

WNP-3 & WNP-5



BEFORE THE
UNITED STATES ATOMIC ENERGY COMMISSION

Application of

WASHINGTON PUBLIC POWER SUPPLY SYSTEM,)
et al., for Class 103 Construction)
Permits and Operating Licenses for)
Utilization Facilities to be known as)
Washington Public Power Supply System)
Nuclear Project No. 3 and Nuclear)
Project No. 5 at its Site near)
Satsop, Grays Harbor County, Washington)

Docket Nos. 50- 508
50- 509

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BEFORE THE

UNITED STATES ATOMIC ENERGY COMMISSION

Application of

WASHINGTON PUBLIC POWER SUPPLY SYSTEM)	
et al. (WPPSS Nuclear Project No. 3))	Docket Nos. 50- 508
(WPPSS Nuclear Project No. 5))	50- 509

In accordance with the Atomic Energy Act of 1954, as amended, and the rules and regulations issued thereunder WASHINGTON PUBLIC POWER SUPPLY SYSTEM (hereinafter sometimes referred to as "Supply System" or as "WPPSS") herein seeks from the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter referred to as "AEC" or "Commission") (i) 40-year Class 103 licenses to construct and operate nuclear power facilities at its site located in southeastern Grays Harbor County, State of Washington, near Satsop, along the south bank of the Chehalis River near its confluence with the Satsop River. The facilities will consist of two pressurized water reactors, each with a core power level of 3800 MWt, officially known as WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECTS NO. 3, and NO. 5, (hereinafter called, collectively, the "Project", or, separately, WNP-3 and WNP-5 respectively), and (ii) appropriate source, by-product and special nuclear material licenses for the Project. In support of this application the Supply System provides the following information (references in brackets are to sections or appendices of 10 CFR Part 50, unless otherwise noted).

a. Name of Applicant [Section 50.33 (a)]

The Applicant is WASHINGTON PUBLIC POWER SUPPLY SYSTEM, for itself as owner of 70% undivided interest as a tenant in common in WNP-3, and as agent for Pacific Power & Light Company (hereinafter sometimes referred to as PP&L), Portland General Electric Company (hereinafter sometimes referred to as PGE), Puget Sound Power & Light Company (hereinafter sometimes referred to as PSP&L) and The Washington Water Power Company (hereinafter sometimes referred to as WWP), all of which will share the remaining 30% undivided interest in WNP-3 as tenants in common in the following proportions: PP&L (10%); PGE (10%); PSP&L (5%); and WWP (5%).

It is anticipated that some or all of these investor owned utilities will also participate in the ownership of WNP-5, with the Supply System being the majority owner and Applicant for itself and as agent for the other owners. When ownership agreements with regard to WNP-5 have been finalized, this application will be amended accordingly.

b. Address of Applicant [Section 50.33 (b)]

The address of the Supply System is:

WNP-3 & WNP-5

3000 George Washington Way
P.O. Box 968
Richland, Washington 99352

The address of Pacific Power & Light Company is:

Public Service Building
Portland, Oregon 97204

The address of Portland General Electric Company is:

621 Southwest Alder Street
Portland, Oregon 97205

The address of Puget Sound Power & Light Company is:

Puget Power Building
Bellevue, Washington 98009

The address of the Washington Water Power Company is:

E. 1411 Mission Avenue
Spokane, Washington 99202

c. Description of Business Applicant [Section 50.33 (c)]

WPPSS

~~The Supply System~~ is a joint operating agency and a municipal corporation of the State of Washington organized under Chapter 43.52 of the Revised Code of Washington, as amended. The Supply System is composed of 18 public utility districts of the State of Washington and the cities of Richland, Seattle and Tacoma, Washington. Pursuant to its statutory authority the Supply System is empowered to acquire, construct and operate plants and facilities for the generation and transmission of electric power. The Supply System presently operates (1) the Packwood Lake Hydroelectric Project in Lewis County, Washington, and (2) the Hanford Electric Generating Project, which utilizes by-product steam from the Commission's N-Reactor near Richland, Washington. The Supply System has applied to the AEC for all necessary licenses to construct and operate WPPSS Nuclear Project No. 1 (WNP-1). The WNP-1 application was docketed by the AEC on October 15, 1973. (The Supply System is currently amending its application for WNP-1 to include an additional unit to be known as WNP-4). In addition, the Supply System has under construction its WPPSS Nuclear Project No. 2 (WNP-2), formerly known as Hanford No. 2, pursuant to AEC Construction Permit CPPR-93.

PP&L

Pacific Power & Light Company is an investor-owned electric utility with its principal offices in Portland, Oregon. PP&L owns thirty-three hydroelectric generating plants with a rated capacity of 863,393 kilowatts, seven steam-electric plants with a rated capacity of 1,494,433 kilowatts and minor internal combustion generating capacity. The company also has contracts to purchase power from various public agencies and public utility districts on long term agreements as well as peaking capacity from

the Bonneville Power Administration, and expects to purchase non-firm energy from Bonneville to the extent available. PP&L presently operates, inter alia, the Dave Johnson generating station, a coal-fueled 450 MW facility, near Glenrock, Wyoming, and also operates and owns 47-1/2% of the Centralia Project, two coal-fueled 700 MW facilities at Centralia, Washington, which are jointly-owned by four publicly-owned and the three other investor-owned utilities which are applicants herein. PP&L and Idaho Power Company presently are developing the Jim Bridger power and coal mining complex in southwestern Wyoming. The Jim Bridger Project will have three 500 MW units, the first of which is scheduled for service in mid 1974. PP&L is also participating (2-1/2%) in the development of the Trojan Project together with Portland General Electric Company and the City of Eugene, Oregon. The Trojan Project is a nuclear-fueled 1,100 MW facility near Rainer, Oregon which is scheduled for commercial operation in July of 1975. Also, PP&L and the Black Hills Power & Light Company have invited bids on major equipment components for a 300 MW coal-fueled facility which is scheduled for commercial operation in May of 1977.

PGE

Portland General Electric Company is an investor-owned electric utility with its principal offices in Portland, Oregon. PGE presently has several hundred MW of hydroelectric capacity as well as 50-year contracts to buy a minimum of 800 MW of low-cost hydroelectric power from projects owned by Public Utility Districts in Washington. PGE is participating in the Columbia Storage Power Exchange arrangement which will provide it with up to 287 MW in 1975. As noted, PGE owns, inter alia, 2-1/2% of the Centralia Project with PP&L and the two other investor-owned utilities which are applicants herein. Also, PGE owns 67-1/2% of the 1,100 MW nuclear-fueled Trojan Project presently under construction, and is in the process of developing the jointly-owned 1,200 MW nuclear-fueled Boardman Project at Boardman, Oregon, scheduled to commence commercial operation in 1980.

