 1989.....	103%
July 1, 1989 to June 30, 1994.....	102
July 1, 1994 to June 30, 1999.....	101
July 1, 1999 and thereafter .....	100

The Supply System further reserves the right to redeem (a) the 1974 Bonds maturing on July 1, 1999 and on July 1, 2012, prior to maturity, on at least 30 days' published notice, in part on any interest payment date on and after January 1, 1995 and on and after January 1, 2000, respectively, upon payment of the principal amount thereof from sinking fund installments as described below and (b) the 1974 Bonds maturing on July 1, 2012 in part on any interest payment date on and after July 1, 1983 upon payment of 101% of the principal amount thereof, from excess construction fund proceeds, in each case together with accrued interest to the date fixed for redemption.

The Supply System also reserves the right to redeem the 1974 Bonds at any time prior to maturity, on at least 30 days' published notice, in whole at any time or in part, in inverse order of their maturities and by lot within a maturity, on any interest payment date, from proceeds received from the sale or disposition of property or in the event the Project is terminated as provided in the Project Agreement, upon payment of the principal amount thereof together with accrued interest to the date fixed for redemption. (Res. Sec. 5.3; Supp. Res. Sec. 3).

*Sinking Fund Installments:* The 1974 Bonds due July 1, 1999 are to be retired by mandatory sinking fund installments accumulated in the Bond Retirement Account in the Bond Fund in amounts sufficient to redeem on July 1 of each year, at the principal amount thereof, the principal amount of such Bonds specified for each of the years shown below:

<u>Year</u>	<u>Amount</u>
1995 .....	\$2,610,000
1996.....	2,790,000
1997.....	2,990,000
1998.....	3,190,000
1999.....	3,420,000

The 1974 Bonds due July 1, 2012 are to be retired by mandatory sinking fund installments accumulated in the Bond Retirement Account in the Bond Fund in amounts sufficient to redeem on July 1 of each year, at the principal amount thereof, the principal amount of such Bonds specified for each of the years shown below:

<u>Year</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>
2000.....	\$1,840,000	2006.....	\$2,760,000
2001.....	1,965,000	2007.....	2,950,000
2002.....	2,100,000	2008.....	3,155,000
2003.....	2,250,000	2009.....	3,375,000
2004.....	2,410,000	2010.....	3,615,000
2005.....	2,575,000	2011.....	3,865,000
		2012.....	4,140,000

The sinking fund installments for the 1974 Bonds due July 1, 1999 and due July 1, 2012 may be applied to the redemption of such Bonds on July 1 of each of the above years or on the immediately preceding January 1.

(Supp. Res. Sec. 2).

#### **Subsequent Series of Bonds**

The Supply System covenants to issue additional series of Bonds to the extent required to pay the Cost of Construction of the Project and to establish the reserves required by the Resolution to the extent such reserves are not funded from other sources. Such Bonds may be issued upon compliance with the following principal conditions:

(1) There shall have been delivered to the Supply System a certificate of the Bond Fund Trustee that no default exists in the payment of principal and interest on any outstanding Bond, and there has been delivered to the Bond Fund Trustee a certificate of the Secretary of the Board of Directors of the Supply System that the Net Billing Agreements and Project Agreement are in full force and effect and have not been amended in any manner adversely affecting the Supply System and the holders of the Bonds.

(2) Such Bonds shall be either serial or term bonds or a combination thereof, with the final maturity date to be July 1, 2012.

(3) The Construction Engineer shall certify as to the amount expended for, and the amount remaining available to pay, Cost of Construction and the times funds will be required to pay such Cost, and, if the estimated Cost of Construction has increased, give a statement of the reasons for such increase. (Res. Sec. 3.4).

#### **Additional Indebtedness Other than Bonds**

The Supply System may also issue additional bonds ranking on a parity with the Bonds and secured by an equal charge and lien on the revenues of the Project ("additional bonds") for the following purposes:

(1) to comply with an order of any governmental agency with authority to issue, make or enforce an order or decision requiring the installation of additional facilities or modifications at or in the Project;

(2) to comply with requirements of the Project Agreement for the issuance of additional bonds (see "Bonds for Replacements, Repairs and Capital Additions" under "Project Agreement" above);

(3) to refund at any time any Bonds or additional bonds.

The Supply System may not issue any additional bonds unless prior to or simultaneously with the issuance of such bonds the Supply System has in effect valid written contracts for the sale of capability, power and energy of the Project which, in the opinion of the Supply System and of the Consulting Engineer to the Supply System, will produce revenues at least sufficient to enable the Supply System to meet all of its obligations under the Resolution. Such contracts (1) must be for terms extending at least to the final maturity date of the Bonds, (2) unless such contracts are with the parties to the Net Billing Agreements, must be with purchasers which, in the opinion of the Consulting Engineer, have the ability and financial responsibility to meet their obligations under such contracts, and (3) must contain terms with respect to payments for Project capability, power and energy and the items of annual power costs to be included in the price for such project capability, power and energy which are not less favorable to the Supply System than the terms of the Net Billing Agreements.

Additional bonds may be either serial or term bonds or a combination thereof, with the final maturity date to be July 1, 2012, or if the service life of the facilities being financed extends beyond

July 1, 2012, a later date which is not later than the expiration of such service life. A separate bond fund is to be created and payments into such bond fund for the retirement of such additional bonds are to commence within 5 years from the date thereof or, in the case of refunding bonds, at the time when payments with respect to the retirement of the refunded Bonds or additional bonds would be required if such Bonds or additional bonds were not refunded. From the proceeds of sale of additional bonds or revenues of the Supply System available at the time of issuance, an amount equal to the maximum amount of interest to become due on such bonds in any six-month period is to be deposited in the reserve account in such bond fund, and such account is to be maintained at such amount; provided that such amount, in the case of refunding bonds, may be so deposited at the time when the refunded Bonds or additional bonds are no longer deemed outstanding. (Res. Sec. 9.6).

#### **Construction Fund; Application of Bond Proceeds**

The Resolution establishes a Washington Public Power Supply System Nuclear Project No. 2 Construction Fund (the "Construction Fund") and a Construction Interest Account and Fuel Account therein, to be held by the Construction Fund Trustee. Continental Illinois Bank and Trust Company of Chicago is Construction Fund Trustee under the Resolution.

The proceeds of sale of the 1974 Bonds will be applied as follows:

(a) An amount equal to the interest on the 1974 Bonds from their date to September 1, 1977, will be credited to the Construction Interest Account in the Construction Fund. (The interest on the 1973 Bonds to September 1, 1977 was capitalized from the proceeds of such Bonds.)

(b) The sum of \$1,300,000 will be credited to the Fuel Account in the Construction Fund. (\$1,100,000 was credited to such account from the proceeds of the 1973 Bonds.)

(c) The balance of 1974 Bond proceeds will be deposited in the Construction Fund.

The proceeds of sale of subsequent series of Bonds will be applied as follows:

(a) An amount equal to the interest on such Bonds to September 1, 1977, will be credited to the Construction Interest Account in the Construction Fund.

(b) The Supply System will credit to the Fuel Account in the Construction Fund such amounts, if any, as the Supply System determines.

(c) The balance of the Bond proceeds will be deposited in the Construction Fund.

The Resolution provides that if working capital and the Reserve Account and Reserve and Contingency Fund requirements are not provided for by September 1, 1977, through revenues received pursuant to the Net Billing Agreements, such amounts will be provided from Bond proceeds.

Moneys in the Construction Fund are to be used to pay Cost of Construction of the Project, which includes costs of constructing and acquiring the Project, obtaining permits and licenses and acquiring property and Fuel, trustees' and paying agents' fees, taxes and insurance premiums, the cost of engineering services and administrative and overhead expenses of the Supply System allocable to the acquisition and construction of the Project. The cost of acquiring Fuel will be paid from the Fuel Account.

Moneys in the Construction Interest Account in the Construction Fund will be used to pay interest on the Bonds to September 1, 1977. Whenever moneys in the Construction Interest Account are inadequate to meet interest payments, amounts necessary to meet the deficiency are to be transferred from the Construction Fund to the Construction Interest Account.

The Resolution prescribes certain procedures designed to safeguard payments or transfers from the Construction Fund, including, among others, certificates by the Construction Engineer and a detailed itemization by the Supply System of the amounts to be paid and the purposes thereof.

Moneys remaining in the Construction Fund after payment of all Cost of Construction and after required payments, if any, to the Revenue Fund, Reserve Account and to the Reserve and Contingency Fund are to be transferred to the Bond Retirement Account. (Res. Secs. 6.8-6.13, 7.1; Supp. Res. Sec. 5).

#### **Other Funds Established by the Resolution; Flow of Revenues**

The Resolution also establishes a Washington Public Power Supply System Nuclear Project No. 2 Revenue Fund, Bond Fund (including an Interest Account, a Principal Account, a Bond Retirement Account and a Reserve Account), Fuel Fund and Reserve and Contingency Fund. All such funds are to be held by the Supply System, except for the Bond Fund, which is to be held by the Bond Fund Trustee.

*Revenue Fund:* The gross revenues derived by the Supply System from its ownership and operation of the Project are to be paid into the Revenue Fund. Moneys received prior to September 1, 1977, or the Date of Commercial Operation, whichever is earlier, under the Net Billing Agreements will be credited to a Prepayment Account in the Revenue Fund. Bonneville and the Supply System have agreed that if the Project does not commence commercial operation prior to September 1, 1977, an amount at least equal to one-half of the maximum annual interest on the Bonds issued prior to September 1, 1977, plus \$6,000,000 will be included in the Annual Budget for the Project for the period January 1 to September 1, 1977. Such amount will be credited to the Prepayment Account and used, first, to deposit in the Bond Fund for credit to the Reserve Account, the amount required to establish such Account in the amount required by the Resolution; second, to deposit \$3,000,000 in the Reserve and Contingency Fund and, third, to provide \$3,000,000 for working capital for the Project. Additional working capital may be provided by mutual agreement between the Supply System and Bonneville. Moneys in the Revenue Fund are to be used for the purpose of making required payments into the Bond Fund and any special funds for additional bonds, paying for the costs of operating and maintaining the Project, making required payments into the Fuel Fund and the Reserve and Contingency Fund, making repairs, renewals, replacements, additions, betterments and improvements to and extensions of, the Project, and paying all other charges or obligations against such revenues. (Res. Sec. 6.1).

*Bond Fund:* From the gross revenues theretofore paid into the Revenue Fund, the Supply System is to pay monthly into the Bond Fund, for the credit of the Interest Account and the Principal Account, respectively, fixed amounts sufficient in the aggregate to pay the principal of and interest on the Bonds as the same become due and payable. Payments to the Interest Account will commence on September 25, 1977. Prior to that date the Construction Fund Trustee will transfer from the Construction Fund to the Bond Fund Trustee amounts sufficient to pay each installment of interest on the Bonds.

Monthly payments to the Principal Account are to commence not later than September 25, 1977, and be sufficient to pay outstanding serial Bonds as they mature.

Beginning July 25, 1994, the Supply System is also obligated to pay monthly into the Bond Retirement Account amounts sufficient in the aggregate to redeem the 1974 Bonds maturing July 1, 1999 and July 1, 2012 in the principal amounts and at the times specified under the subcaption "Sinking Fund Installments" under "The Bonds and the 1974 Bonds". Such amounts are in addition to the amounts required or to be required to be paid into the Bond Retirement Account to redeem the term bonds of other series of Bonds in the principal amounts and at the times specified in the resolutions authorizing such Bonds. Moneys in the Bond Retirement Account are to be applied by the Bond Fund Trustee to the purchase or redemption of outstanding Bonds.

