

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM

(Nuclear Project No. 4)

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)
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Docket No. 50-513

AFFIDAVIT OF ROBERT B. GALLUP
REGARDING NEED FOR POWER UPDATE

A. Background

The evidentiary hearings on environmental and site suitability issues for WPPSS Nuclear Projects No. 1 ("WNP-1") and No. 4 ("WNP-4") were conducted on May 13-15, 1975, at which time certain exhibits were received into evidence by the Atomic Safety and Licensing Board ("Board"). This evidence included, inter alia, the 1975 West Group Forecast (Applicant's Ex. 4). In addition, I submitted prepared testimony for the evidentiary hearings (Tr. following p. 164), and responded to examination and cross-examination by the parties and the Board (Tr. 155-158, 160-164, 174-176, 247-248, 263-344, 346-376). Thereafter, the Board issued its Partial Initial Decision in which it made favorable findings of fact and conclusions of law relating to, inter alia, the need for power issue. 2 NRC 131, 140-142 (July 30, 1975).

The evidentiary hearings on radiological health and safety issues were conducted on November 11-13, 1975, at which time the Applicant requested that consideration of its financial qualifications to construct WNP-4 be deferred.

Accordingly, the Board in its Initial Decision authorizing the construction permit for WNP-1, deferred consideration of the financial qualifications issue for WNP-4, and the issuance of a construction permit for WNP-4 was delayed pending the disposition of the financial qualifications issue. 2 NRC 922, 927-928, 943, n. 28 (December 22, 1975).

On July 9, 1976, the Applicant informed the Board that it was in a position to demonstrate that it was financially qualified to design and construct WNP-4. The Board received evidence in affidavit form relating to the financial qualifications matter and to an updated need for power analysis. The evidence on need for power consisted of my affidavit (Applicant's Exhibit 43) and the 1976 West Group Forecast ("1976 Forecast") (Applicant's Exhibit 44). On August 27, 1976, the Applicant and the staff submitted Joint Proposed Findings of Fact and Conclusions of Law relating to, inter alia, the issues of financial qualifications and need for WNP-4.

By Memorandum and Order dated September 7, 1976, the Board noted that it had received evidence on the issue of financial qualifications for WNP-4. However, the Board also noted that issuance of the construction permit for WNP-4 had been further delayed pending resolution of other issues, i.e., matters relating to the environmental effects of spent fuel reprocessing and waste management (10 CFR Part 51, Table S-3), ECCS evaluation models, and seismic design criteria. It appears that these remaining issues are now or will shortly be resolved. However, in view of the further delay encountered since the record was last updated on need for power, I have again evaluated the need for WNP-4.

B. 1977 West Group Forecast and
Need for WNP-4

On February 15, 1977, the 1977 West Group Forecast ("1977 Forecast") was issued. The 1977 Forecast is an annual 11-year forecast of loads and resources for the Pacific Northwest region which is prepared by the Pacific Northwest Utilities Conference Committee. A copy of the 1977 Forecast is attached hereto as Attachment A.

The 1977 Forecast indicates that there has been a decrease in energy loads forecasted for the period 1977-1987, which, as discussed below, has been more than offset by a decrease in energy resources estimated to be available in that same period. The table entitled "West Group Forecast - Estimated Loads and Resources July 1977 - June 1988" of the 1977 Forecast reflects that the load for the period July 1, 1984 to June 30, 1985 (the first full year in which WNP-4 is currently scheduled for operation) is 21,401 average MW. This amount represents a decrease of 626 average MW (or 2.8%) from the load estimates presented in the 1976 Forecast, and a decrease of 1180 average MW (or 5.2%) from the load estimates presented in the 1975 West Group Forecast ("1975 Forecast") (Applicant's Exhibit 4).

As I indicated on page 7 of my prepared testimony submitted at the evidentiary hearings held on May 13-15 (Tr. following page 164), a reduction in load growth from that estimated in the 1975 Forecast would result, under normal circumstances, in a reduction in the need for the development of additional resources.

I confirmed this point in my affidavit of August 1976 (Applicant's Exhibit 43). Conversely, an increase in load growth from that estimated in the 1975 Forecast would result in an increased need for the development of additional resources and/or the acceleration of schedules if and when possible. It should be recalled that the 1976 Forecast reflected decreases in both energy load and generating resource estimates relative to the forecasts in the 1975 Forecast. As I noted in my affidavit first updating the need for powermatter, the decrease in load estimates in the 1976 Forecast relative to the 1975 Forecast was more than offset by the decrease in resource estimates.

The 1977 Forecast indicates that generating resources and loads for the period 1983-1987 have decreased even further relative to the resources and loads forecasted for that period in the 1976 Forecast. This decrease in estimated generating resources is due to slips in schedule of certain facilities which were credited as resources in the 1976 Forecast. The slips in schedule were due to a number of factors including regulatory delays, load reductions, labor difficulties, and other construction delays.

Significantly, the table in the 1977 Forecast entitled "West Group Forecast - Estimated Loads and Resources July 1977 - June 1988" reflects that the decrease in load estimates is more than offset by the decrease in resources. For example, based upon the 1975 Forecast, the load/resource picture in the year 1983-1984 (when the energy from WNP-4 was then planned to be available) shows that if all units were completed in accordance with the Milestone schedule set forth in the 1975 Forecast,

there would be a deficiency of approximately 338,000 average kilowatts of resources to meet loads without reserves. Of course, any delay in the completion of any of these units would increase the deficiency.

