

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9012130076 DOC. DATE: 90/12/07 NOTARIZED: NO DOCKET #
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
 AUTH. NAME AUTHOR AFFILIATION
 SORESEN, G.C. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

Document Control Branch (Document Control Desk)

SUBJECT: Requests relief from Section XI of pump & valve inservice test program.

DISTRIBUTION CODE: A047D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6
 TITLE: OR Submittal: Inservice Inspection/Testing/Relief from ASME Code

NOTES:

	RECIPIENT		COPIES			RECIPIENT		COPIES		
	ID	CODE/NAME	LTTR	ENCL		ID	CODE/NAME	LTTR	ENCL	
	PD5	LA	1	0		PD5	PD	1	1	
	ENG,	P.L.	2	2						
INTERNAL:	ACRS		6	6		AEOD/DSP/TPAB		1	1	
	NRR/DET/ECMB	9H	1	1		NRR/DET/EMEB	7E	1	1	
	NUDOCS-ABSTRACT		1	1		OC/LFMB		1	0	
	OGC/HDS2		1	0		REG FILE	01	1	1	
	RES/DSIR/EIB		1	1						
EXTERNAL:	EG&G BROWN, B		1	1		EG&G RANSOME, C		1	1	
	NRC PDR		1	1		NSIC		1	1	

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 22 ENCL 19

m/A-4
ew

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

December 7, 1990
G02-90-202

9012130076 901207
PDR ADOK 05000397
P PDC

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
WNP-2 PUMP AND VALVE INSERVICE TEST PROGRAM

- Reference: 1) Letter, G02-87-262, GC Sorensen (SS) to NRC,
"Request for Interim Approval of Rev. 3B to the
WNP-2 Pump and Valve Inservice Test Program Plan",
dated October 12, 1987.
- 2) Telecon, A. Keller (NRR) to T. Hoyle (SS),
November 14, 1990

Attached are relief requests RP-1, RV-1 and RV-25 to the subject program (Reference 1). With the exception of one minor change in RV-25 (the words "full stroke time" have been deleted from line 12 of Alternate Testing To Be Performed), the attached relief requests are essentially the same as those previously discussed.

Based on the Reference 2 telecon, it is our understanding that revision 3B of the subject program (with the addition of the attached changes) is sufficient for the Commission to complete their review. Therefore, we assume that a SER for this program will be issued in the near future. The actual pages to be incorporated into the program will be issued with a revision to the program once approval via SER or letter is received from the Commission.

Very truly yours,


G. C. Sorensen, Manager
Regulatory Programs

cc: JB Martin - NRC RV
NS Reynolds - Wintson & Strawn
PL Eng - NRC
DL Williams - BPA/399
NRC Site Inspector - 901A

000000

A047
41

RELIEF REQUEST NO. RP-1

Pumps

CCH-P-1A; 1B	HPCS-P-1*	RHR-P-2A; 2B; 2C*
DO-P-1A; 1B; 2*	HPCS-P-2*	SLC-P-1A; 1B
FPC-P-1A; 1B	LPCS-P-1*	SW-P-1A; 1B*
	RCIC-P-1	

* Vertical line shaft pumps

Section XI Code Requirement
for which Relief is Requested

Measure bearing temperature and vibration. (IWP-3100)

Basis for Request

1. Except for FPC; SLC; CCH; and RCIC pumps; these pumps are vertical line shaft ("deep well") type pumps and are immersed in the fluid being pumped. This precludes measuring pump bearing vibration except for inboard bearings on pump motor bearings as specified in OM-6.
2. IWP-4300 only requires temperature measurement of "centrifugal pump bearings outside the main flow path". The outboard and intermediate bearings of all deep well pumps are in the main flow path. Therefore; temperature measurement of these bearings is not required. The inboard bearings of the RHR pumps; LPCS-P-1 and HPCS-P-1; are cooled by the seal injection water which returns internally to the discharge flow. The inboard bearing on HPCS-P-2; SW-P-1A and 1B; and DO-P-1A; 1B; and 2 are cooled by the pumped fluid which returns to the discharge flow with no provision for temperature measurement.
3. Although the bearings for the FPC; SLC; CCH; and RCIC pumps are accessible; bearing housing temperature is not necessarily an accurate predictor of bearing condition. Hence; temperature measurement is an unnecessary requirement with unreliable results.
4. The Fuel Pool Cooling (FPC) and Diesel Fuel Oil (DO) transfer pumps have a history of operating at high vibration levels. These pumps are currently being evaluated by the Supply System to try and reduce vibration levels to the OM-6 upper limits. The limits established in Alternate Testing Proposed; Item 4 will ensure that required action is taken if vibration levels increase; and also ensure the pump isn't prematurely declared inoperable. The Supply System will use these higher limits until the vibration is decreased and new limits, or those of OM-6 can be used. These limits are based on a reasonable deviation from the reference valve.