There is required to be paid into and maintained in the Reserve Account for each series of Bonds outstanding, an amount equal to the largest amount of interest on such Bonds during any six month period from the date of such Bonds to the final maturity date thereof. By September 1, 1977, or the Date of Commercial Operation, whichever is earlier, the Supply System will deposit the required amount

in the Reserve Account either from Bond proceeds or amounts received under the Net Billing Agreements and deposited in the Prepayment Account. The Supply System is required to maintain the required amount in the Reserve Account at all times thereafter by additional payments from the Revenue Fund. If any Bonds are issued after September 1, 1977, or the Date of Commercial Operation, whichever is earlier, the additional amount required to be deposited in the Reserve Account shall be deposited therein from Bond proceeds or revenues available therefor at the time of issuance of the Bonds. (Res. Sec. 6.2).

*Fuel Fund:* Beginning on the Date of Commercial Operation, all payments for Fuel will be made from the Fuel Fund. After the Date of Commercial Operation, after making the required payments into the Bond Fund and into any separate bond fund for additional bonds and after paying the reasonable and necessary costs of operating and maintaining the Project, including taxes or payments in lieu thereof, the Supply System will transfer to the Fuel Fund the following amounts:

- (1) the amount included in the Annual Budget for Fuel,
- (2) all amounts received as Fuel credits, including the proceeds of the sale of Fuel,
- (3) any additional amounts necessary to avoid a deficiency in the Fuel Fund. (Res. Sec. 6.4).

*Reserve and Contingency Fund:* On or before September 1, 1977, or the Date of Commercial Operation, whichever occurs earlier, the Supply System will deposit in the Reserve and Contingency Fund the sum of \$3,000,000 from the Prepayment Account, or, to the extent such moneys are not available, from Bond proceeds. In September 1977, and in each month thereafter, the Supply System is required to pay out of the Revenue Fund into the Reserve and Contingency Fund, after making the required payments into the Bond Fund, any separate bond fund established for additional bonds and the Fuel Fund, and after paying or making provision for payment of the reasonable and necessary cost of operating and maintaining the Project, an amount equal to 10% of the aggregate of the amounts required to be paid during such month into the Interest, Principal and Bond Retirement Accounts in the Bond Fund and into any special funds for interest, principal and bond retirements in respect of additional bonds.

Moneys in the Reserve and Contingency Fund are required to be used to make up deficiencies in the Bond Fund or in any bond funds established for additional bonds for which funds are not available, respectively, in the Construction Fund or Reserve Account or in the construction fund or reserve account in respect of additional bonds. To the extent not required for any such deficiency, moneys in the Reserve and Contingency Fund may be used after the Date of Commercial Operation, for any one or more of the following purposes:

- (i) to pay the cost of renewals, replacements and normal additions to and extensions of the Project; and
- (ii) to pay extraordinary operation and maintenance costs, including extraordinary costs of Fuel and the cost of preventing or correcting any unusual loss or damage (including major repairs) to the Project. (Res. Sec. 6.5).

*Investment of Funds:* The term "Investment Securities" means (i) direct obligations of, or obligations guaranteed by, the United States of America; (ii) general obligation bonds of any state of the United States rated by a nationally recognized bond rating agency in either of the two highest rating categories assigned by such rating agency; (iii) bonds, debentures, notes or participation certificates issued by the Bank for Cooperatives, the Federal Intermediate Credit Bank, the Federal Home Loan Bank System, the Export-Import Bank of the United States, Federal Land Banks or the Federal National Mortgage Association or of any agency of the United States or of any corporation wholly owned by the United States; (iv) Public Housing Bonds or Project Notes secured by contracts with the United States or an agency thereof; and (v) time deposits and certificates of deposit of any member of the Federal Reserve

System authorized to do business in the State of Washington, not exceeding 25% of the capital stock and surplus of such member. Moneys in the Revenue Fund not required for immediate disbursement are to be invested in Investment Securities described in clauses (i) through (iv) above maturing or redeemable at or prior to the estimated time for the disbursement of such moneys. Moneys in the Interest Account, Principal Account and Bond Retirement Account are to be invested in Investment Securities described in clauses (i) through (iv) above maturing not later than 2 days prior to the respective dates when such moneys will be required for the purposes intended. Moneys in the Reserve Account not required for immediate disbursement are to be invested in Investment Securities described in clauses (i) through (iv) above maturing or redeemable within 7 years from the date of investment. Moneys in the Fuel Fund and Reserve and Contingency Fund not required for immediate disbursement are to be invested in Investment Securities maturing or redeemable within 2 years and 7 years, respectively, from the date of investment. Moneys in the Construction Fund are to be invested by the Construction Fund Trustee in Investment Securities maturing or redeemable within 5 years of the date of investment. (Res. Secs. 6.1, 6.7).

*Excess Moneys:* Prior to September 1, 1977 or the Date of Commercial Operation, whichever is earlier, excess moneys (as hereinafter defined) in the Reserve Account and the Reserve and Contingency Fund shall be paid into the Construction Fund. Moneys and the value of Investment Securities in the Reserve Account in excess of the amounts required to be maintained in the Reserve Account constitute "excess moneys" in respect of such Account; moneys and the value of Investment Securities in the Reserve and Contingency Fund in excess of \$3,000,000 plus the commitments or obligations incurred by or the requirements of the Supply System for any of the purposes for which the Reserve and Contingency Fund may be used constitute "excess moneys" in respect of such Fund.

If as of any June 30 following September 1, 1977 or the Date of Commercial Operation, whichever is earlier, excess moneys exist in the Reserve and Contingency Fund or the Reserve Account, such moneys shall be paid as follows:

(a) excess moneys in the Reserve and Contingency Fund shall be paid proportionately into the Reserve Account and the reserve account for any series of additional bonds to the extent of any deficiency therein, and the balance of such excess moneys shall be paid into the Revenue Fund; and

(b) excess moneys existing in the Reserve Account shall be paid proportionately into the reserve account for any series of additional bonds to the extent of any deficiency therein, and the balance of such excess moneys shall be paid into the Revenue Fund.

If as of any June 30 following September 1, 1977 or the Date of Commercial Operation, whichever is earlier, there shall exist in the Revenue Fund, after giving effect to any transfer of excess moneys from the Reserve Account and the Reserve and Contingency Fund to such Fund, an amount which exceeds the Supply System's required amount of working capital, the amount of such excess is to be applied to reduce annual power costs under the Net Billing Agreements. The "required amount of working capital" shall be \$3,000,000 or such lesser amount (not less than \$2,000,000) or such greater amount as may be decided upon by the Supply System and Bonneville with the approval of the Consulting Engineer. In addition, if the Supply System and Bonneville agree, all or any part of such excess over required working capital may be applied to the making of repairs, renewals, replacements, additions, betterments and improvements to, and extensions of, the Project, the purchase or redemption of Bonds, or for other purposes in connection with the Project. (Res. Secs. 6.2, 6.5, 6.6).

#### **Certain Covenants**

Certain covenants of the Supply System with the holders of the Bonds and the holders of additional bonds are summarized as follows:



*The Project:* The Supply System will, subject to the Project Agreement, complete construction of the Project at the earliest practicable time, operate the Project efficiently and at reasonable cost, maintain it in good condition and comply at all times with the terms of any licenses for the Project. (Res. Sec. 9.1).

*Rates:* The Supply System will dispose of all capability of and power from the Project solely for the benefit and account of the Project and pursuant to the provisions of the Net Billing Agreements; and the Supply System will maintain and collect rates and charges for capability of and power and energy and other services, facilities and commodities sold, furnished or supplied by the Project, which will be adequate, whether or not the generation or transmission of power by the Project is suspended, interrupted or reduced for any reason whatever, to provide revenues sufficient, among other things, (i) to pay the expenses of operating and maintaining the Project, (ii) to make the required payments into the Bond Fund and any special funds for additional bonds, and (iii) to make the required payments into the Fuel Fund and Reserve and Contingency Fund. (Res. Secs. 9.2, 9.3).

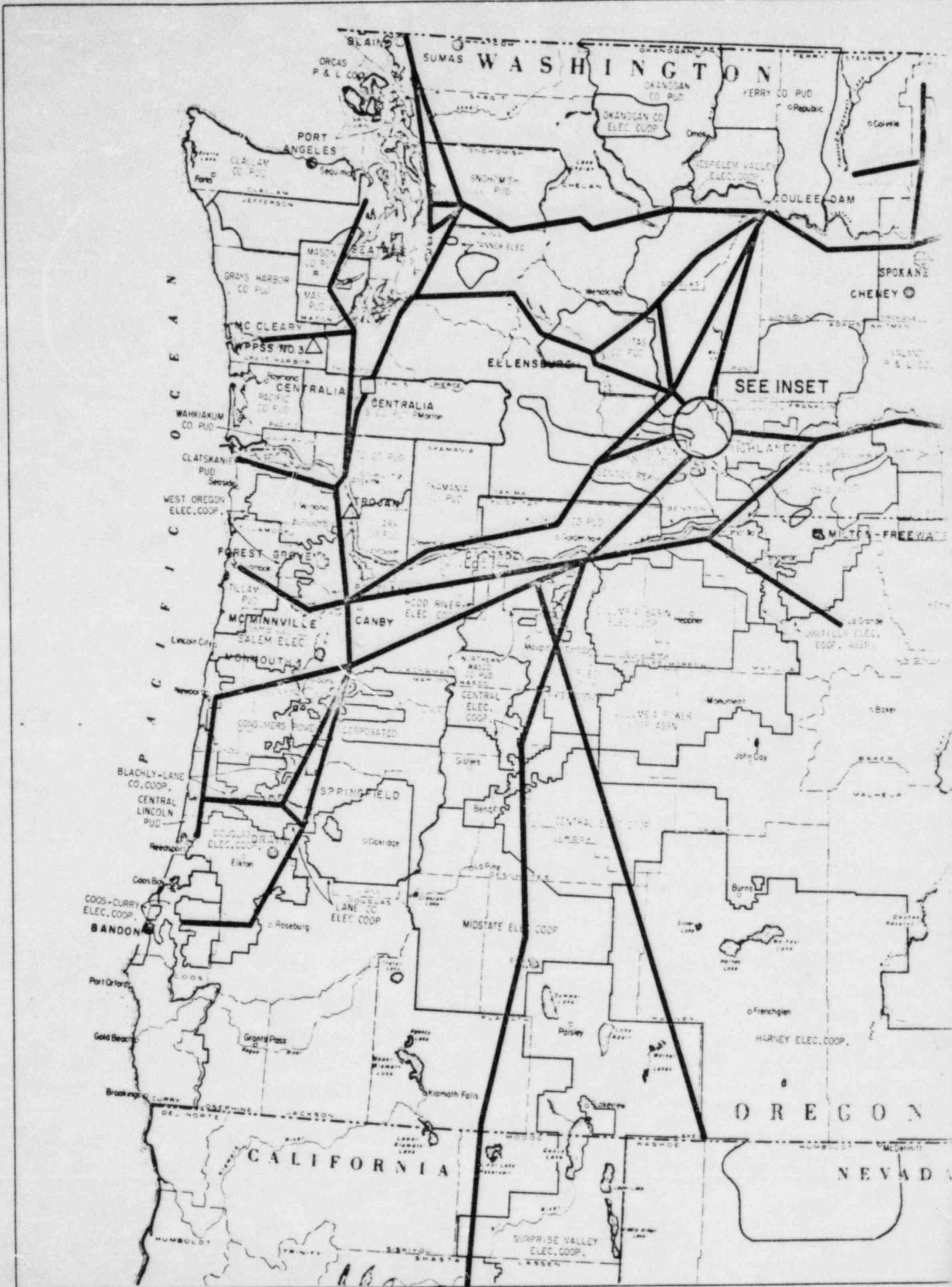
*Net Billing Agreements and Project Agreement:* The Supply System will not consent voluntarily to any amendment or rescission of the Project Agreement or the Net Billing Agreements or take any action under or in connection with such agreements which will reduce the payments provided for therein or which will in any manner impair or adversely affect the rights of the Supply System or of the bondholders. (Res. Sec. 9.4).