A comparison of the 1977 Forecast with the 1975 Forecast reveals that the Milestone completion dates of all major generating facilities scheduled for completion in the year 1977 or later have been delayed. Accordingly, energy from these delayed facilities for which credit was taken for a given year in the 1975 Forecast will not be available during the time frames previously anticipated. Specifically, the changes in Milestone operating dates of major resources in the 1977 Forecast from those included in the 1975 Forecast are shown in the following table:

| Plant Name | Nameplate Rating | Milestone Dates | | Delay * | |
|-------------------|------------------|-----------------|---------------|---------|------|
| | | 1975 Forecast | 1977 Forecast | Yrs. | Mos. |
| Colstrip #3 | 490(1) | Jul 1978 | Feb 1981(2) | 2 | 7 |
| Colstrip #4 | 490(1) | Jul 1979 | Dec 1981(3) | 2 | 5 |
| Jim Bridger #4 | 509(1) | Sep 1979 | Dec 1979 | 0 | 3 |
| Boardman Coal | 504(1) | Jul 1980 | Nov 1980 | 0 | 4 |
| WNP #2 | 1,100 | Sep 1978 | Jun 1980(4) | 1 | 9 |
| WNP #1 | 1,373 | Sep 1980 | Oct 1981(5) | 1 | 1 |
| WNP #3 | 1,316 | Sep 1981 | May 1984 | 2 | 8 |
| WNP #4 | 1,373 | Mar 1982 | Apr 1983(6) | 1 | 1 |
| WNP #5 | 1,316 | Mar 1983 | Nov 1985 | 2 | 8 |
| Skagit #1 | 1,330 | Jul 1982 | Aug 1984 | 2 | 1 |
| Skagit #2 | 1,330 | Jul 1984 | Aug 1986 | 2 | 1 |
| Pebble Springs #1 | 1,295 | Jul 1982 | Jul 1985 | 3 | 0 |
| Pebble Springs #2 | 1,295 | Jul 1985 | Jul 1988 | 3 | 0 |

* See footnotes for further delays.

- (1) - Portion of plant shown as West Group Area Resource.
- (2) - Presently scheduled for November 1981, a further delay of 9 months.
- (3) - Presently scheduled for September 1982, a further delay of 9 months.
- (4) - Presently scheduled for September 1980, a further delay of 3 months.
- (5) - Presently scheduled for December 1982, a further delay of 14 months.
- (6) - Presently scheduled for June 1984, a further delay of 14 months.

The changes in load estimates and resource schedules have resulted in a shift of energy surplus and deficiencies for the years 1983-1984 through 1986-1987 as shown in the following table:

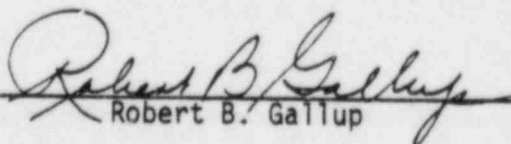
Surplus or (Deficit) of Resources
to Meet Loads - Excluding Reserves

Average MW

| | 1975 Forecast | 1976 Forecast | 1977 Forecast* |
|-----------|------------------|------------------|-------------------|
| 1983-1984 | 338 | (685) | (1259) |
| 1984-1985 | 1077 | (525) | (701) |
| 1985-1986 | 1634 | (31) | (4) |
| 1986-1987 | not included | 15 | 154 |

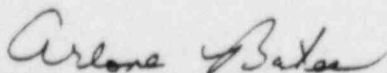
* These resource forecasts do not consider an announced delay in operation date of WNP-4 which would increase the deficit by 634 average MW in 1983-84 and 1072 average MW in 1984-85.

In conclusion, the 1977 West Group Forecast contains the most current information available relating to anticipated energy loads and resources of the West Group Area through June 1988. It is in the context of these anticipated energy loads and resources that the need for WNP-4 should be evaluated. The 1977 West Group Forecast again confirms the need for this nuclear facility in the time frame projected. Indeed, the 1977 Forecast reflects that the need for WNP-4 is even more urgent than it was based upon the 1975 and 1976 Forecasts:



 Robert B. Gallup

Subscribed and sworn to before me
this 16th day of November, 1977.



Notary Public in and for the State of Washington

Residing at Seattle

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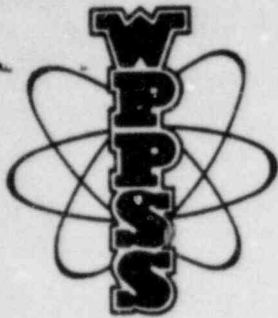
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NOTES: Wm Patton, OGC, wants amdts & supplements to environ reports.



Washington Public Power Supply System
A JOINT OPERATING AGENCY

P. O. Box 968 3000 GEO. WASHINGTON WAY RICHLAND, WASHINGTON 99352 PHONE (509) 946-1611

Docket No: 50-460
50-513

October 30, 1978

Nuclear Reactor Regulation
Light Water Reactor Project
Branch No. 3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Olan D. Parr

Subject: WPPSS Nuclear Projects Nos. 1 & 4
WPPSS 1978 Annual Report

Dear Mr. Parr:

In accordance with 10CFR50.71(b) the Supply System submits herewith the WPPSS 1978 Annual Financial Report, including the certified financial statement.

Very truly yours,

D L Renberger

D. L. RENBERGER
Assistant Director -
Generation & Technology

DLR:AGH:ce

Enclosure

cc: JB Knotts, Debevoise & Liberman w/o
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