PSP&L

Puget Sound Power & Light Company is an investor-owned electric utility with its principal office in Bellevue, Washington. PSP&L presently has several long-term contracts (up to 50 years) for the purchase of approximately 1,700 MW of power on a cost-of-service basis from certain Columbia River projects. PSP&L also owns, inter alia, 7% of the Centralia Project, which is jointly-owned by PSP&L, PP&L, PGE and WWP. PSP&L also has exercised options for withdrawal in April of 1975 of 384 MW of power under the Columbia Storage Power Exchange Agreement. PSP&L and the Montana Power Company are jointly constructing two 350 MW coal-fueled units at Colstrip, Montana, from which PSP&L may draw 350 MW by 1976. Also, PSP&L has announced plans to construct a 1269 MWe nuclear-fueled plant on the Skagit River near Sedro Valley, Washington, to come on line in 1981.

WWP

The Washington Water Power Company is an investor-owned electric utility with its principal offices in Spokane, Washington. The bulk of the Company's power needs is supplied by Company-owned hydroelectric projects, while approximately 30% of its needs are supplied from the output of the Columbia River hydroelectric developments sponsored by the Public Utility Districts. The Company also owns a share of the Centralia Project.

- d. (1) [Section 50.33 (d) (1)] N. A.
- (2) [Section 50.33 (d) (2)] N. A.
- (3) (i) [Section 50.33 (d) (3) (i)] The Supply System is a municipal corporation and joint operating agency of the State of Washington. The management and control of the Supply System is vested in a Board of Directors made up of one representative from each of its 21 member utilities. An Executive Committee composed of seven members elected by the Board of Directors administers the business of the Supply System between regular quarterly meetings of the Board of Directors. The principal office of the Supply System is located at 3000 George Washington Way, Richland, Washington 99352.

Pacific Power & Light Company is an investor-owned utility incorporated in the State of Maine and maintaining its principal office at Public Service Building, Portland, Oregon 97204.

Portland General Electric Company is an investor-owned utility incorporated in the State of Oregon and maintaining its principal office at 621 Southwest Alder Street, Portland, Oregon 97205.

Puget Sound Power & Light is an investor-owned utility incorporated in the State of Washington and maintaining its principal office at Puget Power Building, Bellevue, Washington 98009.

The Washington Water Power Company is an investor-owned utility incorporated in the State of Washington and maintaining its principal office at E. 1411 Mission Avenue, Spokane, Washington 99202.

(ii) [Section 50.33 (d) (ii)] All of the Supply System's directors and officers are citizens of the United States, as are the directors and officers of the four investor-owned utilities.

The names and addresses of the Supply System's Board of Directors are as follows (members of the Executive Committee are designated by an asterisk):

<u>Name</u>	<u>Address</u>
John Goldsbury	1603 No. Lincoln Kennewick, Washington 99336

d. (3) (ii) cont'd.

<u>Name</u>	<u>Address</u>
Kirby Billingsley	1825 Mulberry Lane Wenatchee, Washington 98801
Alvin E. Fletcher	Post Office Box 509 Forks, Washington 98331
*Ed Fischer	Post Office Box 1566 Vancouver, Washington 98663
*D. E. Hughes	960 Commerce Longview, Washington 98632
Howard Prey	Drawer A Orando, Washington 98836
Thomas F. Kroupa	Ferry Route Wauconda, Washington 98859
*Glenn C. Walkley	Route 1, Box 25 Pasco, Washington 99301
John L. Toeva	57 "D" S. W. Ephrata, Washington 98823
James A. Tannahill	717 Bluff Hoquiam, Washington 98550
Harold W. Jenkins	Route 5, Box 25 Ellensburg, Washington 98926
Gerald C. Fenton	Box 297 - 903 East "A" Street Goldendale, Washington 98620
Arnold J James	1558 McFadden Chehalis, Washington 98532
Edwin W. Taylor	Route 1, Box 575 Shelton, Washington 98584
*E. Victor Rhodes	Route 2, Box 283-A Raymond, Washington 98577
Joseph Shipman	1903 George Washington Way Richland, Washington 99352
*Gordon Vickery	1015 3rd Avenue Seattle, Washington 98104

d. (3) (ii) cont'd.

<u>Name</u>	<u>Address</u>
Rolf E. Jemtegaard	Route 1, Box 582 Washougal, Washington 98671
*W. G. Hulbert, Jr.	2320 California Avenue Everett, Washington 98201
*A. J. Benedetti	Dept of Public Utilities P.O. Box 11007 Tacoma, Washington 98411
Francis Longo	P.O. Box 248 Cathlamet, Washington 98612

The names, titles and addresses of the Supply System's principal officers are as follows:

<u>Name; Title</u>	<u>Address</u>
Howard Prey President	Drawer A Orando, Washington 98836
Alvin E. Fletcher Vice-President	P.O. Box 509 Forks, Washington 98331
E. Victor Rhodes Secretary	Route 2, Box 283-A Raymond, Washington 98577

The names of administrative staff members of the Supply System are as follows:

<u>Name</u>	<u>Title</u>
J. J. Stein	Managing Director
L. L. Humphreys	Deputy Managing Director, Director, Technical Division
R. Q. Quigley	Senior Counsel
N. O. Strand	Director, Administrative Division
J. T. Bobo	Manager, Finance
J. S. McMahon	Assistant Director, Technical Division
D. L. Renberger	Manager, Compliance
V. V. Johnson	Manager, Operations

d. (3, (ii) cont'd.

<u>Name</u>	<u>Title</u>
L. L. Grumme	Manager, Fuel and Technical Studies
O. E. Trapp	Manager, Engineering
R. D. Sahlberg	Senior Project Manager
C. E. Love	Senior Project Manager
G. K. Dyekman	Project Manager, WNP-3 and WNP-5

All of the directors and officers of Pacific Power & Light Company are citizens of the United States. The names and addresses of the Board of Directors are as follows:

<u>Name</u>	<u>Address</u>
C. M. Bishop, Jr.	Pendleton Woolen Mills 218 S. W. Jefferson Portland, Oregon 97201
Don C. Frisbee	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
Gregory A. Harrison	Brobeck, Phleger & Harrison 111 Sutter Street San Francisco, California 94104
Glenn L. Jackson	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
Henry G. Lambert	9 Cranston Place Bronxville, New York 10708
C. Howard Lane	Mt. Hood Radio & Television Broadcasting Corporation 140 S. W. Columbia Portland, Oregon 97204
John Y. Lansing	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
Conrad F. Lundgren	West Glacier Mercantile Co. West Glacier, Montana 59936
Paul F. Murphy	Studio 8, Pacific Building Portland, Oregon 97204

d. (3) (ii) cont'd.

<u>Name</u>	<u>Address</u>
Louis B. Perry	Standard Insurance Company P. O. Box 711 Portland, Oregon 97204
George D. Rives	Rives, Bonyhadi & Drummond Public Service Building Portland, Oregon 97204
William E. Roberts	B & D Development Company 806 S. W. Broadway Portland, Oregon 97205
T. F. Sandoz	1320 - 15th Street Astoria, Oregon 97103
Donald Sherwood	Sherwood & Roberts, Inc. 106 North Second Avenue Walla Walla, Washington 99362
Howard Vollum	Tektronix, Inc. P.O. Box 500 Beaverton, Oregon 97005

The names, titles and addresses of the principal officers of Pacific Power & Light Company are as follows:

<u>Name; Title</u>	<u>Address</u>
Don C. Frisbee Chairman of the Board	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
John Y. Lansing President	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
Allan C. Bartholomew Senior Vice-President	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
George L. Beard Senior Vice-President	Pacific Power & Light Company Public Service Building Portland, Oregon 97204
John H. Geiger Vice-President & Treasurer	Pacific Power & Light Company Public Service Building Portland, Oregon 97204

d. (3) (ii) cont'd.