*Disposition of Properties:* The Supply System will not sell, mortgage, lease or otherwise dispose of any properties of the Project unless (a) simultaneous provision is made for the retirement in full of the Bonds and any additional bonds or (b) the properties to be disposed of are unserviceable, inadequate, obsolete or no longer required for use in connection with the Project, in which case \$50,000 of the moneys received therefor are to be transferred to the Reserve and Contingency Fund and the balance is to be paid proportionately into the Bond Retirement Account and bond retirement accounts created for additional bonds, unless such disposition is in connection with the replacement of such properties, or the disposition of Fuel, in which case all moneys received from such disposition are to be transferred to the Reserve and Contingency Fund or the Fuel Fund, respectively, or (c) the transfer of such properties in whole or in part is by operation of law, in which case moneys received therefor are to be paid proportionately into the Bond Retirement Account and bond retirement accounts for additional bonds. (Res. Sec. 9.7).

*Insurance:* The Supply System will keep the Project insured, to the extent such insurance is available at reasonable cost: against risks of direct physical loss, damage to, or destruction of, the Project, at least to the extent that similar insurance is usually carried by private utility corporations operating like properties, against accidents, casualties or negligence, including liability insurance and employer's liability.

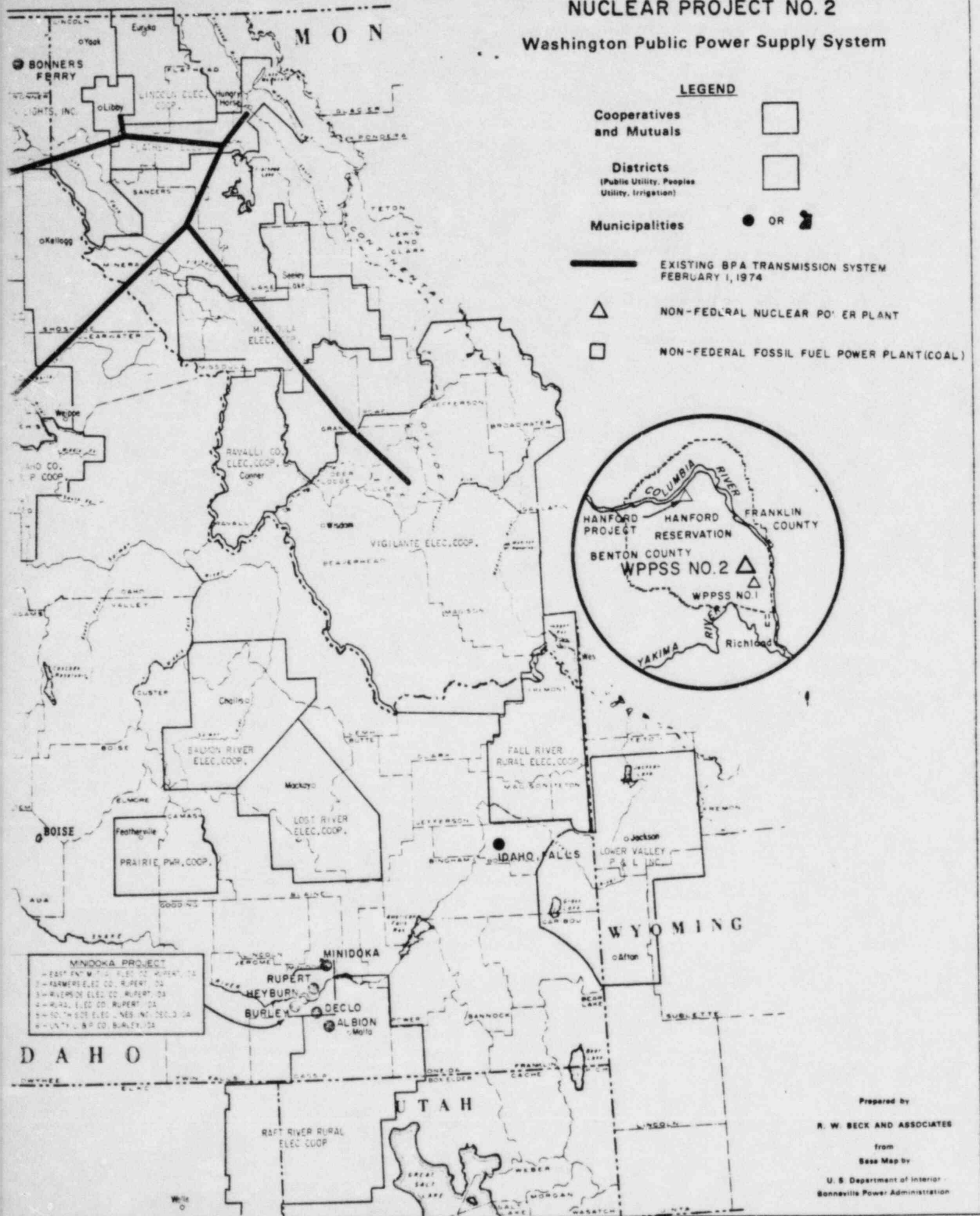
In the event that any loss or damage to the properties of the Project occurs during the period of construction the Supply System is to transfer the insurance proceeds, if any, in respect of such loss or damage to the Construction Fund; any insurance proceeds received by the Supply System in respect of such loss or damage occurring thereafter is to be transferred into the Reserve and Contingency Fund or, in the case of insurance covering loss or damage to Fuel, to the Fuel Fund. (Res. Sec. 9.8).

*Books of Account:* The Supply System will keep proper books of account, showing the Project as a separate utility system, in accordance with the rules and regulations of the Division of Municipal Corporations of the State Auditor's office of the State of Washington and in accordance with the Uniform System of Accounts prescribed by the Federal Power Commission. Such books of account are to be audited annually by a firm of independent certified public accountants of national reputation. Bondholders may obtain copies of the annual financial statements showing the financial condition of the Project and the annual audit report by sending a written request therefor to the Supply System. (Res. Sec. 9.9).



# ELECTRIC UTILITY PARTICIPANTS SERVICE AREAS NUCLEAR PROJECT NO. 2

Washington Public Power Supply System



Prepared by  
**R. W. BECK AND ASSOCIATES**  
from  
Base Map by  
U. S. Department of Interior  
Bonneville Power Administration

*Consulting Engineer:* The Supply System will retain a nationally recognized independent consulting engineer or engineering firm to render continuous engineering counsel in the operation of the Project. In addition to his other duties, the Consulting Engineer shall prepare, not later than 18 months after the Date of Commercial Operation, and each 3 year period thereafter, a report based upon a survey of the Project and the operation and maintenance thereof. Each report is to show, among other things, whether the Supply System has satisfactorily performed and complied with certain covenants in the Resolution. The Consulting Engineer is also required to report to the Bond Fund Trustee and the Supply System upon the economic soundness and feasibility of all contemplated renewals, replacements, additions, betterments and improvements to, and extensions of, the Project involving the expenditure of \$100,000 or more. The Consulting Engineer is also required to file annually a certificate with the Bond Fund Trustee describing the insurance then in effect and stating whether or not such insurance complies with the requirements of the Resolution. In the event of any loss or damage in excess of \$100,000, whether or not covered by insurance, the Consulting Engineer is to ascertain the amount of such loss or damage and deliver to the Supply System a certificate setting forth the amount and nature of such loss or damage, together with recommendations as to whether or not such loss or damage should be replaced. Copies of any such triennial report, annual certificate as to insurance, or certificate in respect of any such loss or damage will be sent to bondholders filing with the Supply System written requests therefor. (Res. Sec. 9.10).

#### **Events of Default; Remedies**

Under the Resolution, the happening of one or more of the following events constitutes an Event of Default: (i) default in the performance of any obligation with respect to payments into the Revenue Fund; (ii) default in the payment of the principal of or default for 30 days in the payment of interest or any sinking fund installment on any Bonds; (iii) default for 90 days in the observance and performance of any other of the covenants, conditions and agreements of the Supply System in the Resolution; (iv) the sale or conveyance of any properties of the Project except as permitted by the Resolution or the forfeiture through fault of the Supply System of any license, franchise, permit or other privilege necessary or desirable in the operation of the Project; and (v) certain events in connection with the bankruptcy, insolvency or reorganization of the Supply System. (Res. Sec. 11.1).

In case an Event of Default has occurred which has not been cured, each trustee appointed by or pursuant to the provisions of the Resolution is required to exercise such of the rights and powers vested in it by the Resolution and use the same degree of care and skill in the exercise thereof as a prudent man would exercise or use in the circumstances in the conduct of his own affairs. (Res. Sec. 7.6).

If an Event of Default shall have occurred, and shall not have been remedied, the Bond Fund Trustee or the holders of 20% in principal amount of the Bonds and additional bonds then outstanding may declare the principal of all the Bonds and additional bonds and the interest accrued thereon to be immediately due and payable, but such declaration may be annulled under certain circumstances. (Res. Sec. 11.1).

After the occurrence of an Event of Default and prior to the curing of such Event of Default, the Bond Fund Trustee may, to the extent permitted by law, take possession and control of the Project and operate and maintain the same, prescribe rates for Project capability or power sold or supplied through the facilities of the Project, collect the gross revenues resulting from such operation and perform all of the agreements and covenants contained in any contract which the Supply System is then obligated to perform. Such gross revenues, after payment of operating expenses, shall be applied to the payment of principal of and interest on the Bonds and additional bonds. After all sums then due in respect of the Bonds and additional bonds have been paid, and after all Events of Default have been cured or secured to the satisfaction of the Bond Fund Trustee, the Bond Fund Trustee is required to relinquish possession and control of the Project to the Supply System. (Res. Secs. 11.3, 11.4).

The Resolution empowers the Bond Fund Trustee to file proofs of claims for the benefit of the holders of the Bonds in bankruptcy, insolvency, or reorganization proceedings and to institute suit

for the collection of sums due and unpaid in connection with the Bonds, to enforce specific performance of covenants contained in the Resolution or to obtain injunctive or other appropriate relief for the protection of the holders of the Bonds. (Res. Sec. 11.4).

The holders of a majority in principal amount of the Bonds and additional bonds at the time outstanding have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Bond Fund Trustee, or exercising any trust or power conferred upon the Bond Fund Trustee, but the Bond Fund Trustee must be provided with reasonable security and indemnity and also may decline to follow any such direction if it shall be advised by counsel that the action or proceeding so directed may not lawfully be taken or if it in good faith determines that the action or proceeding so directed would involve it in personal liability or that the action or proceeding so directed would be unjustly prejudicial to the holders of Bonds or additional bonds not parties to such direction. No bondholder has any right to institute suit to enforce any provision of the Resolution or the execution of any trust thereunder (except to enforce the payment of principal or interest installments as they mature), unless the Bond Fund Trustee has been requested by the holders of not less than 20% in aggregate principal amount of the Bonds then outstanding to exercise the powers granted it by the Resolution or to institute such suit and unless the Bond Fund Trustee has refused or failed, within 60 days after the receipt of such request and after having been offered adequate security and indemnity, to comply with such request. In the event the Bond Fund Trustee has failed or refused to comply with the aforesaid request, the Resolution provides for the creation of a "Bondholders' Committee". (Res. Secs. 11.4, 11.5).

#### **Amendments; Supplemental Resolutions**

Any amendment to the Resolution may be made by the Supply System with the consent of the holders of 66 $\frac{2}{3}$ % in principal amount of the Bonds and additional bonds then outstanding and with the consent of the holders of 66 $\frac{2}{3}$ % in principal amount of the outstanding Bonds and additional bonds which are adversely affected by any amendment which does not equally affect all other outstanding Bonds and additional bonds, provided that no such amendment shall permit a change in the date of payment of principal of or any installment of interest on any Bond or additional bond or a reduction in the principal or redemption price thereof or the rate of interest thereon without the consent of each bondholder so affected. (Res. Article XII).

