Washington Public Power Supply System
Box 1223 Elma, Washington 98541 (206) 482-4428

March 18, 1988
G03-88-088

Docket No. 50-508

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: NUCLEAR PROJECT NO. 3
RESPONSES TO NRC QUESTIONS

References: a) Letter, T.M. Novak to R.L. Ferguson, dated May 3 1983.

b) Letter, T.M. Novak to R.L. Ferguson, dated May 11, 1983.

References a) and b) transmitted to the Supply System Requests for Additional Information pertaining to the NRC Safety Evaluation of the WNP-3 Operating License Application.

In accordance with 10CFR50.4, the Supply System hereby submits 39 copies of responses to some of the NRC's questions.

In preparing this submittal it was necessary to include several full size drawings. Since, as a practical matter, it is quite difficult to include a copy of each drawing for each copy of this letter, the Document Control Desk will receive three copies of the drawings for distribution.

Drawings
To: RegFile - 1
PD5 Pm - 2

B001
1/3 sets Drawings

If additional information or clarification is needed, Please contact Mr. D. W. Coleman, WNP-3 Project Licensing Manager, phone (206) 482-4428, Ext. 5436.

Sincerely,

SC Sorensen

G. C. Sorensen, Manager
Regulatory Programs

MKH/cae

Attachments:
1) Response to NRC Question 430.53
2) Response to NRC Question 430.72
3) Response to NRC Question 440.5
4) Response to NRC Question 440.19
5) Response to NRC Question 440.34

cc:
Mr. J. A. Adams, NESCO
Mr. M. F. Barnoski, Combustion Engineering, Inc.
Mr. W. C Jrauer, Pacific Power & Light Co.
Mr. W. L. Bryan, Washington Water Power Co.
Mr. A. J. Finnegan, Puget Sound Power & Light Co.
Mr. R. Gaudio, Ebasco - New York
Mr. C. Goodwin, Portland General Electric Co.
Mr. J. R. Lewis, Bonneville Power Administration
* Mr. J. B. Martin, Regional Administrator, Region V
Mr. N. S. Reynolds, Bishop, Cook, Purcell & Reynolds
Mr. D. Smithpeter, BPA
Ms. R. M. Taylor, Ebasco - Elma
Ebasco - New York
** Document Control Desk, U. S. Nuclear Regulatory Commission

* One (1) copy of each NRC question response

** Original letter, 37 copies of responses, and three (3) copies of full size drawings.

Question No.

430.53 (SRP 9.5.8) In FSAR Section 9.5.8.3, you state that no atmospheric conditions such as ice or snow are "expected" to clog the combustion air intakes. This is an inadequate justification and is therefore not acceptable. The meteorology for the WNP 3 site, as described in FSAR Section 2.3, include both significant snowfall and winds. Provide justification for your statement that ice and snow are not "expected" to clog the air intakes. In your justification, show that wind driven snow and/or debris will not pile up at the air intakes or be blown inside and accumulate in the air intake room to the extent that combustion air supply is impaired. Revise your FSAR accordingly.

Response

Air intake to the diesel generators is via missile protected openings through the RAB walls that are approximately 14' wide by 18' high and the sill 3 1/2' above grade elevation. Paragraph 3.5.3.1.2 states that the missile shield steel gratings are comprised of 7-inch, vertical, 3/8-inch plate at 1 3/8-inch on center and two layers of 1 1/4-inch, horizontal, 1/4-inch plate at 2-inches on center (grating openings are 1 1/2-inches by 1-inch). The air intake filter assemblies are located in rooms adjacent to the Diesel Generator. The air filter intakes are [illegible] feet above the floor, circular and 42 inches in diameter. The air intake openings are located on the east and south walls of the RAB (the south opening is an alcove that opens to the east). FSAR Figure 1.2-2 and FSAR Figure 1.2-11 show the east opening to be protected from direct blowing winds by the Dry Cooling Tower. The south (alcove) opening is protected from direct blowing winds by the Dry Cooling Tower, the Radioactive Materials Truck Loading Area, and the Condensate Storage Tank Building. Prevailing wind direction as shown in FSAR table 2.3-21 is SW and SSW. The air intake openings are on the lee or protected side of the building. The site has a West Coat marine type climate (FSAR paragraph 2.3.1.1). As stated in the FSAR (paragraph 2.3.1.2.1), snow at the site generally has a water equivalency of one inch of water for every ten inches of snow. The FSAR also states that glaze formation and/or freezing precipitation is an infrequent occurence.