<u>Name</u>	<u>Address</u>
Leonard Bennett Corporate Secretary	Pacific Power & Light Company Public Service Building Portland, Oregon 97204

All of the directors and officers of Portland General Electric Company are citizens of the United States. The names and addresses of the Board of Directors are as follows:

<u>Name</u>	<u>Address</u>
Warren W. Braley	9155 S. W. Canyon Road Portland, Oregon 97225
Franklin G. Drake	President, Donald M. Drake Company 1740 N. W. Flanders Portland, Oregon 97209
Ernest H. Miller	President, Mortgage Bancorporation P. O. Box 230 Salem, Oregon 97308
Wade Newbegin, Sr.	President, R. M. Wade & Company P. O. Box 8769 Portland, Oregon 97208
Robert W. Roth	President, JANTZEN INC. P. O. Box 3001 Portland, Oregon 97208
Robert H. Short	Executive Vice President & Treasurer Portland General Electric Company 621 S. W. Alder Street Portland, Oregon 97205
Eberly Thompson	2542 S. W. Hillcrest Drive Portland, Oregon 97201
James J. Walton	330 Candalaria Blvd. South Salem, Oregon 97302
Earl Wantland	President, Tektronix, Inc. P. O. Box 500 Beaverton, Oregon 97005
Frank M. Warren	President, Portland General Electric Co. 621 S. W. Alder Street Portland, Oregon 97205

d. (3) (ii) cont'd.

<u>Name</u>	<u>Address</u>
William W. Wessinger	Chairman of the Board Blitz-Weinhard Co. 1133 West Burnside Street Portland, Oregon 97209
Robert J. Wilhelm	President, Wilhelm Trucking Co. 3250 N. W. St. Helens Road Portland, Oregon 97210
Ralph E. Williams	Room 333, North Pacific Building 917 S. W. Oak Street Portland, Oregon 97205

The names, titles and addresses of the principal officers of Portland General Electric Company are as follows:

<u>Name; Title</u>	<u>Address</u>
Frank M. Warren President	621 South West Alder Street Portland, Oregon 97205
Hilbert S. Johnson Senior Vice-President	621 South West Alder Street Portland, Oregon 97205
Ralph H. Millsap Senior Vice-President	621 South West Alder Street Portland, Oregon 97205
Arthur J. Porter Senior Vice-President	621 South West Alder Street Portland, Oregon 97205
Robert H. Short Executive Vice-President & Treasurer	621 South West Alder Street Portland, Oregon 97205
H. H. Phillips Vice-President, Corporate Counsel & Secretary	621 South West Alder Street Portland, Oregon 97205

All of the directors and officers of Puget Sound Power & Light Company are citizens of the United States. The names and addresses of the Board of Directors are as follows:

<u>Name</u>	<u>Address</u>
Winston D. Brown	Howard S. Wright Construction Co. ••Room 3318 Seattle-First National Bank Bldg. Seattle, Washington 98154

d. (3) (11) cont'd.

<u>Name</u>	<u>Address</u>
	**Send all mailings to 1201 Shenandoah Drive East Seattle, Washington 98112
Ralph M. Davis	Puget Sound Power & Light Company Puget Power Building Bellevue, Washington 98009
John W. Ellis	Puget Sound Power & Light Company Puget Power Building Bellevue, Washington 98009
F. J. Herb	416 Bellingham National Bank Building Bellingham, Washington 98225
J. H. King	Puget Sound Power & Light Company Puget Power Building Bellevue, Washington 98009
Lowell P. Mickelwait	Perkins, Coie, Stone, Olsen & Williams 1900 Washington Building Seattle, Washington 98101
Robert D. O'Brien	PACCAR Inc. Post Office Box 1518 Bellevue, Washington 98009
Irvine B. Rabel	Star Machinery Company 241 South Lander Street Seattle, Washington 98134
Ralph Stormans	Ralph's Thriftway Store 1908 East Fourth Avenue Olympia, Washington 98506

The names, titles and addresses of the principal officers of Puget Sound Power and Light Company are as follows:

<u>Name; Title</u>	<u>Address</u>
Ralph M. Davis President & Chief	Puget Power Building Bellevue, Washington 98009
John W. Ellis Vice-President; Utility Management Secretary	Puget Power Building Bellevue, Washington 98009

d. (3) (11) cont'd.

<u>Name</u>	<u>Address</u>
J. H. King Vice-President-Finance	Puget Power Building Bellevue, Washington 98009
D. H. Knight Vice-President Power Supply	Puget Power Building Bellevue, Washington 98009
W. E. Watson Secretary	Puget Power Building Bellevue, Washington 98009
R. F. Whaley Treasurer	Puget Power Building Bellevue, Washington 98009

All of the directors and officers of The Washington Water Power Company are citizens of the United States. The names and addresses of the Board of Directors are as follows:

<u>Name</u>	<u>Address</u>
Rodney C. Aller	Attorney at Law Lakeville, Connecticut 06039
A. L. Barnes (retired)	General Delivery Hayden Lake, Idaho 83835
Duane B. Hagadone	President, Hagadone Newspapers Hagadone Building Coeur d'Alene, Idaho 83814
Roy J. Johnson (retired)	Riverfalls Towers, Penthouse 1224 West Riverside Avenue Spokane, Washington 99201
James B. McMonigle	Box 877 Lewiston, Idaho 83501
James A. Poore, Jr.	Poore, McKenzie & Roth 4th Floor, Silver Bow Block Butte, Montana 59701
K. M. Robinson	The Washington Water Power Company P.O. Box 3727 Spokane, Washington 99220
W. J. Satre	The Washington Water Power Company P.O. Box 3727 Spokane, Washington 99220
Eugene Thompson	Route # 1, Box 56 Moscow, Idaho 83843

d. (3) (ii) cont'd.

