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ACCESSION NBR: 8605140166 DOC. DATE: 86/05/07 NOTARIZED: NO DOCKET #
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AUTH. NAME AUTHOR AFFILIATION
SORENSEN, G. C. Washington Public Power Supply System
RECIP. NAME RECIPIENT AFFILIATION
ADENSAM, E. G. BWR Project Directorate 3

SUBJECT: Submits addl clarification to 860328 request for amend to License NPF-21, requiring implementation of fully qualified wide-range suppression pool level monitoring sys meeting Reg Guide 1.97, Rev 2 requirements.

DISTRIBUTION CODE: A048D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
TITLE: OR/Licensing Submittal: Equipment Qualification

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	BRADFUTE, J	01	1	1				
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	ELD/HDS2	12	1	1	ELD SHIELDS, W		1	1
	GC	13	1	1	NRR BWR ADTS		1	1
	NRR BWR EB		1	1	NRR PWR-A ADTS		1	1
	NRR PWR-A EB		1	1	NRR PWR-B ADTS		1	1
	NRR PWR-B EB		1	1	NRR/ORAS CARTER		1	1
	REG FILE	04	1	1	RGN5		1	1
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DISTRIBUTION CODE: A048D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 2
TITLE: OR/Licensing Submittal: Equipment Qualification

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	BRADFUTE,J	01	1	1				
INTERNAL:	ACRS	15	8	8	ADM/LFMB		1	0
	ELD/HDS2	12	1	1	ELD SHIELDS,W		1	1
	GC	13	1	1	NRR BWR ADTS		1	1
	NRR BWR EB		1	1	NRR PWR-A ADTS		1	1
	NRR PWR-A EB		1	1	NRR PWR-B ADTS		1	1
	NRR PWR-B EB		1	1	NRR/DRAS CARTER		1	1
	REG FILE	04	1	1	RGN5		1	1
EXTERNAL:	EG&G		1	1	LPDR	03	1	1
	NRC PDR	02	1	1	NSIC	05	1	1

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

May 7, 1986
G02-86-408

Docket No. 50-397

Director of Nuclear Reactor Regulation
Attn: Ms. E. G. Adensam, Project Director
BWR Project Directorate No. 3
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

Subject: NUCLEAR PLANT NO. 2
OPERATING LICENSE NPF-21, REQUEST FOR AMENDMENT
TO OPERATING LICENSE, LICENSE CONDITION 16
ATTACHMENT 2 ITEM 3(a), CLARIFICATION

Reference: Letter, G02-86-282, G.C. Sorensen (SS) to E.G. Adensam (NRC), same subject, dated March 28, 1986

The reference requested defferal of a licensing condition requiring implementation of a fully qualified wide range suppression pool level monitoring system meeting Regulatory Guide 1.97, Revision 2 specifications. Additionally, the reference provided a brief discussion of the methods by which the suppression pool level monitoring function would be ensured. The purpose of this letter is to provide additional clarification to the referenced request and the information provided therein.

The suppression pool wide range level instrumentation is required to provide for detection of a gross breach of primary containment, provide information for initiation of mitigating actions, and long term surveillance. These bases are part of Regulatory Guide 1.97, Rev. 2 (1980) recommendations and present the parameter as a category 1, type C variable. The WNP-2 suppression chamber level indication design provides two ranges; 1) narrow range ±25 inches w.c. with zero at 31 feet above suppression pool bottom) and 2) wide range (bottom of suppression pool to +65 feet). At the time of license issuance, the wide range instruments used at WNP-2 had not been environmentally qualified. The devices were considered qualifiable with a Justification for Interim Operation submitted and authorized by license condition 5 (Equipment Qualification),