Alternate Testing Proposed

1. All pumps will be tested at approximately the design flow rate of the pump. Hydraulic parameters will be taken in accordance with ASME Section XI; and the acceptance criteria of Section XI will be used.
2. Vibration velocity measurements will be taken at the locations specified in OM-6.
3. Vibration alert levels and Required Action levels in accordance with OM-6 will be individually established for each pump and will be specified in the surveillance procedures. An exception is for DO-P-1A; 1B; 2 and FPC-P-1A; 1B. See Item 4 following.
4. The upper limit for vibration velocity for the following pumps shall not exceed:

	ALERT	REQUIRED ACTION
FPC-1A; 1B	.55 in/sec	.7 in/sec
DO-P-1A; 1B; 2	1.4 in/sec	1.6 in/sec

Implementing Schedule

This relief request will be implemented within one year of acceptance by the Commission. In the meantime pump testing will be conducted in accordance with Revision 3 of RP-1.

Quality/Safety Impact

Measurement of vibration velocity provides more concise and consistent information with respect to pump and bearing condition. The usage of vibration velocity measurements can provide information as to a change in the balance of rotating parts; misalignment of bearings; worn bearings; changes in internal hydraulic forces and general pump integrity prior to the condition degrading to the point where the component is jeopardized. Bearing temperature does not always predict such problems. An increase in bearing temperature may not occur until the bearing has deteriorated to a point where additional pump damage may occur. Bearing temperatures are also affected by the temperatures of the medium being pumped; which could yield misleading results. Vibration readings are not affected by the temperature of the medium being pumped; thus the readings are more consistent. The proposed alternate testing will result in the maximum meaningful data regarding pump bearing condition. Since vibration velocity analysis is more predictive in nature than bearing temperature measurement; the alternate testing serves to increase levels of safety and quality.

REQUEST FOR RELIEF NO. RV-1

System

Various

Valves

Valves affected by this relief request are identified in Table RV-1. (Applies to Open Position, Closed Position or Both Positions.)

Code Testing Requirement

Corrective action based on an increase in stroke time (IWV-3417(a)).

Basis for Relief

Some valves (generally solenoid valves) are very rapid acting. Since stroke times are to be measured to the nearest second, a 50% increase in stroke time cannot be consistently measured with present methodology.

Alternate Testing to be Performed

A limiting stroke time of two seconds will be assigned to these valves. Valves exceeding this limit will be corrected in accordance with IWV-3417(b).

Quality/Safety Impact

The corrective action based on an increase in stroke time (per IWV-3417(a)) is in this case, an impractical requirement due to the rapid-acting nature of these valves. Measured stroke times in excess of the two second limit will identify valves with operability problems in a consistent and timely manner. Hence, the proposed testing will provide adequate assurance of material quality and public safety.

REQUEST FOR RELIEF NO. RV-25

System

All

Valves

All valves tested at cold shutdown. Identified with Note 1 in valve test tables or listed in Request For Relief 9, 11 or 18.

ASME Classification

Various

Function

Various - See Note 1 to valve test tables and Request For Relief 9; 11 and 18..

Code Testing Requirement

IWV-3412 Exercise valves during cold shutdowns, if valve is not full
IWV-3522 stroke exercised each 3 months during plant operation.

Basis for Relief

It is a hardship to test all cold shutdown valves at each cold shutdown. To require all valves to be tested would mean the primary containment would have to be deinerted at each cold shutdown. Additionally, requiring all cold shutdown testing each outage would mean a significant delay in plant startup for cold shutdowns of short duration.

The industry has recognized that cold shutdown testing, as specified in 1980W80 of Section XI, is excessive. The 1989 edition of Section XI references ASME/ANSI OM, Part 10 for valve testing. Part 10 does not require all cold shutdown valves to be tested each cold shutdown.

The NRC has also recognized that testing all cold shutdown valves at each cold shutdown is a significant burden. Many SERs contain an appendix which states (similar to OM-10) that cold shutdown testing needs to continue only until the plant is ready to start up.

Alternate Testing To Be Performed

Cold shutdown testing shall commence immediately (within 48 hours) following establishment of cold shutdown conditions. Testing shall continue only as long as the plant is scheduled to be in cold shutdown. Cold shutdown testing will be conducted in a manner which will not impede plant startup. Cold shutdown valves are tested in groups by several different procedures. The decision whether to start cold shutdown testing on any particular procedure will depend on the estimated length of the cold shutdown period; system outages/conditions; time interval from the last cold shutdown testing; or other particular conditions. For example, if containment is not deinerted during a particular cold shutdown then valves which require a deinerted containment would not be tested. All cold shutdown valves will be tested during each refueling outage. Testing is not required if the time period since the previous test is less than three months. For extended outages, cold shutdown testing does not need to start within 48 hours as long as all valves are tested before startup.

This alternate testing is in accordance with OM-10 which will be required in the future.

Quality/Safety Impact

The effect of granting this relief will have no adverse impact on plant safety. The alternate testing as described herein is currently being followed at WNP-2. The Industry and NRC have, by the actions previously described, considered this method of cold shutdown testing appropriate.