The names, titles and addresses of the principal officers of Washington Water Power Company are as follows:

<u>Name; Title</u>	<u>Address</u>
Kinsey M. Robinson Chairman of the Board & Chief Executive Officer	E. 1411 Mission Avenue Spokane, Washington 99202
Wendell J. Satre President	E. 1411 Mission Avenue Spokane, Washington 99202
William A. Lowry Vice-President	E. 1411 Mission Avenue Spokane, Washington 99202
Donald M. Oliason Vice-President & General Division Mgr.	E. 1411 Mission Avenue Spokane, Washington 99202
Jeremiah P. Buckley Vice-President & Secretary	E. 1411 Mission Avenue Spokane, Washington 99202
Harold W. Harding Vice-President - Power Supply	E. 1411 Mission Avenue Spokane, Washington 99202
Donald L. Olson Assistant Vice-President - Engineering & Construction	E. 1411 Mission Avenue Spokane, Washington 99202
James M. Coombs Treasurer	E. 1411 Mission Avenue Spokane, Washington 99202

d. (3) (iii) [Section 50.33 (d) (3) (iii)] The Supply System, Pacific Power & Light Company, Portland General Electric Company, Puget Sound Power & Light Company, and The Washington Public Power Company are not owned, controlled or dominated by an alien, a foreign corporation, or foreign government.

d. (4) [Section 50.33 (d) (4)] With regard to WNP-3, the Supply System is acting on its own behalf as owner of 70% undivided interest as a tenant in common in the facility and as agent for Pacific Power & Light Company (PP&L), Portland General Electric Company (PGE), Puget Sound Power & Light Company (PSP&L) and The Washington Water Power Company (WWP), all of which will share a 30% undivided interest in WNP-3 as tenants in common in the following proportions: PP&L (10%); PGE (10%); PSP&L (5%); and WWP (5%). With regard to WNP-5, it is

anticipated that some or all of these investor owned utilities will also participate in ownership, with the supply system being the majority owner and Applicant for itself and as agent for the other owners.

e. [Section 50.33(e)]

The Supply System seeks from the Commission, (i) 40-year Class 103 licenses to construct and operate two nuclear power plants at its site located in southeastern Grays Harbor County, State of Washington, along the south bank of the Chehalis River near its confluence with the Satsop River, each with a core power level of 3,800 Mwt and, (ii) appropriate source, by-product and special nuclear material licenses for the Project. The facility will be used to generate electric energy. The Supply System's 70% share of the WNP-3 output will be sold by the Supply System to 103 consumer-owned utilities in the Pacific Northwest through Net Billing Agreements, described in Exhibit A, which these utilities have executed with the Supply System and the Bonneville Power Administration. These 103 utilities are all statutory preference customers of Bonneville, and consist of 27 municipalities, 29 districts, and 47 cooperatives. It is expected that the WPPSS portion of the WNP-5 output will also be purchased by approximately 100 consumer-owned utilities, through agreements yet to be finalized.

The remaining 30% of the WNP-3 output will be received by Pacific Power & Light Company (10%), Portland General Electric Company (10%), Puget Sound Power & Light Company (5%), and The Washington Water Power Company (5%) in proportion to their respective ownership shares in accordance with the WNP-3 Ownership Agreement as set forth in Exhibit A. It is anticipated that some or all of these investor owned utilities will also participate in the ownership of WNP-5, with the supply system being the majority owner and Applicant for itself and as agent for the other owners.

Prior to construction of the Project, certification of the site must be obtained from the Washington State Thermal Power Plant Site Evaluation Council and, of course, the construction permits from the AEC applied for herein must also be obtained.

f. [Section 50.33(f) and Appendix C]
Financial Qualifications

WPPSS Nuclear Project No. 3 will be owned by the Supply System and by four investor-owned utilities on a joint ownership basis as tenants in common, with the Supply System owning 70% undivided interest and Pacific Power & Light Company (10%), Portland General Electric Company (10%), Puget Sound Power & Light Company (5%) and The Washington Water Power Company (5%), sharing the remaining 30% undivided interest in proportion to their respective ownership percentages. As indicated above, it is anticipated that some or all of these investor owned utilities will also participate in ownership of WNP-5. Each of the 103 utilities to which the Supply System will sell its portion of the output of WNP-3 by contract agree to ratably reimburse the Supply System for its cost of financing and managing construction and operation of WNP-3. Each of the four privately-owned utilities will

WNP-3 & WNP-5

agree to pay its ownership share of the costs of constructing and operating WNP-3. Each owner will agree to bear its respective ownership share of all obligations and liabilities of WNP-3 as they arise. Similar ownership arrangements are anticipated for WNP-5.

The Architect-Engineer and the Supply System have estimated that the cost of construction of WNP-3 and WNP-5 will be \$1,050,216,000.00 and \$1,210,000,000.00 respectively. These costs have been tabulated below in accordance with the FPC Code of Accounts.

<u>FPC Account</u>	<u>Account Name</u>	<u>WNP-3 Costs (\$1,000)</u>	<u>WNP-5 Costs (\$1,000)</u>
320	Land and Land Rights (1)	\$ 492	\$ -
321	Structures & Improvements	163,900	172,700
322	Reactor Plant Equipment	126,300	139,000
323	Turbine-Generator Units	84,200	86,900
324	Accessory Elect. Equipment	36,900	37,500
325	Misc. Power Plant Equipment	2,200	2,400
	TOTAL NUCLEAR PLANT (2)	\$ 413,992	\$ 438,500
353	Station Equip. & Switch. Yard	3,500	2,700
	Owners Direct Cost	55,000	30,000
	Sales Tax (4)	22,705	24,586
	Capitalized Interest During Construction	204,925	272,452
	Financing Expenses	14,570	22,140
	Eng. & Const. Mgmt. (2)	65,100	47,000
	Contingencies (2)	66,808	73,200
	Escalation	165,500	247,900
	Performance Bonds	1,000	1,000
<u>Nuclear Fuel</u>			
120	Nuclear Fuel (First Core) (3)	37,116	50,522
	TOTAL ESTIMATED COST	\$ 1,050,216	\$ 1,210,000

- (1) Future land acquisition or land rights will be funded from contingencies.
- (2) Estimated by the Architect-Engineer.
- (3) Estimated by the Supply System.
- (4) Includes sales tax on nuclear fuel.

WPPSS

The above cost estimates include escalation and contingencies to 1981 and 1983 operating dates for WNP-3 and WNP-5 respectively. Fuel costs are based on purchase of the first fuel core. Cost estimate for WNP-5 assumes 100% WPPSS ownership.

WNP-3

The Supply System will finance its share of the costs of acquiring and constructing WNP-3 by issuing short term notes and long term bonds. It is anticipated that these bonds will be issued in series from time to time as funds to meet the costs of construction are required. Bonds issued by the Supply System and interest thereon will be repaid from Supply System revenues which are to be paid by the 103 participating utilities who are purchasing the Supply System's share of the output of WNP-3, as a portion of the annual costs of the WNP-3.

WNP-3

These participating utilities will contract to pay an agreed percentage of Supply System's costs, including the costs of issuing and repaying the bonds, whether WNP-3 is operated or not, and regardless of whether power is produced by WNP-3. Each of the participating utilities will further agree to assign its percentage share of the output of WNP-3 to the Bonneville Power Administration under Net Billing agreements in return for a credit or offset by Bonneville on amounts otherwise due Bonneville for power and other services furnished to the utilities under other contracts in an amount equal to the amount the utility has paid the Supply System. The sale to the utilities by Supply System and the assignment to Bonneville by the utilities will be on actual cost basis.