Without the consent of any holder of Bonds, the Supply System may adopt supplemental resolutions: to authorize the issuance of subsequent series of Bonds or additional bonds; to add to the covenants of the Supply System contained in, or to surrender any rights reserved to or conferred upon it by, the Resolution; to add to the restrictions contained in the Resolution upon the issuance of additional indebtedness; to confirm as further assurance any pledge under the Resolution of the revenues of the Project or other moneys; otherwise to modify any of the provisions of the Resolution (but no such modification may be effective while any of the Bonds are outstanding); or to cure any ambiguity or correct any defect in the Resolution, provided that the Bond Fund Trustee shall consent thereto. (Res. Article X).

#### **REGISTRATION OF THE 1974 BONDS BY STATE AUDITOR**

The 1974 Bonds will be registered by the State Auditor of the State of Washington, and a certificate of such registration signed by the State Auditor or a Deputy State Auditor will be endorsed upon each 1974 Bond in accordance with the provisions of Section 54.24.070 of the Revised Code of Washington, made applicable to the Supply System by the Revised Code of Washington, Section 43.52.3411. Such section provides, in part, that any revenue obligations after having been so registered and bearing such certificate shall be held in every action, suit or proceeding in which their validity is or may be brought into question prima facie valid and binding obligations in accordance with their terms.

## NEGOTIABLE INSTRUMENTS

The 1974 Bonds and the interest coupons attached thereto are negotiable instruments in accordance with the provisions of Section 54.24.120 of the Revised Code of Washington.

## LITIGATION

There is no litigation pending, nor to the knowledge of the Supply System, any threatened, questioning the corporate existence of the Supply System, the title of the officers of the Supply System to their respective offices, the validity of the 1974 Bonds, the power and authority of the Supply System to issue the 1974 Bonds, the validity of the Net Billing Agreements or the Project Agreement, the validity of any other proceeding taken or contract entered into by the Supply System, which is in any way related to the Project, or the power and authority of the Supply System to fix, charge and collect rates for the sale of power, energy and capability from the Project as provided in the Resolution.

## APPROVAL OF LEGAL PROCEEDINGS

All legal matters incident to the Net Billing Agreements, the Project Agreement and the authorization and issuance of the 1974 Bonds are subject to the approval of Messrs. Wood Dawson Love & Sabatine, Bond Counsel to the Supply System, and Messrs. Houghton Cluck Coughlin & Riley, Special Counsel to the Supply System. Copies of the opinions they propose to render are appended hereto as Exhibit IV.

## TAX EXEMPTION

In the opinion of the above named Counsel, the interest on the 1974 Bonds will be exempt from Federal income taxation under existing laws and regulations and specific rulings issued by the Internal Revenue Service, dated November 18, 1970 and November 30, 1972.

## MISCELLANEOUS

The references, excerpts, and summaries contained herein of the Net Billing Agreements, the Project Agreement and the Resolution do not purport to be complete statements of the provisions of such documents and reference should be made to such documents for a full and complete statement of all matters relating to the Bonds, the basic agreements securing the Bonds and the rights and obligations of the holders thereof.

The authorizations, agreements and covenants of the Supply System are set forth in the Resolution, and neither this Official Statement nor any advertisement of the 1974 Bonds are to be construed as a contract with the holders of the 1974 Bonds. Any statements made in this Official Statement involving matters of opinion or of estimates, whether or not expressly so identified, are intended merely as such and not as representations of fact.

All of the information relative to the Pacific Northwest, Bonneville, Joint Power Planning Council and Pacific Northwest Utilities Conference Committee, have been taken from sources deemed to be reliable but are not guaranteed as to completeness or accuracy.

The delivery of this Official Statement has been duly authorized by the Supply System.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

E. VICTOR RHODES  
*Secretary*

**EXHIBIT I**

**WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 2**

**The Participants, their customers and gross revenues, estimated Bonneville billings for power and certain services and Participant's Shares of the Project capability.**

Columns (1) and (2) in the following table show the number of customers and the gross revenues of each Participant for fiscal 1973.

Column (3) shows the amount of the billings for power and certain services, after deducting any amounts previously committed under other net billing or exchange agreements, that Bonneville estimates each Participant will be obligated to pay in the year 1978-1979.

Based upon an estimated average annual cost of \$64,150,000, Column (4) shows the annual Project costs as they are allocated to each Participant to be offset or credited against the billings to the Participant shown in Column (3).

Column (5) shows the percentage of the Project's capability that has been purchased by each Participant and assigned to Bonneville.

(1) (2)  
Fiscal 1973 Statistics

<u>Participant</u>	<u>Customers</u>	<u>Revenues</u>
City of Albion, Idaho .....	155	\$ 27,169
City of Bandon, Oregon .....	1,785	388,710
Public Utility District No. 1 of Benton County, Washington .....	16,121	5,111,529
Benton Rural Electric Association, Inc. ....	5,050	1,323,228
Big Bend Electric Cooperative, Inc. ....	4,380	2,033,780
Elachly-Lane County Cooperative Electric Association .....	1,908	755,447
City of Blaine, Washington .....	1,213	254,413
City of Bonners Ferry, Idaho .....	1,628	401,405
City of Burley, Idaho .....	3,977	872,123
City of Canby, Oregon .....	2,212	473,313
City of Cascade Locks, Oregon .....	597	199,021
Central Electric Cooperative, Inc. ....	5,656	1,477,539
City of Centralia, Washington .....	6,382	1,168,111
Central Lincoln Peoples' Utility District .....	17,997	6,321,978
City of Cheney, Washington .....	2,608	666,771
Public Utility District No. 1 of Clallam County, Washington .....	10,413	3,009,330
Public Utility District No. 1 of Clark County, Washington .....	57,672	15,106,080
Clatskanie Peoples Utility District .....	2,288	2,015,406
Clearwater Power Company .....	5,537	1,432,813
Columbia Basin Electric Cooperative, Inc. ....	3,102	1,067,072
Columbia Power Cooperative Association, Inc. ....	1,304	468,909
Columbia Rural Electric Association, Inc. ....	1,914	868,810
Consumers Power, Inc. ....	9,523	2,688,341
Coos-Curry Electric Cooperative, Inc. ....	8,305	2,684,490
Town of Coulee Dam, Washington .....	544	160,824
Public Utility District No. 1 of Cowlitz County, Washington .....	29,704	11,504,144
City of Declo, Idaho .....	91	18,150
Douglas Electric Cooperative, Inc. ....	5,355	1,296,211
City of Drain, Oregon .....	574	183,381
East End Mutual Electric Co., Ltd. ....	321	67,254
City of Ellensburg, Washington .....	5,068	1,086,842
Fall River Rural Electric Cooperative, Inc. ....	4,313	998,459
Farmers Electric Co., Ltd. ....	204	44,158
Public Utility District No. 1 of Ferry County, Washington .....	1,427	496,275
Flathead Electric Cooperative, Inc. ....	4,188	882,728
City of Forest Grove, Oregon .....	4,336	980,130
Public Utility District No. 1 of Franklin County, Washington .....	10,421	3,033,105
Public Utility District No. 1 of Grays Harbor County, Washington .....	28,635	8,540,248
Harney Electric Cooperative, Inc. ....	1,632	999,123
City of Heyburn, Idaho .....	711	414,990
Hood River Electric Cooperative of Hood River County, Oregon .....	2,103	652,670
Idaho County Light & Power Cooperative Association, Inc. ....	1,648	385,282
City of Idaho Falls, Idaho .....	13,046	3,357,267
Inland Power & Light Company .....	12,802	3,188,311
Public Utility District No. 1 of Kittitas County, Washington .....	1,217	337,982
Public Utility District No. 1 of Klickitat County, Washington .....	5,999	1,788,558
Kootenai Electric Cooperative, Inc. ....	4,789	1,081,040
Lane Electric Cooperative, Inc. ....	7,654	2,019,895
Public Utility District No. 1 of Lewis County, Washington .....	15,716	3,703,733
Lincoln Electric Cooperative, Inc. (Montana) .....	1,632	528,653

(A) Based upon current Bonneville rate schedules plus 28% after deductions of amounts committed for the Hanford Project and under the Net Billing Agreements for the Trojan Project of the City of Eugene. Bonneville has stated that it anticipates a rate increase to be effective on December 20, 1974 in excess of this amount and further increases totaling an additional 27% by 1980.

(B) Based upon average annual costs.

(C) Fall River Rural Electric Cooperative, Inc. has temporarily assigned its Participant's Share to Public Utility District No. 1 of Snohomish County, Washington.



(3)	Estimated 1978-1979	(4)	(5)
Anticipated Bonneville Billings(A)	Share of Annual Project Costs(B)	Participant's Share of Project Capability	
\$ 16,600	\$ 10,300	.00016	
248,100	168,700	.00263	
5,190,100	3,432,000	.05350	
692,200	427,200	.00666	
1,052,000	1,032,800	.01610	
253,300	174,500	.00272	
156,800	118,700	.00185	
224,900	116,800	.00182	
441,300	445,200	.00694	
183,300	57,700	.00090	
104,600	34,600	.00054	
836,600	375,900	.00586	
637,500	474,100	.00739	
4,138,700	2,576,900	.04017	
638,300	345,800	.00539	
1,851,200	1,134,800	.01769	
12,094,500	3,945,900	.06151	
881,300	1,280,400	.01996	
655,800	497,200	.00775	
518,200	431,700	.00673	
266,000	91,700	.00143	
949,700	488,200	.00761	
829,200	290,600	.00453	
1,041,500	1,048,200	.01634	
119,700	87,900	.00137	
12,508,200	3,544,300	.05525	
16,500	12,200	.00019	
658,100	232,900	.00363	
147,100	139,800	.00218	
47,700	21,200	.00033	
442,100	659,500	.01028	
787,400	262,400	.00409(C)	
27,100	26,300	.00041	
166,000	109,700	.00171	
356,300	237,400	.00370	
175,400	116,100	.00181	
1,756,200	1,520,300	.02370	
4,564,900	1,972,600	.03075	
467,800	461,200	.00719	
341,600	323,300	.00504	
428,100	322,000	.00502	
121,300	119,300	.00186	
1,354,900	1,524,200	.02376	
1,941,800	783,900	.01222	
226,600	141,100	.00220	
825,100	647,300	.01009	
611,800	250,800	.00391	
1,150,100	931,400	.01452	
3,090,800	1,458,800	.02274	
211,600	163,600	.00255	

(1) (2)  
Fiscal 1973 Statistics

<u>Participant</u>	<u>Customers</u>	<u>Revenues</u>
Lost River Electric Cooperative, Inc. ....	1,358	\$ 372,682
Lower Valley Power & Light, Inc. ....	6,659	1,866,175
Public Utility District No. 1 of Mason County, Washington.....	2,541	439,058
Public Utility District No. 3 of Mason County, Washington.....	12,373	2,898,635
Town of McCleary, Washington .....	642	218,860
City of McMinnville, Oregon .....	5,692	1,675,956
Midstate Electric Cooperative, Inc. ....	4,092	1,105,591
City of Milton-Freewater, Oregon .....	3,276	640,998
City of Minidoka, Idaho .....	54	7,729
Missoula Electric Cooperative, Inc. ....	3,731	859,582
City of Monmouth, Oregon .....	1,867	381,692
Nespelem Valley Electric Cooperative, Inc. ....	1,110	283,461
Northern Lights, Inc. ....	5,844	1,364,914
Northern Wasco County People's Utility District .....	2,519	516,771
Okanogan County Electric Cooperative, Inc. ....	1,027	207,370
Public Utility District No. 1 of Okanogan County, Washington....	11,667	2,981,689
Orcas Power and Light Company .....	3,549	989,451
Public Utility District No. 2 of Pacific County, Washington.....	11,218	2,022,730
City of Port Angeles, Washington .....	6,995	1,994,158
Prairie Power Cooperative, Inc. ....	323	80,390
Raft River Rural Electric Cooperative, Inc. ....	1,736	1,106,458
Ravalli County Electric Cooperative, Inc. ....	2,195	588,330
City of Richland, Washington .....	9,532	2,686,624
Riverside Electric Company, Ltd. ....	208	40,857
City of Rupert, Idaho .....	2,086	488,714
Rural Electric Company .....	1,988	494,773
Salem Electric .....	7,150	1,309,752
Salmon River Electric Cooperative, Inc. ....	1,277	359,886
City of Seattle, Washington .....	259,444	63,848,358
Public Utility District No. 1 of Skamania County, Washington....	2,742	834,987
Public Utility District No. 1 of Snohomish County, Washington....	106,832	28,765,124
South Side Electric Lines, Inc. ....	399	149,859
City of Springfield, Oregon .....	6,236	1,436,100
City of Sumas, Washington .....	322	73,916
Surprise Valley Electrification Corporation .....	2,929	808,466
Tanner Electric .....	709	176,338
Tillamook Peoples' Utility District .....	11,345	2,752,344
Umatilla Electric Cooperative Association .....	4,883	1,826,413
Unity Light and Power Company .....	1,101	267,900
Vera Irrigation District No. 15 .....	3,349	645,259
Vigilante Electric Cooperative, Inc. ....	3,100	816,425
Public Utility District No. 1 of Wahkiakum County, Washington...	1,967	397,753
Wasco Electric Cooperative, Inc. ....	2,309	756,790
West Oregon Electric Cooperative, Inc. ....	2,672	673,833
<b>TOTAL .....</b>	<b>858,905</b>	<b>\$230,778,352</b>

(A) Based upon current Bonneville rate schedules plus 28% after deductions of amounts committed for the Hanford Project and under the Net Billing Agreements for the Trojan Project of the City of Eugene. Bonneville has stated that it anticipates a rate increase to be effective on December 20, 1974 in excess of this amount and further increases totalling an additional 27% by 1980.