The general arrangement of the openings, their size and elevation above grade, the design of the missile protection grating, the relatively wet nature of the snow at the site, the minimal amount of snow and low frequency of occurrence of freeezing rain and drizzle is adequate assurance that wind driven snow and/or debris will not clog the air intake openings.

The FSAR was revised in Amendment No. 6 as follows:

1. Subsection 9.5.8.3 indicates the approximate size of the air intake openings and references FSAR 3.5.3.1.2 for design of the steel grating missile protection.

Question No. 430.53

Response (Cont'd)

2. Subsection 9.5.8.3 was revised in Amendment No. 6 to include:

   "The general arrangement of the openings, their size and elevation above grade, the design of the missile protection grating, site climate, prevailing winds and predominance of rain versus snow and/or ice provide adequate assurance that atmospheric conditions such as ice or snow will not clog or in any way affect the intake and exhaust openings."

Question No.

430.72 (SRP 8.2) Sufficient system single-line diagrams, schematic diagrams and layout diagrams for on-site and off-site power systems have not been provided in the FSAR to permit an independent evaluation of compliance with the safety criteria as required by Regulatory Guide 1.70. Please provide this information including the switchyard single line drawings and physical layout drawings of the circuit that connect the on-site distribution system to the preferred power system.

Response

Additional information required to evaluate the circuits that connect the on-site power distribution system to the preferred off-site power sources is provided by the below listed drawings (attached). Please note that the three Satsop Substation drawings, provided by the Bonneville Power Administration, represent grid facility design and are included to allow an evaluation of the WNP-3/Grid interface design.

- o Satsop Substation, Construction One-Line Diagram, Dwg. 03-300-00,1, revision 2.
- o Satsop Substation, Plot Plan, Dwg. 03-300-00,2, revision 3.
- o Satsop Substation, A. C. Station Service One Line Diagram, Dwg. 03-300-00,3, revision 1.
- o WNP No. 3 - Satsop No. 1, 500 KV Transmission Line, DWG. 03-999-00,1,1, revision 0.
- o Transformer Yard Arrangement Plan, DWG. WPPS-3240-G-5107, revision 3.
- o Transformer Yard Sections, DWG. WPPS-3240-G-5109, revision 3.
- o Transformer Yard Sections, DWG. WPPS-3240-G-5110, revision 3.
- o 230 KV Underground Tie Line, Plan and Profile, DWG. WPPS-3240-C-5112, revision 6.

Sufficient information has been provided in Chapter 7 and 8 of the FSAR to evaluate compliance with the safety criteria required by Regulatory Guide 1.70 for the on-site power systems.

Question No.

440.5
SRP 5.4.7

In compliance with interface requirement 5.4.7.1.3I.2, the FSAR states that 227 hours would be required to bring the RCS to 130 F after reactor shutdown. CESSAR indicates that 97 hours are required. Explain the difference and justify why 227 hours is acceptable.

Response

The design basis for the SDC system is (1) to bring the RCS to a refueling temperature of 135°F 27 1/2 hours after S/D using two operating trains; and (2) to limit the temperature rise across the core to 75°F while removing core decay heat and LPSI pump heat using only one SDC train.

The SDC H/X for WNP-3 is based on maintaining 135°F refueling temperature at 27 1/2 hours after shutdown using two H/X's, two LPSI, and two CS pumps with maximum 95°F component cooling water. This results in a smaller size SDC H/X for WNP-3 than SYS 80, which is based on the same parameters above, except 105°F component cooling water.

During post LOCA conditions, the component cooling water maximum temperature allowed is 120°F for both WNP-3 and SYS 80. Therefore, with the SYS 80 SDC H/X being larger than WNP-3 SDC H/X, the time required to obtain 135°F refueling temperature using only one train is 97 hours and 227 hours respectively.

These time intervals to bring the RCS to refueling conditions post-accident are not design bases but result from the fixed parameters of the SDC system, therefore 227 hours is considered acceptable for WNP-3.

Question No.

440.19 SRP 6.3 FSAR 16	Provide additional information regarding compliance with interface requirements 6.3.1.3.J.1. that "inspection and testing requirements for the SIS shall be complied with".

Response

The WNP-3 Technical Specifications will detail the surveillance test(s) required by interface requirements 6.3.1.3.J.1. See FSAR Section 16.0.

Question No.

440.34
SRP 6.3

Provide diagrams to show all the SIS containment penetrations with isolation valves.

Response

WNP-3 FSAR Figures 6.2-36 and 3.8.2-2 snow the containment penetrations with isolation valves.

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NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS 8

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