WNP-5

It is expected that generally similar arrangements, differing however in contractual mechanisms, will be utilized for financing WNP-5. That is, the contractual arrangements with respect to WNP-5 will not be Net Billing agreements. Bonneville and its preference customers are considering, among other arrangements, agency agreements whereby Bonneville would acquire power, on behalf of its preference customers in the Northwest, through a power resource purchase agreement from new generating resources such as WNP-5 to meet all or part of the contracting utilities load growth or net power requirements after July 1, 1983. Bonneville would also supply services such as transmission, peaking, load factoring and reserves, in return for which Bonneville would receive a fee which might consist of an assignment of a portion of the power assigned.

Investor Owned

Each of the four investor-owned utilities will finance their ownership shares of WNP-3, and as applicable WNP-5, in the same manner as the balance of their respective construction programs, viz., short term borrowing, sale of equity securities, proceeds from first mortgage bonds, internally generated funds, leases or other executory arrangements and other secured and unsecured transactions or construction financing.

The financial qualifications of the Supply System, with respect to its share of the project, and the four privately-owned utilities, with respect to their share of WNP-3 to carry out the activities for which the Construction Permits are sought, are set forth in Exhibit B (and the schedules

thereto) which is made part of this application by this reference. Exhibit B shows that the Supply System and the four utilities possess the funds necessary to cover estimated construction costs and related fuel cycle costs or have reasonable assurance of obtaining the necessary funds, or a combination of the two. Exhibits A and B provide the construction cost estimates, further information on sources of funds (planned financing arrangements) and the financial statements contemplated for construction permit applications by Appendix C of 10 CFR Part 50.

g. [Section 50.33(g)] was deleted on April 3, 1969 (34 F. R. 6036).

h. [Section 50.33(h)]

The earliest and latest dates for completion of construction are January 1, 1981, and January 1, 1983, respectively, for WNP-3 and July 1, 1982 and July 1, 1984, for WNP-5. The latest dates for completion are specified for purposes of duration of the permits in the event of unforeseen contingencies. It remains essential to the public interest in an adequate reliable supply of power, as shown in sections 1 and 8 of the Environmental Report, that WNP-3 be licensed by the Spring of 1981 and that WNP-5 be licensed by the fall of 1982, the planned time for fuel loading. Commercial operation is scheduled for and must be achieved by September 1, 1981 and March 1, 1983.

i. [Section 50.33(i)]

The Supply System does not engage in the distribution of power to retail customers. It is authorized among other things, to acquire, construct and operate plants, works, and facilities for the generation and transmission of power to utilities. The Supply System does not have "rates" but is reimbursed for the costs of each project by the participants therein. In any event, as a municipal corporation of the State of Washington, the Supply System is not under the jurisdiction of any regulatory agency having control over "rates and services" of the proposed activity.

The Federal Power Commission, 825 North Capitol Street, N.E., Washington, D. C. 20002, has jurisdiction over the rates and services of the four investor-owned utilities, as do the following state regulatory agencies, as noted respectively hereinafter:

Pacific Power & Light
Company

- (1) California Public Utilities
Commission
State Building, Civic Center
San Francisco, California 94102
- (2) Public Utility Commissioner
of Oregon
Public Service Building
Salem, Oregon 97301

WNP-3 & WNP-5

Pacific Power & Light
Company

- (3) Washington Utilities &
Transportation Commission
Highway-Licenses Building
Olympia, Washington 98504
- (4) Public Service Commission
of Montana
1227 11th Avenue
Helena, Montana 59601
- (5) Idaho Public Utilities
Commission
Statehouse
Boise, Idaho 83720
- (6) Wyoming Public Service
Commission
217 Supreme Court Building
Cheyenne, Wyoming 82001

Portland General Electric
Company

- (1) Public Utility Commissioner
of Oregon
Public Service Building
Salem, Oregon 97301

Puget Sound Power & Light
Company

- (1) Washington Utilities and
Transportation Commission
Highway-Licenses Building
Olympia, Washington 98504

Washington Water Power
Company

- (1) Washington Utilities &
Transportation Commission
Highway-Licenses Building
Olympia, Washington 98504
- (2) Idaho Public Utilities
Commission
Statehouse
Boise, Idaho 83720
- (3) Public Service Commission
of Montana
1227 11th Avenue
Helena, Montana 59601

The municipalities, private utilities, public bodies and cooperatives which are within transmission distance, and authorized to engage in the distribution of electric energy within the area, are described in Exhibit B and in the "Information Requested by The Attorney General For Antitrust Review" which is submitted herewith under separate cover. In accordance with the Ten Year Hydro-Thermal Program of the Pacific Northwest, as described in Exhibit A, 103 public and consumer-owned utilities have agreed

WNP-3 & WNP-5

to purchase 70% of the output of WNP-3, while the four investor-owned utilities will receive the remaining 30% in accordance with their respective ownership share. The output from WNP-5 is being offered to each of the public and investor-owned utilities who are participating in WNP-3. It is anticipated that some or all of the investor-owned utilities will participate in the ownership of WNP-5, and that the Supply System's portion of WNP-5 will be purchased by approximately 100 public and consumer-owned utilities. WNP-5 is being planned in accordance with the Northwest Power Council Hydro-Thermal Program, Phase II of December 1973. Through the Hydro-Thermal Program, and Phase II thereof, the utilities of the region participate in the construction of thermal power plants in a coordinated plan intended to meet the future power requirements of the region.

As required by 10 CFR Section 50.33 (i), a list of publications appropriate to give reasonable notice of the application is set forth below:

Walla Walla Union Bulletin
First & Poplar Streets
Walla Walla, Washington 99362

Seattle Times
Fairview N. & John
Seattle, Washington 98109

The Idaho Statesman
300 No. 6th Street
Boise, Idaho 83702

Tri-City Herald
107 No. Cascade
Kennewick, Washington 99336

Yakima Herald Republic
114 No. 4th Street
Yakima, Washington 98901

The Oregonian
1320 S. W. Broadway
Portland, Oregon 97201

Seattle Post-Intelligencer
6th & Wall
Seattle, Washington 98101

Spokesman Review
W. 927 Riverside
Spokane, Washington 99201

Portland Journal of Commerce
Portland, Oregon 97200

Daily Journal of Commerce
83 Columbia
Seattle, Washington 98101

Aberdeen Daily World
315 So. Michigan
Aberdeen, Washington 98520

Centralia Daily Chronicle
P. O. Box 580
Centralia, Washington 98531

Montesano Vidette
P. O. Box 671
Montesano, Washington 98563

Daily Olympian
State Avenue & Capital Way
Olympia, Washington 98501

Elma Chronicle
112 No. Third Street
Elma, Washington 98541

Tacoma News Tribune
711 St. Helens Avenue
Tacoma, Washington 98401

Siskiyou Daily News
310 S. Broadway
Yreka, California 96097

Daily Inter Lake
300 First Avenue W.
Kalispell, Montana 59901

Star-Tribune
111 S. Jefferson Street
Casper, Wyoming 92601

Wyoming State Tribune
110 East 17th Street
Cheyenne, Wyoming 82001

j. [Section 50.33(i)] and [Section 50.37]