(B) Based upon average annual costs.

(C) Fall River Rural Electric Cooperative, Inc. has temporarily assigned its Participant's Share to Public Utility District No. 1 of Snohomish County, Washington.

(3)	(4)	(5)
Estimated 1978-1979		
Anticipated Bonneville Billings(A)	Share of Annual Project Costs(B)	Participant's Share of Project Capability
\$ 140,200	\$ 129,600	.00202
710,000	526,000	.00820
216,700	148,200	.00231
1,543,200	927,600	.01446
175,900	150,100	.00234
817,800	787,100	.01227
608,400	313,000	.00488
514,000	374,000	.00583
4,500	3,200	.00005
415,200	188,600	.00294
272,000	151,400	.00236
123,900	95,600	.00149
560,600	291,900	.00455
281,700	32,700	.00051
112,000	121,900	.00190
1,637,700	668,400	.01042
572,500	465,100	.00725
1,218,900	964,200	.01503
1,785,300	1,549,900	.02416
22,000	12,200	.00019
564,500	547,200	.00853
317,400	193,100	.00301
1,924,200	1,771,200	.02761
27,300	12,800	.00020
277,200	223,200	.00348
294,800	168,100	.00262
494,700	290,600	.00453
119,300	109,100	.00170
10,216,600	4,614,300	.07193
395,800	350,900	.00547
20,791,200	9,855,400	.15363
106,700	46,800	.00073
426,400	232,900	.00363
32,100	30,800	.00048
315,500	207,200	.00323
88,800	78,300	.00122
1,353,400	1,109,100	.01729
1,088,800	23,100	.00036
209,600	130,900	.00204
500,600	449,700	.00701
324,200	188,600	.00294
216,700	210,400	.00328
341,300	219,400	.00342
210,700	116,800	.00182
<u>\$118,816,200</u>	<u>\$64,150,000</u>	<u>1.00000</u>

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## EXHIBIT II

# R. W. BECK AND ASSOCIATES

ANALYTICAL AND CONSULTING ENGINEERS

PLANNING  
DESIGN  
ESTATES  
ANALYSES  
EVALUATIONS  
MANAGEMENT

200 TOWER BUILDING  
SEATTLE, WASHINGTON 98101  
TELEPHONE 206-422-5000

SEATTLE, WASHINGTON  
DENVER, COLORADO  
PHOENIX, ARIZONA  
ORLANDO, FLORIDA  
COLUMBUS, NEBRASKA  
BOSTON, MASSACHUSETTS

FILE NO. SS-1119-NF1-TA

July 23, 1974

Board of Directors  
Washington Public Power Supply System  
Richland, Washington

Gentlemen:

Subject: Summary Engineering Report  
Washington Public Power Supply System  
Nuclear Project No. 2

Presented herewith is a summary of our analyses, investigations and studies with respect to the proposal by the Washington Public Power Supply System (the "Supply System") to issue \$80,000,000 of its Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1974 (the "1974 Bonds"), for the purpose of paying certain costs of acquiring and constructing a nuclear-fueled electric generating plant with a nominal capacity of approximately 1,100,000 kilowatts and related facilities (the "Project"). The Supply System has issued \$150,000,000 of its Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1973 (the "1973 Bonds"), and the present program provides that additional revenue bonds will be issued at later dates and in amounts necessary to complete the construction of the Project and place it into operation.

The Supply System is a municipal corporation and a joint operating agency organized under the laws of the State of Washington and has 21 members consisting of 18 public utility districts and 3 municipalities, all located within the State of Washington. The Supply System owns and operates the Packwood Lake Hydroelectric Project of 27,500 kVa of name plate capacity located in Lewis County, Washington, and the steam-electric generating plant of approximately 860,000 kilowatts located in Benton County, Washington, known as the Hanford Project. Steam is provided to this latter project from a nuclear reactor (the "New Production Reactor") owned and operated by the Atomic Energy Commission (the "AEC") on its Hanford Reservation near Richland, Washington. The Supply System issued \$13,700,000 of Packwood Lake Hydroelectric Project Revenue Bonds, Series of 1962 and 1965, to finance construction of the Packwood Lake Hydroelectric Project and \$122,000,000 of Hanford Project Electric Revenue Bonds, Series of 1963, to finance construction of the Hanford Project. Each of these projects is a separate utility system and the revenues of each are respectively pledged to the separate systems.

In addition to the Project, the Supply System is undertaking the development of two other nuclear power plants known as Washington Public Power Supply System Nuclear Project No. 1 and Washington Public Power Supply System Nuclear Project No. 3. Washington Public Power Supply System Nuclear Project No. 1 is planned as a 1,250,000-kilowatt nuclear power plant for completion in 1980 and is planned to be located near the Project. Washington Public Power Supply System Nuclear Project No. 3 is planned as a joint ownership plant of approximately 1,240,000 kilowatts, for completion in 1981 with the Supply System owning 70 percent of the plant and four investor owned utilities owning the remaining 30 percent. A prospective site for this project has been identified near Aberdeen, Washington.

The Supply System was recently requested by the Public Power Council, representing more than 100 statutory preference customers of Bonneville Power Administration ("Bonneville") in the Pacific Northwest, to undertake investigations of two additional nuclear power plant stations. The Supply System estimates that the first plant could be in commercial operation in 1982 and the second in 1983.

### **The Project**

The Project is located approximately 12 miles north of the City of Richland and 3 miles west of the Columbia River, in Benton County, Washington, on the Hanford Reservation of the AEC.

The Project will include a nuclear steam supply system manufactured by the General Electric Company that will employ a boiling water reactor. The nuclear steam supply system will include the necessary auxiliary systems required to control, contain and service the nuclear reactor core. Steam will be supplied to the turbine at approximately 985 psia. After driving the turbine, the steam will be exhausted into the condenser which is cooled with circulating water from mechanical draft cooling towers. Water will be withdrawn from the Columbia River and suitably treated for use as makeup to the cooling tower circulating system. A Westinghouse generator will be the main generating unit and will be rated at 1,231,700 kVA. The generator will be connected to 3 single phase power transformers and two auxiliary transformers. The main power transformers will step up the generator voltage to 500 kV. Delivery into the Federal Columbia River Power System will be over a 18.3 mile 500 kV transmission line to be constructed by Bonneville between the Project and Bonneville's Hanford Substation. The Project will have a net electrical output of approximately 1,093,000 kilowatts.

A list of other nuclear power stations with boiling water reactors and generators rated in excess of 1,000,000 kilowatts presently planned or under construction in the United States is given in Table A following this report.

### **Permits and Licenses**

The specific site for the Project has been certified for the State of Washington by the Washington State Thermal Power Plant Site Evaluation Council. The Supply System submitted to the AEC a Preliminary Safety Analysis Report and an Environmental Report for the Project which have been reviewed by the AEC. The Advisory Committee on Reactor Safeguards of the AEC, on October 19, 1972, commented in its review of the Project and concluded that, if due consideration is given to the comments of the Committee, the Project "can be constructed with reasonable assurance that it can be operated without undue risk to the health and safety of the public." Public hearings have been conducted in accordance with AEC licensing requirements, and the AEC Licensing Board on March 19, 1973 granted the Supply System a construction permit for the Project.

### **Construction Program**

The construction schedule has been prepared by the Supply System and Burns and Roe, Inc., the Construction Engineer selected by the Supply System to design and supervise construction of the Project. Erection of the containment vessel was started in September 1973. Cooling tower construction was started in April 1974. The reactor vessel is scheduled for delivery in December 1975, and the turbine

generator is scheduled for delivery in June 1975. Pre-operational testing is expected to begin on certain components in March 1976 and continue through July 1977. Fuel loading is scheduled for July 1977 with start-up and power testing to be conducted prior to December 1, 1977. It is estimated by the Construction Engineer that the probability of commercial operation by December 1, 1977 is 16% and that a commercial operating date of June 1, 1978 has a 50% probability of being met.

As of May 15, 1974 contract commitments totaled \$223,009,379. Actual expenditures to May 31, 1974 are summarized in the following table:

Total Construction Cost .....	\$ 86,053,000
Nuclear Fuel .....	10,588,000
Bond Discount and Financing Cost .....	1,031,000
Interest During Construction (Gross) .....	<u>10,611,000</u>
Total .....	\$108,283,000

### Long Term Financing Program

The long term financing program contemplates the issuance of Bonds to finance the construction and initial operation of the Project in several series. The \$150,000,000 of the 1973 Bonds were the first Bonds issued. Proceeds from the issuance of the 1973 Bonds were used to provide for the payment of the \$55,000,000 of outstanding revenue notes theretofore issued for the Project and to provide additional funds for construction of the Project. The \$80,000,000 of the 1974 Bonds will be used to pay the costs of continuing construction of the Project. Based on present estimates of actual needs by the Construction Engineer and the Supply System, the proceeds from the 1974 Bonds will be sufficient to continue construction of the Project until the spring of 1975 at which time additional Bonds are planned to be issued. The amount of the Bonds to be issued in 1975 will be determined immediately prior to the time of issuance.

### Estimated Financing Required

	Previous Financing	1974 Bonds	Additional Bonds	Total
Total Construction Costs <sup>(1)</sup> .....	\$112,210,000	\$ 63,911,000	\$274,178,800	\$450,299,800
Nuclear Fuel <sup>(2)</sup> .....	10,588,000	1,265,000	27,127,000	38,980,000
Bond Discount and Financing Costs	1,031,000	1,440,000	6,066,000	8,537,000
Interest During Construction <sup>(3)</sup> .....	<u>39,319,000</u>	<u>17,860,000</u>	<u>41,750,000</u>	<u>98,929,000</u>
Gross Requirements .....	\$163,148,000	\$ 84,476,000	\$349,121,800	\$596,745,800
Less: Estimated Investment Income	<u>13,148,000</u>	<u>4,476,000</u>	<u>12,121,800</u>	<u>29,745,800</u>
Net Requirements .....	<u>\$150,000,000</u>	<u>\$ 80,000,000</u>	<u>\$337,000,000</u>	<u>\$567,000,000</u>

(1) Includes construction costs, engineering and construction management costs, escalation and contingencies, as estimated by the Constructor, Engineer, and owner's direct cost as estimated by the Supply System.

(2) As estimated by the Supply System.

(3) Based on a 5.66% annual interest rate on the 1973 Bonds, a 7.05% annual interest rate on the 1974 Bonds and an assumed annual interest rate of 7% on the additional Bonds.