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reference Equipment Justification #7. Since then, qualification efforts have failed to provide successful results and the Supply System has abandoned further efforts to qualify the currently installed instrumentation. The clarification provided herein will support extension of an interim operation period allowing reliance on the currently installed wide range instruments based on information gathered in the qualification testing program until an alternate design can be installed. The Supply System is considering alternate designs that will employ qualified instruments to preclude this situation from reoccuring. Designs under consideration include a bubbler type design, an RTD arrangement at various levels and a differential pressure transmitter using most probably the RCIC suction line as a variable leg. The proposed extension would last until the next refueling outage (R-2) and preclude plant startup following R-2 scheduled for the spring of 1987. The additional time would support instrument procurement schedules currently forecasted for January 1987. The installed channels have accurately indicated suppression pool level since installation and are currently indicating within 3 inches of one another at a suppression pool temperature of 70°F, which provides a good channel check.

The equipment qualification testing performed indicated channel inaccuracies due to temperature variations that were outside the range of those specified. This test data has been reviewed to substantiate and quantify the error as a result of a temperature increase. The error is linear and represents a 2% of full range error high per 20°F temperature increase starting at 70°F. A curve will be added to the emergency procedures to account for the error. Attached is a brief summary of the test performed and data obtained.

It is intended to use the wide range instruments during the next operating cycle by using the trends discovered during testing and accounting for the observed variance in the emergency procedures. The manner in which the emergency procedures are to be modified will ensure 1) adequate signal verification by performance of a channel check and 2) provide assurance that the actions taken are conservative in maintaining containment integrity when applying the test data variance.

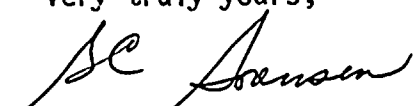
It should also be noted that diverse means are provided at WNP-2 to indicate a breach of containment that would cause an ECCS pump room to flood. Class IE level indicators are mounted on the walls that alarm in the control room indicating a possible system or containment breach and a confirmatory type indication. The accomplishment of mitigating actions is also attainable using the level indicating channels as it is more dependant on trend evaluation versus a specific value. Additionally, the emergency procedures provide specific actions to mitigate excessive inventory accumulation by directing the termination of sources external to the primary containment. Auto transfer of HPCS occurs on high suppression pool level (+5") and both HPCS and RCIC are verified as transferred to the suppression pool in the emergency procedures.

Both suppression pool pressure and drywell pressure are variables relied upon as backup information for mitigating action assessment and diagnosis. Level indicating devices located in the drywell at 4 elevations above the drywell floor also annunicate, providing level assessment information when the wide range level indicating system range is exceeded. Long term surveillance is successfully addressed as the narrow range is considered adequate following transient recovery and the wide range would be available and most accurate as ambient conditions are re-established.

In conclusion, given the current performance of the level indicating channels, conservative application of the test data, mitigating actions dictated by the emergency procedures, the diversity of suppression pool level verification, and reliance on other plant parameters in the emergency procedures that allow operators to deduce actual plant conditions, continued reliance on the devices for approximately one year is not considered a significant hazard, and continued operation is justified.

Should you have further questions or require additional information to assist in expediting the staff's review, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,