No restricted data or other classified information (defense information) is involved in this application and it is not expected that any will become involved. However, in the event that it does, the applicants will appropriately segregate and safeguard such information and will not permit any individual to have access to Restricted Data until the United States Civil Service Commission shall have made an investigation and report to the AEC on the character, associations and loyalty of such individual, and the AEC shall have determined that permitting such person to have access to Restricted Data will not endanger the common defense and security.

k. [Section 50.33(a) and Appendix L]

The information required by 10 CFR Section 50.33(a) and 10 CFR Part 50, Appendix L has been submitted under separate cover entitled "Information Requested By The Attorney General For Antitrust Review."

l. [Section 50.30(f) and Appendix D]

An Environmental Report pursuant to 10 CFR Section 50.30(f) and 10 CFR Part 50, Appendix D, will be submitted within six months of the submittal of this application.

m. [Section 50.34]

The Supply System submits with this application a Preliminary Safety Analysis Report pursuant to 10 CFR Part 50, especially Section 50.34.

n. The Supply System has retained Ebasco Services, Inc. (Ebasco) as Architect-Engineer to design and supervise the construction of the Project. The technical qualifications and description of Ebasco are shown in material attached hereto as Exhibit C and made a part hereof by this reference.

o. The Supply System has also retained R. W. Beck and Associates as Consulting Engineer to review economic feasibility and financial aspects of the Project. The technical qualifications and description of R. W. Beck and Associates are shown in the material attached hereto as Exhibit D and hereby made a part hereof by this reference.

p. The nuclear steam supply systems for the Project are to be furnished by Combustion Engineering, Inc. (Combustion). The technical

qualifications and description of Combustion are shown in the material attached hereto as Exhibit E and hereby made a part hereof by this reference.

q. The turbine generators for the Project will be furnished by Westinghouse Electric Company. The technical qualifications and description of Westinghouse Electric Company are shown in the material attached hereto as Exhibit F and hereby made a part hereof by this reference.

r. The Supply System employs a Project Engineering Staff consisting of individuals having substantial training and experience in the construction and operation of nuclear facilities. See Chapter 13 of the Preliminary Safety Analysis Report submitted herewith.

s. (10 CFR Part 140). The Supply System will provide and maintain financial protection for public liability and will execute an indemnity agreement with the Commission at the times, on the terms, and in the amounts all as may be required by 10 CFR Part 140.

t. It is requested that all orders, notices, papers and other communications issued by the Commission in connection with this application be mailed and delivered to:

Mr. J. J. Stein, Managing Director
Washington Public Power Supply
System
3000 George Washington Way, P. O. Box 968
Richland, Washington 99352

and

Joseph B. Knotts, Jr., Esq.
Conner, Hadlock & Knotts
1747 Pennsylvania Avenue, NW
Washington, D. C. 20006

and

Richard Q. Quigley, Esq.
Washington Public Power Supply
System
3000 George Washington Way, P. O. Box 968
Richland, Washington 99352

WHEREFORE, the Supply System prays that the Commission issue (i) 40-year Class 103 licenses authorizing the Supply System to construct and operate the proposed nuclear facilities at its site near Satsop, Gray's Harbor County, Washington and, (ii) such by-product, source, and special nuclear material licenses as may be appropriate for the Project.

Subscribed in Richland, Washington, this 30th day of
July , 1974.

Respectfully submitted,

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM

By J J Stein
J. J. Stein
Managing Director

EXHIBIT B

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.

EXHIBIT C
TECHNICAL QUALIFICATIONS
EBASCO SERVICES, INC.

Ebasco Services, Inc. with headquarters in New York City, has been retained as the Architect-Engineer/Construction Manager for WNP-3.

Ebasco has provided engineering, construction and consulting services to utilities in the United States and through out the world for 67 years. Including those projects currently on hand, Ebasco has been associated with the completion of some 880 power generating units with a total capacity of over 81,000,000 kw. Presently, 70 generating units with a total capacity of over 34,000,000 kw are being developed using Ebasco's services. Twenty-three nuclear power generating plants are either completed or presently being designed and constructed at locations in the United States and overseas.

Currently, Ebasco maintains a permanent force of nearly 2,500 personnel to carry out services related to power generation, transmission and distribution. Approximately 700 of these employees are specifically identified with nuclear activities.

A summary of Ebasco Nuclear Power Experience is provided on the following pages.

SUMMARY OF EBASCO NUCLEAR POWER EXPERIENCE

PLANT NAME	NO. UNITS	UTILITY	TYPE OF PLANT	RATING(MWE)	EBASCO RESPONSIBILITY	DATE OF OPERATION
Tokai 1, Japan	1	JAERI	BWR(GE)	12.5	AE,C	8-63
Garigliano, Italy	1	Ente Nazionale per L'Energia Elettrica	BWR(GE)	164	AE,CM	5-64
Santa Maria de Garona, Spain	1	Centrales Nucleones Sel Norte, S.A.	BWR(GE)	460	AE,CM	8-69
Tsuruga, Japan	1	Japan Atomic Power Co.	BWR(GE)	357	AE,CM	9-70
Fukushima 1, Japan	1	Tokyo Electric Power Co.	BWR(GE)	380	AE	10-70
Millstone 1	1	Northeast Utilities	BWR(GE)	682	AE,C	12-70
H. B. Robinson 2	1	Carolina Power and Light Co.	PWR(W)	772	AE,C	3-71
Vermont Yankee	1	Vermont Yankee Nuclear Power Corp	BWR(GE)	540	AE,C	10-72
Fort St. Vrain	1	Public Service Co. of Colorado	HTGR(GGA)	342	C	1-73
Fukushima 2	1	Tokyo Electric Power Co.	BWR(GE)	780	AE	73
St. Lucie 1 & 2	2	Florida Power & Light Co.	PWR(GE)	250 each	AE,C	1-75/80

WNP-3 & WNP-5

EXHIBIT C

SUMMARY OF EBASCO NUCLEAR POWER EXPERIENCE

PLANT NAME	NO. UNITS	UTILITY	PLANT	TYPE OF RATING(MWE)	RESPONSIBILITY	EBASCO DATE OF OPERATION
Shimane, Japan	1	Chukogo Electric Power Co.	BWR(GE)	460	CE	6-74
Fukushima 3, Japan	1	Tokyo Electric Power Co.	BWR(GE)	760	CE	12-74
Chin Shan 1 & 2 Taiwan	2	Taiwan Power Power	BWR(GE)	636 each	AE,CM	12-75/12-76
Fukushima 6, Japan	1	Tokyo Electric Power Co.	BWR(GE)	1100	AE	10-76
Tokai 2, Japan	1	Japan Atomic Power Co.	BWR(GE)	1100	AE	12-76
Waterford 3	1	Louisiana Power and Light Co.	PWR(CE)	1115	AE,C	12-76
Shearon Harris 1,2,3 & 4	4	Carolina Power & Light Co.	PWR(W)	960 each	AE	3-77/3-78/3-79/3-80
Douglas Point 1,2	2	Potomac Electric Power Co.	BWR(GE)	1100 each	AE,C	1979, 1981
Allens Creek 1 & 2	2	Houston Lighting & Power	BWR(CE)	1200 each	AE,C	1979, 1981
Enrico Fermi - 3	1	Detroit Edison	BWR(GE)	1200	AE	1980

AE - Engineering and Architecture
 CM - Construction Management
 C - Construction
 CE - Consultant Engineer

WNP-3 & WNP-5

EXHIBIT C

EXHIBIT D

TECHNICAL QUALIFICATIONS

TECHNICAL CONSULTANTS

R. W. BECK AND ASSOCIATES

R. W. Beck and Associates provides planning, engineering and analytical services for utilities, communities and other types of clients throughout the nation. The firm's activities include services with respect to the initial planning, engineering feasibility, project financing, design and supervision of construction, and a variety of analytical services and consultation on operations.