In addition to the foregoing amounts obtained through issuance of Bonds, funds required to make the necessary payments to the Reserve Account in the Bond Fund, to provide working capital, to provide an initial Reserve and Contingency Fund and to provide a contingency for fuel are expected to be obtained under the Net Billing Agreements described below during the period beginning January 1, 1977 and extending to September 1, 1977 as follows:

Reserve Account in Bond Fund .....	\$18,860,000
Working Capital .....	3,000,000
Reserve and Contingency Fund .....	3,000,000
Fuel Contingency <sup>1</sup> .....	<u>8,000,000</u>
Total .....	\$32,860,000

(1) Estimated amount to be provided from advanced net billing to permit leveling of annual fuel costs in the event of a critical period of power supply. Amount provided will be included as part of working capital. Amount subject to further analysis and approval by Bonneville and the Supply System.

If for any reason such amounts (other than the fuel contingency) are not provided under the Net Billing Agreements they will be provided through the issuance of additional Bonds.

#### Project Output

The Project is expected to have a net peaking capability of 1,093,000 kilowatts and is expected to be capable of producing about 7,200,000,000 kilowatt hours annually. During a critical period of power supply in the Pacific Northwest caused by water shortage, it is expected that the Project would be called upon to produce the full amount of energy that it is capable of producing. During other periods, however, there will be times when surplus water will be available to generate power at existing hydroelectric projects thereby permitting a reduction in the total amount of energy produced at the thermal electric projects to be constructed under the Hydro Thermal Power Program.

#### Cost of Power

Estimates of the annual costs of the Project's operations have been prepared based on 1972 costs of labor and materials escalated to estimated 1978 conditions and a 5.66% annual interest rate on the 1973 Bonds and an annual interest rate of 7.05% on the 1974 Bonds and 7.0% on the additional Bonds. The costs reflect those operating costs that would be characteristic of a mature plant. The total annual costs are estimated to be approximately \$64,150,000 for the generation of 7.2 billion kilowatt hours annually amounting to a unit cost of 8.91 mills per kilowatt hour.

The total annual costs referred to above are based on level debt service over a 35 year period. The Supply System and Bonneville anticipate that maturities of the Bonds will not be scheduled to yield level debt service throughout the period. Present planning provides for scheduling increased maturities from 1978 to 1981, and scheduling few, if any, maturities in the period of 1982 through 1986. Variations in annual costs will result from such scheduling to the extent that actual debt service varies from the assumed level debt service.

#### Sale of Power

The entire output of the Project will be purchased by 94 public agency Participants pursuant to Net Billing Agreements entered into between the Supply System, Bonneville and each Participant. The



Net Billing Agreements obligate the Participants to pay all of the Project annual costs. The number of Participants and the extent of participation follows by main categories:

<u>Type</u>	<u>Number</u>	<u>Percent Participation</u>
Districts .....	22*	56.868
Municipalities .....	27	22.639
Cooperatives .....	45	20.493
<b>Total</b> .....	<b>94</b>	<b>100.000</b>

\* 17 Public Utility Districts, 4 Peoples Utility Districts, and 1 Irrigation District.

NOTE: Summary statistical information on the Participants is given in Table B at the end of this report.

Each Participant's share of the output of the Project will be assigned to Bonneville which, in payment for such assignment, will credit the Participant each year, against amounts owing to Bonneville by such Participant, a total amount equal to the payment which the Participant is required to make to the Supply System for such year. This process referred to herein as "net billing" is more fully discussed in the Official Statement to which this report is attached.

#### Other Proposed Projects

The Supply System is undertaking preliminary work on two nuclear power facilities in addition to the Project.

The first of these, designated as Washington Public Power Supply System Nuclear Project No. 1, is a 1,250,000-kilowatt project located on the AEC's Hanford Reservation near the site of the Project. This project was originally planned to be built at the site of the Hanford Project and to incorporate the Hanford Project generating facilities into its design. Recently, it was determined to move the project to the site near the Project in order to allow continued operation of the Hanford Project beyond 1977. Work is proceeding on the project at the new location financed with the proceeds of \$77,000,000 of revenue notes issued in June 1974. Present plans provide that the total cost of the project will be financed from the proceeds of the issuance of long-term bonds. Application for site approval has been submitted to the Washington State Thermal Power Plant Site Evaluation Council of the State of Washington and the nuclear steam supply system has been ordered.

The second of these, designated as Washington Public Power Supply System Nuclear Project No. 3, is a 1,240,000 kilowatt project, to be a jointly owned project, with the Supply System owning a 70 percent undivided interest and four investor-owned utilities owning the remaining 30 percent interest. A site for this project has been selected near Aberdeen, Washington. The preliminary work on this project is under way. The Supply System's share of the costs of such preliminary work was financed with the proceeds of \$29,000,000 of short-term notes issued in October 1973. Present plans provide that the Supply System's 70 percent ownership share of the project will be financed through the issuance of long-term bonds.

The three Supply System projects have been approved as part of the Hydro Thermal Power Program as more completely described in the statement "The Hydro Thermal Power Program and Power Supply in the Pacific Northwest" which is included in the Official Statement to which this summary engineering report is an exhibit.

In addition to the foregoing projects, the Public Power Council has requested the Supply System to proceed with investigation of two nuclear projects, which the Supply System estimates will be in com-

mercial operation in 1982 and 1983. The preliminary work on these projects to date is being financed from the proceeds of \$2,500,000 of short-term notes. Present plans call for additional short term financing in the near future to continue this work.

### **Conclusions**

Based on our study and analyses of the Supply System's proposal to construct the Project, we are of the opinion that:

1. The output of the Project is required to meet the load growth of the utility systems of the Pacific Northwest under the Hydro Thermal Power Program.
2. The Net Billing Agreements between the Supply System, each Participant and Bonneville provide a sound basis for proceeding with the financing of the construction of the Project through issuance of Bonds as proposed.
3. The estimated cost of the output of the Project is reasonable and comparable to costs expected from similar nuclear projects to be developed within the same time frame. It is below estimated costs of alternative sources of power which might be developed through use of coal fired or oil fired steam electric generating plants.

We have furnished to you the information contained in the Official Statement under the captions "Project Financing Requirements", "Project Output", "Project Annual Costs", "The Hydro Thermal Power Program and Power Supply in the Pacific Northwest" and Exhibit I. In our opinion, the information contained therein is correct.

Respectfully submitted,

/s/ R. W. BECK AND ASSOCIATES

Table A

**NUCLEAR POWER PROJECTS  
UTILIZING BOILING WATER REACTORS\***  
(Generating Units Rated in Excess of 1,000,000 Kilowatts)

<u>Plant Name</u>	<u>Utility Name</u>	<u>Plant Capacity (Kilowatts)</u>	<u>Actual or Scheduled Completion Date</u>
Allens Creek(1)	Houston Lighting & Power Co. ....	1,200,000	—
Allens Creek(2)	Houston Lighting & Power Co. ....	1,200,000	—
Browns Ferry(1)	Tennessee Valley Authority .....	1,065,000	1973**
Browns Ferry(2)	Tennessee Valley Authority .....	1,065,000	1974
Browns Ferry(3)	Tennessee Valley Authority .....	1,065,000	1975
Douglas Point(1)	Potomac Electric Power Co. ....	1,178,000	1979
Douglas Point(2)	Potomac Electric Power Co. ....	1,178,000	1981
Fermi(2)	Detroit Edison Company .....	1,123,000	1976
Grand Gulf(1)	Mississippi Power & Light Co. ....	1,313,000	1979
Grand Gulf(2)	Mississippi Power & Light Co. ....	1,313,000	1981
Hanford(2)	Washington Public Power Supply System .....	1,100,000	1978
LaSalle(1)	Commonwealth Edison Company .....	1,122,000	1978
LaSalle(2)	Commonwealth Edison Company .....	1,122,000	1978
Limerick(1)	Philadelphia Electric Company .....	1,100,000	1978
Limerick(2)	Philadelphia Electric Company .....	1,100,000	1979
Newbold Island(1)	Public Service Electric & Gas Co. ....	1,067,000	1975***
Newbold Island(2)	Public Service Electric & Gas Co. ....	1,067,000	1977***
Nine Mile Point(2)	Niagara Mohawk Power Corporation .....	1,080,000	1978
Peach Bottom(2)	Philadelphia Electric Company .....	1,065,000	1973
Peach Bottom(3)	Philadelphia Electric Company .....	1,065,000	1974
Perry(1)	Cleveland Electric Illuminating Co. ....	1,205,000	1979
Perry(2)	Cleveland Electric Illuminating Co. ....	1,205,000	1980
Susquehanna(1)	Pennsylvania Power & Light Company .....	1,052,000	1979
Susquehanna(2)	Pennsylvania Power & Light Company .....	1,052,000	1981

\* Source, "Nuclear Safety", January-February 1974.

\*\* Licensed for 75% of full capacity but not operating as of December 1973.

\*\*\* AEC urging a new site.

Table B

**PROJECT PARTICIPANTS**  
**Summary of Financial and Statistical Data**

Statistics	1973				1972
	Districts	Municipalities	Cooperatives	Total	Total
<b>CUSTOMERS:</b>					
Residential .....	318,790	302,463	127,619	748,872	719,855
Total .....	364,163	341,073	153,669	858,905	827,247
ENERGY SALES: kWh (000) .....	13,428,085	9,178,891	3,608,800	26,215,776	24,638,549
<b>ENERGY PURCHASES: kWh (000)</b>					
Bonneville (Hanford Project Exchange) .....	2,840,603	164,645	504,981	3,510,229	5,548,355
Bonneville .....	10,492,063	3,885,033	3,463,010	17,840,106	14,969,997
Other .....	18,906	456,376	1,601	476,883	94,931
Total Energy Purchases kWh (000) ..	13,351,572	4,506,054	3,969,592	21,827,218	20,613,283
ENERGY GENERATED: kWh (000) .....	559,258	5,623,623	2,094	6,184,975	6,064,672
Total Energy Requirements kWh (000) ..	13,910,830	10,129,677	3,971,686	28,012,193	26,677,955
PEAK DEMANDS: kW .....	2,947,378	1,824,222	935,084	5,706,684	5,856,651
<b>Operations</b>					
<b>INCOME:</b>					
Total Operating Revenues .....	\$103,222,718	\$ 84,105,725	\$ 43,449,909	\$ 230,778,352	\$ 211,602,809
Other Income (Non-operating) .....	2,933,956	3,220,764	675,545	6,830,265	4,582,846
Total Income .....	\$106,156,674	\$ 87,326,489	\$ 44,125,454	\$ 237,608,617	\$ 216,185,655
<b>OPERATING EXPENSES:</b>					
<b>Purchased Power</b>					
Bonneville (Hanford Project Exchange) ..	\$ 8,395,736	\$ 526,623	\$ 1,636,781	\$ 10,559,140	\$ 16,573,489
Bonneville .....	31,569,030	10,951,119	10,580,786	53,100,935	45,182,161
Other .....	235,505	805,992	8,328	1,049,825	1,616,506
Total Purchased Power Expense .....	\$ 40,200,271	\$ 12,283,734	\$ 12,225,895	\$ 64,709,900	\$ 63,372,156
Generating Expense .....	3,539,398	6,795,666	14,949	10,350,013	3,566,784
Total Power Supply Expense .....	\$ 43,739,669	\$ 19,079,400	\$ 12,240,844	\$ 75,059,913	\$ 66,938,940
Other Expense (Including Depreciation and Taxes) .....	40,450,817	53,525,390	22,917,240	116,893,447	108,997,473
Total Operating Expenses .....	\$ 84,190,486	\$ 72,604,790	\$ 35,158,084	\$ 191,953,360	\$ 175,936,413
<b>Condensed Balance Sheet</b>					
<b>ASSETS:</b>					
Net Utility Plant .....	\$293,189,878	\$401,762,021	\$188,594,623	\$ 883,546,522	\$ 840,666,274
Other Property and Investments .....	73,265,840	52,860,895	9,624,377	135,751,112	90,942,924
Current Assets .....	49,635,222	30,535,173	20,552,211	100,722,606	98,607,726
Deferred Debits .....	11,627,466	9,275,701	824,763	21,722,930	19,641,241
Total Assets .....	\$427,713,406	\$494,433,790	\$219,595,974	\$1,141,743,170	\$1,049,858,165
<b>LIABILITIES:</b>					
Long-Term Debt .....	\$168,603,405	\$240,602,000	\$156,106,921	\$ 565,312,326	\$ 506,849,933
Current Liabilities .....	21,427,251	18,974,376	8,350,077	48,751,704	41,829,835
Deferred Credits .....	8,043,813	788,956	793,532	9,626,301	10,290,402
Reserves .....	772,192	3,144,137	190,777	4,107,106	3,430,304
Contributions in Aid of Construction ..	8,337,114	9,930,835	6,218,760	24,486,709	22,115,736
Retained Earnings .....	220,529,631	220,993,486	47,935,907	489,459,024	465,341,955
Total Liabilities .....	\$427,713,406	\$494,433,790	\$219,595,974	\$1,141,743,170	\$1,049,858,165
Percent Participation .....	56.868	22.639	20.493	100.000	

