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SUBJECT: Informs of util intent to defer Spring 1990 low pressure turbine insp.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

November 21, 1989
G02-89-210

Docket No. 50-397

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

Gentlemen:

Subject: **NUCLEAR PLANT NO. 2, OPERATING LICENSE NPF-21**
LOW PRESSURE TURBINE CHANGEOUT/INSPECTION SCHEDULE

Reference:
1) Letter, G02-87-269, GC Sorensen (SS) to NRC, "Low Pressure Turbine Inspection Schedule", dated October 29, 1987
2) Letter, SA Varga (NRC) to F Vaccaro (Westinghouse Electric Corporation), dated August 21, 1989

The purpose of this letter is to inform you of our intent to defer the Spring 1990 Low Pressure Turbine (LP #1) inspection. The Supply System recently completed contract negotiations with Westinghouse Electric Corporation for retrofit of the three low pressure turbines with the Westinghouse fully integral design during the Spring 1991 refueling outage, tentatively scheduled to start April 15, 1991. As submitted in the reference, the next low pressure turbine inspection (L.P. #1) was scheduled for the 1990 refueling outage, as the 31 month inspection interval previously specified by Westinghouse would have been exceeded prior to the 1991 refueling outage. A turbine inspection represents considerable impact to outage resources and scheduling. The 31 month inspection interval was calculated to expire only a few months prior to the 1991 retrofit. With retrofit occurring so soon after inspection the Supply System requested Westinghouse to review WNP-2 operating history and evaluate the significance of omitting the scheduled 1990 inspection given changeout of L.P. #1 in 1991.

Accordingly, Westinghouse reported that the inspection interval calculations for shrunk discs in nuclear L.P. turbines had been updated. The update was based on additional data on observed crack growth rates which were incorporated into their predictive model. As a result the inspection interval for L.P. #1 was revised to 34.32 months. The inspection schedule for L.P. #1 was also recognized as the most limiting with respect to inspection schedule and changeout, i.e. revised inspection intervals for L.P. #2 (49.82 months) and #3 (52.81 months), when compared to plant operating history did not require an inspection prior to the 1991 changeout.

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For L.P. #1 the inspection interval as evaluated by Westinghouse and confirmed by the Supply System, does not represent a significant additional risk when extended to the 1991 outage. As discussed above the new interval is 34.32 months. Operating history through October 17, 1989 showed 19.8 actual months of operation on L.P. #1 with 14.5 months of the interval remaining (34.32 - 19.8 = 14.5). The operating interval remaining from October 17, 1989 through the start of the 1991 outage (tentatively April 15, 1991) is 18 months. Subtracting 1.5 months for the 1990 outage leaves an interval of 16.5 months. The extension then being evaluated is 2 months (16.5 - 14.5) and becomes shorter with any unplanned outages between October 1989 and April 1991.

The methodology used by Westinghouse, and approved by the NRC, conservatively estimates 50 percent of the time for the existing indication to grow to one half of the critical flaw size, which then defines the ideal inspection interval. For L.P. #1 this is 34.32 months. The two month extension, by operating until 4/15/91, would then represent operation for 53 percent (50{34.32 + 2}/34.32) of the time to reach one half of the critical flaw size. NRC inspection schedule criteria provided to Westinghouse in 1981 stated that "inspection schedules may be varied to coincide with scheduled outages. Westinghouse recommendations in this regard should be followed" (Reference 2).

In support, Westinghouse has stated a position "That operation without additional disc inspections of unit 2 until May 1991 is acceptable." The Supply System concurs with this position and intends to defer the scheduled 1990 L.P. #1 turbine inspection.

As previously stated, the planned 1991 outage date is April 15, 1991. Because of the predominant hydroelectric capability in the Pacific Northwest WNP-2 outages are scheduled to coincide with maximum water supply, which is highly dependent on weather conditions. In order to assure that we have evaluated the maximum possible delay, we have added 2 months to the calculation, to account for a possible late spring run-off. Start of the 1991 outage on June 15, 1991 would then represent operation for 55.8 percent (50[34.32 + 2 + 2]/34.32) of the time to reach one half of the critical flaw size. The Supply System concludes that this delay would not represent a significant increase in risk and operation to June 15, 1991, should it be required, is acceptable.

Because the inspection represents a considerable impact in resource and outage scheduling, deferring the inspection allows the Supply System to refocus these resources. The redirection of these resources is an important factor in our corporate fiscal and outage planning. Accordingly the Supply System is informing NRR of our intent to delay the 1990 Low Pressure Turbine (LP #1) inspection as discussed above.

Should you have any questions, please contact me.

Very truly yours,

GC Sorensen

G. C. Sorensen, Manager
Regulatory Programs

PLP/bk
Attachments

cc: JB Martin - NRC RV
NS Reynolds - BCP&R
RB Samworth - NRC
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