Founded in 1942, R. W. Beck and Associates has its general offices at Seattle, Washington. Other offices are maintained at Denver, Colorado; Phoenix, Arizona; Columbus, Nebraska; Orlando, Florida; and Boston, Massachusetts. The firm presently maintains a staff of about 250 who serve clients both within the United States and internationally. The staff includes about 130 professional engineers of which more than 80% are registered in one or more states and with other governments. R. W. Beck and Associates is serving the Washington Public Power Supply System as Consulting Engineer for the Hanford 1 project, which utilizes steam from the New Production Reactor on the AEC's Hanford Reservation as well as on the Hanford 2 Nuclear project now under construction.

A representative list of other experience in nuclear projects and studies is presented below:

<u>Client</u>	<u>Project</u>
Consumers Public Power District, Columbus, Nebraska	Feasibility report and technical assistance re: the development of the District's proposed 800-megawatt Cooper Station nuclear plant and financing of the Project
Middlesex-Essex Power Pool, Reading, Massachusetts	Preliminary feasibility analysis of the proposed Ipswich Nuclear Electrical Generating Project and site evaluation.
Arizona Power Authority, Phoenix, Arizona	Nuclear power supply study.
East River Electric Power Cooperative, Inc. Madison, South Dakota	Preliminary engineering study, nuclear plant
Washington Public Power Supply System Kennewick, Washington	Performed an analysis of expected atmospheric effects of evaporative type cooling tower and cooling pond operation for Hanford No. 2 nuclear plant. Assisted in the preparation of the Environmental Report to accompany the application for an Atomic Energy Commission Construction Permit for the Hanford No. 2 Nuclear Power Plant.
North Carolina Power Consumers, Inc. Raleigh, North Carolina	The EPIC Project (Electric Power in Carolina) comprehensive plan for regional power supply. In the preparation of the technical and economic feasibility report for the EPIC project, site studies were made to identify the characteristics of three thermal power plant sites in North Carolina. The first site

Client

North Carolina Power (cont'd)

Consultant to
Woodward-Envicon, Inc.

Project

to be developed would be a multiple nuclear unit generating station. Additional subsurface investigations were accomplished at that site and at a nearby alternate site. These studies included test borings and seismic traverses to establish the character and ability of the site to support heavy construction.

Preliminary investigations were also made into other siting criteria such as meteorology, population density, surface water supply and access requirements.

Participated in the Grand Gulf Nuclear Power Station project by providing an analysis of the utility systems power requirements and pertinent sections of the Environmental Impact Report.

EXHIBIT E
TECHNICAL QUALIFICATIONS
COMBUSTION ENGINEERING, INC.

The nuclear power activities of Combustion Engineering, Inc. are of three general types:

- 1) design, development, construction and operation of Reactor and auxiliary systems;
- 2) design and fabrication of nuclear components;
- 3) support of design, development and analytical projects.

CE's participation in the development of nuclear power dates back to 1955. During the period 1955-1960, CE was a major contributor to the U.S. Naval Reactors program, designing and building the prototype of a small attack submarine power plant. This prototype (SIC) went into operation in 1959 and is still being used as a naval training facility. A second plant of this type was also designed and built by CE for installation in the USS Tullibee (SSN-597).

CE's major activities in the light water cooled and moderated reactor field include the following:

C-E PRESSURIZED WATER REACTOR PLANTS

<u>Plant</u>	<u>Operator Utility</u>	<u>Plant Location</u>	<u>Scheduled Commercial Operation</u>	<u>Nominal Mwe Net</u>
Palisades	Consumers Power Co.	Michigan	1972	800
Fort Calhoun	Omaha Public Power District	Nebraska	1973	475
Maine Yankee	Maine Yankee Atomic Power Co.	Maine	1972	800
Calvert Cliffs Unit 1	Baltimore Gas & Electric Co.	Maryland	1974	850
Calvert Cliffs Unit 2	Baltimore Gas & Electric Co.	Maryland	1975	850
St. Lucie 1	Florida Power & Light Co.	Florida	1975	810
Millstone Point Unit 2	Northeast Utilities	Connecticut	1974	865
San Onofre Unit 2	Southern California Edison Co.	California	1978	1100
San Onofre Unit 3	Southern California Edison Co.	California	1979	1100
Forked River Unit 1	Jersey Central Power & Light Co.	New Jersey	1979	1100
Arkansas Nuclear 1 Unit 2	Arkansas Power & Light Co.	Arkansas	1976	900
Waterford Unit 3	Louisiana Power & Light Co.	Louisiana	1979	1100
Pilgrim Unit 2	Boston Edison 2	Massachusetts	1980	1130
St. Lucie Unit 2	Florida Power & Light Co.	Florida	1979	810
Blue Hills Unit 1	Gulf States Utilities Co.	Texas	1981	900
Unnamed Units (6) (System 80)	Duke Power Company	North Carolina & South Carolina	1981 to 1984	1300
WNP-3 (System 80)	Washington Public Power Supply System	Washington	1981	1300
Palo Verde Nuclear Generating Station - Units 1, 2 and 3	Arizona Nuclear Power Project	Arizona	1981 to 1984	1300

EXHIBIT F

TECHNICAL QUALIFICATIONS

TURBINE - GENERATOR SUPPLIER

WESTINGHOUSE ELECTRIC COMPANY

Westinghouse Electric Company leads the industry in experience on 1800 rpm nuclear Turbine-Generator units. Actual experience on these units exceeds generation of 100 billion Kwhr since the first unit went in service in 1957. This experience is supported by extensive research and development efforts, factory testing programs and field testing.

As of June 21, 1973, Westinghouse's experience with 1800 rpm units for nuclear service included 16 units in service (total capacity 10,036,000 Kw). In addition, 73 units have been shipped or are on order, representing over 65,000,000 Kw.

Westinghouse has 67 of the high pressure turbine elements similar to those proposed for WNP-3 on order and in service.

In addition, Westinghouse has sold 171, 40" low - pressure ends for nuclear application. Twenty-three of those are now in Nuclear Service.

Westinghouse has 37, four pole, 1800 rpm generators on order for nuclear service rated in excess of 1100 MVA, 26 of which have water cooled stators.