**EXHIBIT III**

**Burns and Roe, Inc.**

320 Fulton Avenue • Hempstead, New York 11550 • Telephone (516) 483-8000  
TWX 510-222-9049 • Cable BUROE HEMPSTEADNY

Main Office  
700 Kinderkamack Road  
Oradell, New Jersey 07649

July 23, 1974

Board of Directors  
Washington Public Power Supply System  
Richland, Washington

Subject: Washington Public Power Supply System  
Nuclear Project No. 2

Gentlemen:

Burns and Roe, Inc. has been selected and retained by Washington Public Power Supply System to provide engineering, design and construction management services for Washington Public Power Supply System Nuclear Project No. 2 (the "Project") being constructed on the U. S. Atomic Energy Commission's Hanford Reservation, near Richland, Washington.

Burns and Roe's responsibilities cover complete engineering, quality assurance and construction management services and include preparation of plans and specifications, capital cost estimating, site selection, participation in the preparation of applications and reports for such items as Atomic Energy Commission (the "AEC") construction permit and operating license and Corps of Engineers' permits, economic analyses, project scheduling, review of bids, expediting of vendors and contractors, assistance in plant start-up and test and training of operating personnel, managing of construction contracts and coordination of contractors, establishing and administering site safety, security, first-aid and other such site programs, and all related items to result in a complete and successful operating plant.

**The Project**

The Project will consist of a single-unit, boiling water reactor electric generating station having a nominal capacity of 1,100,000 kilowatts together with the necessary transformation, switching and related 500 kV facilities to interconnect the generating station with the 500 kV facilities of the Federal Columbia River Power System. The plant layout and design, which provides for the initial development of a single 1,100,000 kilowatt unit, includes consideration of the possible future expansion to a station with another generating unit. Following is a summary description of the electric generating station.

The Project will be located on the Hanford Reservation, approximately 3 miles west of the Columbia River and 12 miles north of the City of Richland. The plant will consist of a nuclear steam supply system, turbine-generator, cooling tower and river makeup water pumping and blowdown discharge facilities, complete with structures, auxiliary equipment, instrumentation, controls and other associated accessories.

There will be seven basic structures comprising the overall power plant. These are the reactor building, radioactive waste building, turbine-generator building, diesel generator building and service building (together comprising the main plant), cooling towers and circulating water pump house, and river makeup water plant.

All structures will be generally supported on compacted structural fill. The approximate overall dimensions of the main plant will be 420 feet by 360 feet and the maximum height from basement to roof will be 225 feet in the reactor building and 180 feet in the turbine-generator building. The reactor building will be of concrete construction and will include a steel superstructure. Primary containment will be furnished by a separate steel vessel within the reactor building. This vessel will be surrounded by concrete for primary shielding. The radioactive waste disposal facility, which adjoins the reactor building and houses the equipment for treatment of radioactive wastes, will also be concrete.

The turbine-generator building will have a reinforced concrete foundation. The portion above grade will be of insulated metal panels except for the areas enclosed by concrete for radiation shielding.

The nuclear plant will contain a General Electric Company boiling water reactor of proven design. The reactor core will contain 764 fuel bundles each composed of an 8 by 8 rod array of slightly enriched  $UO_2$  peilets with Zircaloy-2 cladding. The assembly will be contained in a Zircaloy-4 reusable coolant flow channel which will provide a fixed flow path for the boiling coolant, serve as a guide surface for the control rod blades and protect the fuel during handling.

Four fuel assemblies will surround each of 185 control rods, which are bottom mounted and hydraulically driven to control reactivity and modulate reactor output. The core and associated internals will be housed in a vertical steel vessel approximately 76 feet high and 21 feet in diameter. The nuclear steam supply system will be complete with steam separators and driers, recirculating pumps and sub-systems including those required for normal operation and for shut down.

The nuclear steam supply system will have a guaranteed rating of 3,330 megawatts thermal and will supply approximately 14,295,000 pounds per hour of steam at 985 psia with feedwater returned at 420 degrees F. This steam to the turbine-generator will result in a guaranteed output of 1,154,745 kilowatts of generation under expected conditions of operation. After subtracting the electrical requirements for station operating auxiliaries, the net plant output will be approximately 1,093,000 kilowatts.

The turbine-generator will be a tandem-compound, 6-flow unit consisting of a high-pressure turbine section on the same shaft with three low-pressure turbine sections and the electric generator. Each low-pressure section will consist of two parallel flow paths, making a total of six parallel steam exhaust paths. The exhaust end of each turbine will contain rotating blades 44 inches in length. The turbine-generator rotates at 1,800 rpm.

The generator will be a three-phase, 60 cycle AC unit rated at 1,231,700 kVA at 0.975 power factor and will generate at 25 kV.

The turbine cycle will include six points of regenerative feedwater heating utilizing extraction steam from the turbine. The feedwater heaters will be arranged in parallel paths, with the lowest pressure heater in the neck of the condenser to effect economies in space and material. Steam exhausting from the turbine will be condensed by circulating water cooled by mechanical draft cooling towers. The condensate will then be returned to the reactor through the demineralizer and feedwater heaters by motor-driven condensate and condensate booster pumps and turbine-driven reactor feed pumps. The turbine-generator plant will be complete with auxiliary systems, pumps, controls, instrumentation, electric switchgear and fire protection equipment.

The generator electrical output will be transmitted by isolated-phase bus duct to three single-phase main step-up transformers, each having a rating of 380,000 kVA, which raise the voltage from 25 kV to 500 kV for transmission. Also included will be one spare single-phase transformer of the same rating.

The circulating water pump house, which provides condenser cooling water, fire system water and service auxiliary cooling water will be located south of the plant adjacent to the cooling towers. It will house three large vertical circulating water pumps totalling approximately 558,000 gpm capacity, complete with water screens and other auxiliaries, and the fire pumps. The condenser cooling water will discharge from the turbine-generator building and return to the six round mechanical draft cooling towers. Makeup water to replace the evaporative losses of the circulating water cooling system will be obtained from the Columbia River by means of three makeup water pumps. Blowdown from the circulating water system will be discharged to the Columbia River downstream of the makeup water intake.

There will be a heavy-duty bridge-type crane in both the turbine-generator and circulating-water buildings for servicing equipment, and in the reactor building for handling both equipment and fuel. A computer will be installed in the central control room for collecting and analyzing data to aid in control rod positioning, plant operations and plant performance analysis.

Diesel generators will be included for emergency use in the event of loss of auxiliary power. The diesel generators will be housed in a separate concrete building located adjacent to the reactor building.

The service building adjacent to the turbine-generator and reactor buildings will house offices, laboratories, locker rooms, lobby, first-aid facilities, machine shop and storerooms.

#### **Construction Contracts and Schedule**

The AEC construction permit was obtained on March 19, 1973 at which time construction of the plant proper was started. The installation of temporary facilities is complete. The reactor building substructure has been completed and the containment vessel which rests on it is 50% complete. The substructure for the turbine-generator building has been completed and work is now in progress on the turbine pedestal and the walls of the turbine-generator building. The substructure of the radioactive waste building is complete and work is starting on the superstructure. Concrete work on the spray ponds and service water pump houses is nearing completion. Work has started on the cooling tower basins and the circulating water pump house. As of June 1, 1974, overall construction was estimated to be 6.7% complete compared to a scheduled 14% completion.

#### **Construction Costs and Construction Contracts**

The estimated plant construction cost of the items under Burns and Roe's scope of responsibility as Engineer, Construction and Quality Assurance Manager is \$404,250,800 as shown in detail in Exhibit A attached to this letter. The capital cost estimate covers the complete nuclear electric generating plant equipment and construction up to and including the main step-up transformers, Burns and Roe engineering, construction and quality assurance management and site consultants, sales tax, contingency and escalation applicable to the aforementioned. Nuclear fuel and owner's costs are not included in Exhibit A.

The previous capital cost estimate made in July, 1973 is also shown in Exhibit A and shows an increase in direct construction cost of \$71,450,800. This increase stems in part from an increase in the rate of escalation, a general shift from a buyers to sellers market reflected by higher bid prices, a slippage in the project schedule, an extension of the budget to cover a more probable plant completion date, increased design requirements from the AEC including more stringent quality assurance requirements, an increase in Burns and Roe, Inc.'s services, and an increase in the allowance for contingency to cover a greater uncertainty with respect to labor and material costs.

The total costs of equipment and construction contracts awarded to May 15, 1974 are shown on Exhibit B attached to the letter. As noted on this exhibit these contracts total \$223,009,379 or approximately 77.6% of the estimated total direct construction and equipment costs exclusive of engineering, construction management, contingencies and escalation.

The two largest equipment contracts were awarded for the furnishing of the nuclear steam supply system to General Electric Company and has a present value of \$42,998,362 and for the turbine-generator

to Westinghouse Electric Corporation and has a present value of \$34,998,461. The nuclear steam supply system contract covers the furnishing of a conventional boiling water reactor complete with pressure vessel and all related pumps, controls and other equipment as normally furnished by General Electric Company to the electric utility industry. The Westinghouse contract covers the furnishing of a turbine-generator complete with all appurtenances to utilize the output steam from the nuclear steam supply system to generate approximately 1,100,000 kilowatts of electricity. Due to the long engineering and fabrication schedule for these items, they were awarded early in the Project program to meet the scheduled plant construction and operation dates.

The major concrete construction contract for the reactor building, turbine-generator building, diesel-generator building, radioactive waste building and service building was awarded to Bovee and Crail Construction Co. on March 20, 1973 and has a present value of \$31,394,259. The mechanical equipment and piping installation contract for the main plant was awarded to a joint venture, Bovee and Crail Construction Co.—General Energy Resources, Inc. on May 10, 1974 for \$60,094,374.

All contracts were awarded on the basis of competitive bidding. The contract awards were made on the basis of the bidder's experience, qualifications, available personnel and facilities as well as price considerations. In our opinion, the vendors and contractors selected are all responsible, and well qualified firms for the particular type of work to be performed.

#### **Escalation and Contingencies**

The nuclear steam supply system contract with the General Electric Company includes a provision for escalation in accordance with a formula incorporating trends of certain United States Bureau of Labor Statistics indices of material and labor. An escalation allowance for this contract of \$6,235,000 was included in the capital cost estimate in Exhibit A. The turbine-generator was purchased based on the standard pricing policies of Westinghouse Electric Corporation which provides for no increase in price for the period of 36 months prior to delivery. Since the Project turbine-generator is scheduled for delivery in approximately one year from now, the present turbine-generator contract price of \$34,998,461 included in our capital cost estimate is now firm and will not be escalated further. The mechanical equipment and piping installation contract includes an escalation formula that takes into account increases in the cost of materials and labor. An escalation allowance for this contract of \$9,270,000 was included in the capital cost estimate shown in Exhibit A.