G. C. Sorensen, Manager
Regulatory Programs

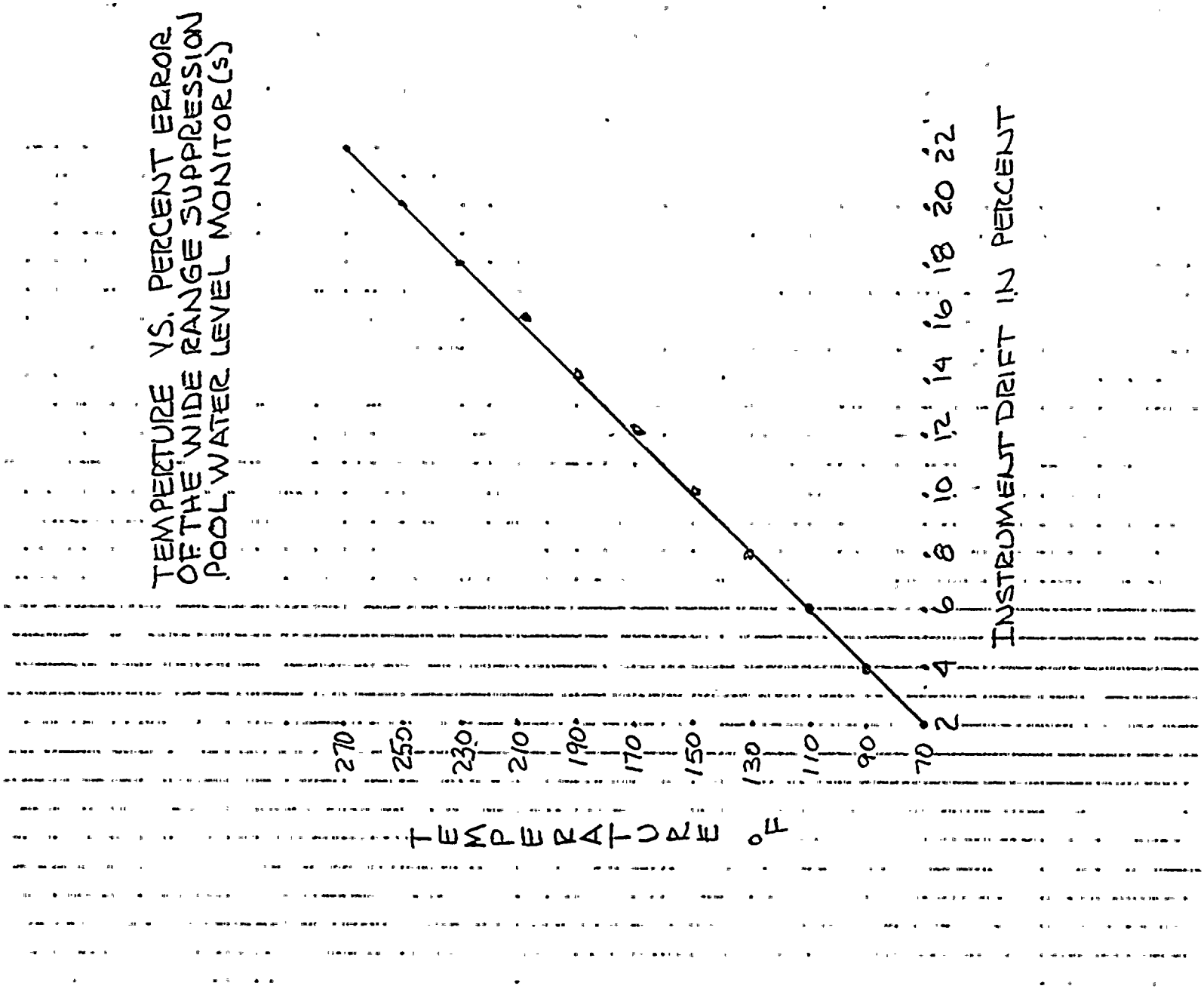
MRW/bk
Attachment

cc: JO Bradfute - NRC
C Eschels - EFSEC
JB Martin - NRC RV
E Revell - BPA
NS Reynolds - BLCP&R
NRC Site Inspector

ATTACHMENT

The temperature testing was conducted by Wyle Laboratories using an autoclave test chamber. Temperature data was obtained at 20°F intervals over a range of 70°F to 270°F. The total drift as related to the temperature range of 70°F to 270°F was 23% which corresponds to approximately 2% drift per 20°F change in temperature. The graph represents a temperature error relationship.

R.E.G. 5-2-84


TEMPERTURE VS. PERCENT ERROR
OF THE WIDE RANGE SUPPRESSION
POOL WATER LEVEL MONITOR(S)
INSTRUMENT DRIFT IN PERCENT
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