**NUCLEAR POWER PLANTS OPERATING WITH WESTINGHOUSE
TURBINE-GENERATOR UNITS
1800 RPM TYPE**

Utility	Station-Unit No.	Rating MW	Type-LRB	In- Service	NSSS Supplier
Duquesne Light Co.	Shippingport #1	100	SC1F-40	12/57	W
Yankee Atomic Pwr.	Rowe #1	145	TC2F-40	12/60	W
Con. Ed. of N.Y.	Indian Point #1	275	TC2F-44	9/62	B&W
So. Cal. Edison	San Onofre #1	450	TC4F-40	1/68	W
Conn. Yankee	Haddam Neck #1	616	TC4F-44	1/68	W
Rochester G&E	Ginna #1	497	TC4F-40	12/69	W
Wisc.-Mich. Pwr.	Point Beach #1	503	TC4F-40	12/70	W
Carolina P & L	Robinson #2	739	TC4F-44	5/71	W
Consumers Pwr.	Palisades #1	812	TC4F-44	5/72	CE
Virginia E&P Co.	Surry #1	815	TC4F-44	7/72	W
Wisc.-Michigan	Point Beach #2	503	TC4F-40	8/72	W
Maine Yankee	Wiscasset #1	830	TC4F-44	4/72	CE
Florida P&L	Turkey Point #3	728	TC4F-44	11/72	W
Virginia E&P Co.	Surrey #2	822	TC4F-44	3/73	W

Total MW's in nuclear service 7,835

**FUTURE OPERATING EXPERIENCE - THROUGH 1978
WESTINGHOUSE NUCLEAR TURBINE GENERATORS
1800 RPM**

UNITS TO BE PLACED IN SERVICE IN 1973

Utility	Station-Unit. No.	Rating MW	Type-LRB	Expected IN- Service	NSSS Supplie.
Con. Ed. of N.Y.	Indian Point #2	1022	TC6F-44	6/73	W
Florida P&L	Turkey Point #4	728	TC4F-44	7/73	W
Comm. Edison	Zion #1	1086	Tc6F-44	7/73	W
Northern States Power	Prairie Island #1	560	TC4F-40	8/73	W
Wisconsin P.S.	Kewaunee #1	563	TC4F-40	8/73	W
Comm. Edison	Zion #2	1086	TC6F-44	11/73	W
Nebraska PPD	Cooper #1	801	TC4F-44	10/73	GE
Sacramento MUD	Rancho Seco #1	929	TC4F-44	10/73	B&W
Arkansas P & L	Russellville #1	910	TC4F-44	9/73	B&W
Florida Pr. Corp.	Crystal River #3	868	TC4F-44	10/73	B&W

Total MW's at end of 1973 in nuclear service 16,388

UNITS TO BE PLACED IN SERVICE IN 1974

Baltimore G&E	Calvert Cliffs #2	878	TC6F-40	1/74	CE
Virginia E & P	North Anna #1	943	TC4F-44	3/74	W
Northern States	Prairie Is. #2	560	TC4F-40	4/74	W
TVA	Sequoyah #1	1183	TC6F-44	4/74	W
Pacific G & E	Diablo Canyon #1	1136	TC6F-44	5/74	W
Duquesne Light Co.	Beaver Valley #1	888	TC4F-44	6/54	W
Florida P & L	Hutchinson Is. #1	841	TC4F-44	6/74	CE
Public Serv. E&G	Salem #1	1136	TC6F-44	10/74	W
Con. Ed. of N.Y.	Indian Point #3	1022	TC6F-44	11/74	W
TVA	Sequoyah #2	1183	TC6F-44	12/74	W

Total MW's at end of 1974 in nuclear service 26,158

UNITS TO BE PLACED IN SERVICE IN 1975

Virginia El. Pwr.	North Anna #2	943	TC4F-44	3/75	W
Southern Co.	Joseph Farley #1	861	TC4F-44	4/75	W
Public Serv. E&G	Salem #2	1162	TC6F-44	5/75	W
Pacific G & E	Diablo Canyon #2	1164	TC6F-44	6/75	W
Taiwan Power Co.	Chinshan #1	636	TC4F-40	6/75	GE
Gen. Pub. Util.					
Metro. Ed.	Three Mile Is. #2	927	TC4F-44	10/75	B&W
Duke Power	W. B. McGuire #1	1220	TC6F-44	11/75	W

Total MW's at end of 1975 in nuclear service 33,071

UNITS TO BE PLACED IN SERVICE IN 1976

Taiwan Power Co.	Chinshan #2	636	TC4F-40	4/76	GE
Puerto Rico W.R.A.	Aguirre #1	623	TC4F-40	7/76	W
TVA	Watts Bar #1	1218	TC6F-44	8/76	W
Brazil-Furnas	Angra #1	657	TC4F-40	8/76	W
Mid South Util. La. P & L	Waterford #3	1152	TC6F-40	12/76	CE

Total MW's at end of 1976 in nuclear service 37,357

UNITS TO BE PLACED IN SERVICE IN 1977

Cincinnati G&E	Zimmer #1	841	TC4F-40	1/77	GE
Carolina P&L	Shearon Harris #1	951	TC4F-44	3/77	W
Virginia El. Pwr.	North Anna #3	955	TC6F-40	3/77	B&W
Alabama Power	Farley #2	861	TC4F-44	4/77	W
Duke Power	McGuire #2	1220	TC6F-44	5/77	W
Wash. Pub. Pwr. Sup.	Hanford #2	1149	TC6F-44	9/77	GE
T.V.A.	Watts Bar #2	1218	TC6F-44	10/77	W

Total MW's at end of 1977 in nuclear service 44,552

UNITS TO BE PLACED IN SERVICE IN 1978

Duquesne Lt.	Beaver Valley #2	888	TC4F-44	1/78	W
Florida P&L	St. Lucie #2	842	TC4F-44	2/78	W
Carolina P&L	Harris #2	951	TC4F-44	3/78	W
Virginia El. Pwr.	North Anna #4	955	TC6F-40	3/78	W
Taiwan Pwr. Co.	Nuclear #3	985	TC4F-44	4/78	GE
Commonwealth Ed.	Byron #1	1175	TC6F-40	10/78	W

Total MW's at end of 1978 in nuclear service 50,348

EXHIBIT G

TECHNICAL QUALIFICATIONS

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Washington Public Power Supply System is a municipal Corporation and a joint operating agency in the state of Washington, organized in January 1957.

The Supply System owns and operates the electric generating and associated facility known as the Hanford Generating Plant, utilizing by-product steam from the USAEC's New Production Reactor on the Hanford reservation. The Hanford Generating Plant is currently the largest producer of nuclear generated electricity in the United States. The Supply System also owns and operates the Packwood Lake hydro-electric project.

In addition, the Supply System has under construction a one-million, one-hundred thousand (1,100,000)kw boiling water reactor nuclear plant on the Hanford reservation, known as WPPSS Nuclear Project No. 2 (Construction Permit CPPR-93). The Supply System has also filed an application (docket No. 50-460) for a Construction permit to build a one-million, three-hundred thousand (1,300,00)kw pressurized water reactor on the Hanford reservation, known as WPPSS Nuclear Project No. 1 (WNP-1).

The technical staff of the Supply System numbers approximately 150, representing in excess of 1000 man-years of nuclear plant experience.