However, the actual costs for work to be done and equipment fabricated at their actual time of accomplishment may be higher than that allowed for in the capital cost estimate. This is due to probable rising price levels for labor and materials. Therefore a total escalation allowance of \$27,445,600 was included. This provides for all the uncommitted and committed pre-purchased and construction items, as well as for the engineering, quality assurance and construction management service. This \$27,445,600 includes the previously discussed allowance of \$6,235,000 for escalation of the nuclear steam supply system contract price and \$9,270,000 for the mechanical equipment and piping installation contract.

An additional allowance of \$26,025,100 was included in the estimated capital cost to cover unforeseen contingency items which may be necessary as the details of design are further developed and as construction progresses.

#### **Construction Progress and Schedule**

Construction of the Project was started in August 1972 under a Construction Permit variance granted by the AEC. The Construction Permit was granted by the AEC on March 19, 1973 at which time construction of the reactor building substructure was started. Construction of the remainder of the main plant was started on May 19, 1973. Erection of the containment vessel was started in September, 1973. Cooling tower construction started in April, 1974. The reactor vessel is scheduled for delivery in December, 1975, and the turbine-generator is scheduled for delivery in June, 1975. The



project is currently about 4 months behind schedule and the completion dates have been changed accordingly. Pre-operational testing is expected to begin on certain components in March, 1976 and continue through July, 1977. Fuel loading is scheduled for July, 1977 with start-up and power testing to be conducted prior to December 1, 1977 when commercial operation is scheduled. It is estimated that the probability of maintaining this date is 16%. A commercial operating date of June 1, 1978 has a 50% probability of being met and the capital cost budgets are based on a commercial operating date of June 1, 1978.

### **Conclusions**

The Project will include a boiling water reactor of proven design furnished by the General Electric Company—a reactor type already in use in, under construction or planned for many large commercial utility installations. The remainder of the plant is generally similar in design to conventional thermal plants except for the special considerations that are related to using steam from a boiling water reactor, and the components duplicate, or are very similar to, those which are now in successful commercial operation. We have examined the plant equipment as to its feasibility, reliability and maintenance characteristics. We determined that the proposed or contemplated items of equipment are either of presently proven design or reasonable extensions of such design.

It is our considered opinion, with respect to the Project, that:

1. The present plans and design are suitable for the site, and the site is suitable for the Project.
2. The program for construction and the achievement of a commercial operation date of June 1, 1978 are realistic.
3. The work within the scope of our responsibility will be completed within the present cost estimate.
4. There are no major engineering or construction problems associated with the Project that require any untried design methods.
5. The Project is feasible from an engineering and construction standpoint, is of acceptable commercial design and can be expected to operate reliably with normal maintenance.
6. The description of the Project and the statements and summaries of our estimates which appear in the Official Statement to which this report is an exhibit are correct and in conformity with, and a fair and adequate presentation of, the information in this report.

We have reviewed the Project description and capital cost estimates submitted by R. W. Beck and Associates in their report dated July 23, 1974, and confirm that these accurately reflect the Project and its costs insofar as they relate to the items specified herein which are within the scope of responsibility of Burns and Roe, Inc.

Very truly yours,

**K. A. ROE**  
*President and  
Chairman of the Board*

**EXHIBIT A**

**ESTIMATED PROJECT CONSTRUCTION COST**

	<u>July, 1973</u>	<u>June, 1974</u>
<b>CONSTRUCTION COSTS</b>		
Structures and Improvements .....	\$ 40,185,100	\$ 49,886,200
Reactor Plant Equipment .....	93,678,800	109,652,500
Turbo Generator Units .....	85,559,900	97,719,300
Accessory Electrical Equipment .....	17,326,100	20,399,000
Miscellaneous Power Plant Equipment .....	1,282,200	1,487,500
Station Equipment .....	4,124,000	4,784,000
Temporary Construction Facilities .....	3,219,000	3,553,000
Subtotal—Construction Costs .....	<u>\$245,375,100</u>	<u>\$287,481,500</u>
<b>OTHER DIRECT COSTS</b>		
Sales Tax @ 5% .....	\$ 12,268,800	\$ 14,374,100
Engineering and Design, Construction Management, Site Consultants and Quality Assurance .....	<u>28,942,000</u>	<u>48,924,500</u>
Subtotal .....	286,585,900	350,780,100
Escalation .....	25,415,700	27,445,600
Contingency .....	<u>20,798,400</u>	<u>26,025,100</u>
Total Estimated Project Construction Cost .....	<u>\$332,800,000</u>	<u>\$404,250,800</u>

**EXHIBIT B**

**AWARDED PROJECT EQUIPMENT AND CONSTRUCTION CONTRACTS**

(As of May 15, 1974)

<u>Item</u>	<u>Contractor</u>	<u>Contract Award Date</u>	<u>Present Contract Amount</u>
Turbine Generator & Accessories	Westinghouse .....	5/ 2/67	\$ 34,998,461
Nuclear Steam Supply System	General Electric .....	3/23/71	42,998,362
Condenser and Auxiliaries	Westinghouse .....	1/14/72	3,246,266
Feedwater Heaters	Southwestern Eng. ....	1/14/72	2,817,842
Main Step-Up Transformers	Asea, Inc. ....	7/14/72	2,005,903
Temporary Facilities	Bovee & Crail Const. Corp. ....	7/24/72	1,565,464
Cooling Towers	Marley Corp. ....	9/22/72	7,235,633
Reactor Bldg. Substructure	Stewart-Erickson .....	10/20/72	2,434,113
Primary Containment Vessel	PDM Steel Co. ....	10/20/72	8,460,031
Turbine Room & Reactor Bldg. Cranes	Whiting Corp. ....	3/ 9/73	1,040,515
General Construction	Bovee & Crail Const. Corp. ....	3/30/73	31,394,259
Standard Cast or Forged Steel Valves	Walworth Co. ....	7/13/73	1,612,904
Diesel Generators	Stewart & Stevenson .....	7/13/73	1,254,566
Nuclear Valves	Velan Valve Corp. ....	12/ 3/73	1,418,596
Mech. Equip. Installation and Piping	Bovee & Crail Const. Corp.- General Energy Resources, Inc...	5/10/74	60,094,374
HVAC & Plumbing Installation	The Waldinger Corp. ....	5/10/74	5,533,695
Other Miscellaneous Contracts	.....		<u>14,898,395</u>
Total Awarded Equipment and Construction Contracts	.....		\$223,009,379

**EXHIBIT IV**  
**OPINIONS OF COUNSEL**

[LETTERHEAD OF WOOD DAWSON LOVE & SABATINE]  
[LETTERHEAD OF HOUGHTON CLUCK COUGHLIN & RILEY]

....., 1974

Board of Directors  
Washington Public Power Supply System  
Richland, Washington

Dear Sirs:

**WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR  
PROJECT NO. 2 REVENUE BONDS, SERIES 1974, \$80,000,000**

At your request, we have examined into the validity of \$80,000,000 Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1974, of Washington Public Power Supply System (the "System"), a municipal corporation of the State of Washington. Said bonds are issuable in coupon form, registrable as to principal only, in the denomination of \$5,000 each, and in fully registered form, without coupons, in the denominations of \$5,000, or multiples thereof. The coupon bonds are numbered from 1 upwards and are dated July 1, 1974. The fully registered bonds are numbered from R-1 upwards and, except fully registered bonds initially issued, which are dated July 1, 1974, shall be dated so that no gain or loss of interest shall result from exchanges or transfers thereof as provided therein and in the Bond Resolution hereinafter mentioned. Said bonds mature on July 1 in each of the years and in the amounts and bear interest, payable January 1, 1975, and semi-annually thereafter on July 1 and January 1, as follows:

<u>Year</u>	<u>Amount</u>	<u>Interest Rate</u>	<u>Year</u>	<u>Amount</u>	<u>Interest Rate</u>
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Said bonds are subject to redemption prior to maturity upon the terms and conditions set forth therein, and recite that they are issued under and pursuant to Resolution No. 640, adopted by the Board of Directors of the System on the 26th day of June, 1973, and a resolution supplemental thereto, Resolution No. 711, adopted by said Board on July 23, 1974 (hereinafter referred to collectively as the "Bond Resolution"), and under the authority of and in full compliance with the Constitution and statutes of the State of Washington, including Titles 43 and 54 of the Revised Code of Washington, for the purpose of acquiring, by purchase or condemnation, and constructing a nuclear electric generating plant and associated facilities as a separate utility system constituting and to be known as the Washington Public Power Supply System Nuclear Project No. 2.

We have examined the Constitution and statutes of the State of Washington, and certified copies of proceedings of the Board of Directors of the System authorizing the issuance of said bonds, including the Bond Resolution, other proofs relating to the issuance of said bonds and an executed coupon bond of said series.

In our opinion, the System is a municipal corporation of the State of Washington, duly created and validly existing; the Bond Resolution has been duly adopted and the provisions thereof are valid and binding upon the System, and said bonds have been duly authorized and issued in accordance with the Constitution and statutes of the State of Washington and constitute valid and legally binding obligations of the System payable solely from the funds and revenues as set forth and provided in the Bond Resolution on a parity with the System's presently outstanding Washington Public Power Supply System Nuclear Project No. 2 Revenue Bonds, Series 1973, and any bonds hereafter issued on a parity therewith pursuant to the Bond Resolution.

It is also our opinion that the interest on said bonds is exempt from taxation by the United States of America under existing laws and regulations and specific rulings issued by the Internal Revenue Service with respect to said bonds, dated November 18, 1970, and November 30, 1972.

Very truly yours,

[LETTERHEAD OF WOOD DAWSON LOVE & SABATINE]

[LETTERHEAD OF HOUGHTON CLUCK COUGHLIN & RILEY]

....., 1974

Board of Directors  
Washington Public Power Supply System  
Richland, Washington

DEAR SIRs:

**WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR  
PROJECT NO. 2 REVENUE BONDS, SERIES 1974, \$80,000,000**

Under the date of ....., 1974, we rendered an opinion approving the validity of the above bonds (the "Bonds") issued pursuant to resolutions adopted by the Board of Directors of the Washington Public Power Supply System (the "System") on June 26, 1973 and July 23, 1974 (collectively, the "Bond Resolution").

We have examined into the validity of the Project Agreement (Contract No. 14-03-19121), dated January 4, 1971, between the United States of America, Department of the Interior, acting by and through the Bonneville Power Administrator, and Washington Public Power Supply System, referred to on page 22 of the Official Statement of the System, dated July 23, 1974, relating to the Bonds. With respect to the authorization, execution and delivery of said agreement, we have examined certified copies of proceedings of the Board of Directors of the System authorizing the execution and delivery of said agreement, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said agreement by each of the parties thereto as we deemed relevant. In our opinion, said agreement has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement enforceable in accordance with its terms.

We have also examined into the validity of ..... of the Net Billing Agreements, referred to on page 18 of said Official Statement, among the United States of America, Department of the Interior, acting by and through the Bonneville Power Administrator, the System, and certain of the Participants referred to in Exhibit I of said Official Statement, which ..... agreements provide for the purchase and assignment of an aggregate of .....% of the capability of the Project, as such Project is defined in the Bond Resolution, and include all such Net Billing Agreements providing for the purchase and assignment by any Participant of more than ....% of the capability of the Project. With respect to the authorization, execution and delivery of said Net Billing Agreements, we have examined certified copies of proceedings of the System and of the Participants which are parties thereto, authorizing the execution and delivery of said Net Billing Agreements, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said .... Net Billing Agreements by each of the parties thereto as we deemed relevant. In our opinion, each of said .... Net Billing Agreements has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement, enforceable in accordance with its terms.

In rendering this opinion, we have relied upon the opinion of counsel for each of the Participants that the Net Billing Agreement to which such Participant is a party has been duly executed and delivered by said Participant and is not in conflict with, or in violation of, and will not be a breach of, or constitute a default under, the terms and conditions of any other agreement or commitment by which such Participant is bound.

Very truly yours,