

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9112260296 DOC. DATE: 91/12/16 NOTARIZED: YES DOCKET # 05000400

FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina

AUTH. NAME: VAUGHN, G.E. AUTHOR AFFILIATION: Carolina Power & Light Co.

RECIP. NAME: RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Application for amend to license NPF-63, revising Tech Spec 4.2.3.5 re calibr of RCS flow measurement instrumentation.

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7+3
 TITLE: OR Submittal: General Distribution

NOTES: Application for permit renewal filed. 05000400

	RECIPIENT ID CODE/NAME	COPIES	LTR	ENCL	RECIPIENT ID CODE/NAME	COPIES	LTR	ENCL
	PD2-1 LA	1		1	PD2-1 PD	1		1
	MOZAFARI, B.	2		2				
INTERNAL:	ACRS	6		6	NRR/DET/ECMB 7D	1		1
	NRR/DET/ESGB	1		1	NRR/DOEA/OTSB11	1		1
	NRR/DST 8E2	1		1	NRR/DST/SELB 7E	1		1
	NRR/DST/SICB8H7	1		1	NRR/DST/SRXB 8E	1		1
	NUDOCS-ABSTRACT	1		1	OG/LFMB	1		0
	OGC/HDS1	1		0	REG FILE 01	1		1
	RES/DSIR/EIB	1		1				
EXTERNAL:	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: LTR 24 ENCL 22

R
I
D
S
/
A
D
D
S

R
I
D
S
/
A
D
D
S



THE UNIVERSITY OF MICHIGAN LIBRARY
ANN ARBOR, MICHIGAN



Carolina Power & Light Company

P.O. Box 1551 • Raleigh, N.C. 27602

DEC 16 1991

SERIAL: NLS-91-319
10CFR50.90

G. E. VAUGHN
Vice President
Nuclear Services Department

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
REACTOR COOLANT SYSTEM (RCS) FLOW MEASUREMENT CALIBRATION

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company (CP&L) hereby requests a revision to the Technical Specifications (TS) for the Shearon Harris Nuclear Power Plant (SHNPP). The proposed amendment revises TS 4.2.3.5 concerning the calibration of measurement instrumentation. Specifically, the change revises the allowable time period from 7 days to 21 days for the calibration of instrumentation utilized in the performance of the RCS calorimetric flow measurement.

Enclosure 1 provides a detailed description of the proposed change and the basis for the change.

Enclosure 2 details the basis for the Company's determination that the proposed change does not involve a significant hazards consideration.

Enclosure 3 is an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9); therefore, pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 4 provides the proposed TS pages.

Carolina Power & Light Company requests approval of the proposed amendment by September 1, 1992 in order to support the next SHNPP refueling outage currently scheduled to begin in September 1992. In order to allow time for procedure revision and orderly incorporation into copies of the TSs, CP&L requests that the proposed amendment, once approved by the NRC, be issued such that implementation will occur within 60 days of issuance of the amendment.

In accordance with 10CFR50.91(b), CP&L is providing the State of North Carolina with a copy of this letter.

9112260296 911216
PDR ADOCK 05000400
PDR

ADD 11

CONFIDENTIAL
PROPERTY OF THE UNITED STATES GOVERNMENT
NO. 100-443888-1000

CONFIDENTIAL
PROPERTY OF THE UNITED STATES GOVERNMENT
NO. 100-443888-1000

CONFIDENTIAL

CONFIDENTIAL

Please refer any questions regarding this submittal to Mr. R. W. Prunty at
(919) 546-7318.

Yours very truly,



G. E. Vaughn

LSR/jbw (1414HNP)

Enclosures:

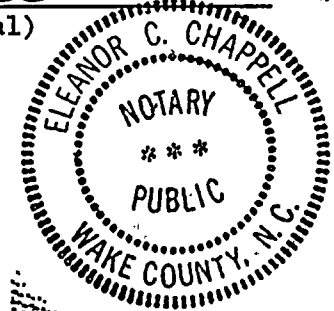
1. Basis for Change Request
2. 10CFR50.92 Evaluation
3. Environmental Evaluation
4. Technical Specification Pages

cc: Mr. Dayne H. Brown
Mr. S. D. Ebnetter
Ms. B. L. Mozafari
Mr. J. E. Tedrow

G. E. Vaughn, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Eleanor C. Chappell
Notary (Seal)

My commission expires: 2/6/96



ENCLOSURE 1

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
REACTOR COOLANT SYSTEM (RCS) FLOW MEASUREMENT CALIBRATION

BASIS FOR CHANGE REQUEST

Background

On April 17, 1989, Carolina Power & Light Company (CP&L) requested revisions to the Technical Specifications (TS) for the Shearon Harris Nuclear Power Plant (SHNPP) to support refueling and subsequent operation with the VANTAGE 5 improved fuel design. The proposed Technical Specifications resulted from changes in several areas, including the use of improved analytical methodologies. On October 2, 1989, CP&L submitted supplemental information in response to NRC staff review questions concerning the Westinghouse Improved Thermal Design Procedure (ITDP). On October 18, 1989, the NRC issued Amendment No. 15 to the Facility Operating License for SHNPP regarding Cycle 3 reload with the VANTAGE 5 fuel design.

Technical Specification 4.2.3.5 requires that the Reactor Coolant System (RCS) total flow rate be determined by precision heat balance measurement at least once per 18 months and that associated measurement instrumentation be calibrated within 7 days prior to the performance of the calorimetric flow measurement. The bases for this Specification require that a measurement uncertainty of 2.1 percent be included in the equation for total RCS flow.

WCAP-12340, "Westinghouse Improved Thermal Design Procedure Instrumentation Uncertainty Methodology for Carolina Power & Light Company Shearon Harris Nuclear Power Station" provides specific measurement and control uncertainties for pressure, power, coolant flow rate, and temperature. WCAP-12340, which superseded WCAP-11168, Revision 1, "RCS Flow Uncertainty for Shearon Harris Unit 1," documents the 2.1 percent uncertainty allowance, and in so doing, assumes that the flow measurement is performed within 30 days of calibrating the measurement instrumentation.

The intent of this Request for License Amendment is to revise Technical Specification 4.2.3.5 such that up to 21 days will be allowed for the calibration of the measurement instrumentation utilized in the performance of the RCS calorimetric flow measurement. The current seven-day requirement creates a potential hardship since, once the calibration has begun, any slight delay in its performance means that the process must start over from the beginning. This situation has occurred. Further, a reactor trip occurred as the result of a calibration at 100 percent power during start-up from the last refueling outage. The proposed change will alleviate this potential and permit more efficient plant operations, is bounded by present analyses, and is more conservative than the 30-day period assumed in the ITDP.

Proposed Change

The proposed amendment revises Technical Specification 4.2.3.5 concerning the calibration of measurement instrumentation. Specifically, the change revises the allowable time period from 7 days to 21 days for the calibration of instrumentation utilized in the performance of the RCS calorimetric flow measurement.

ENCLOSURE 1 (continued)

Safety Evaluation

Technical Specification 4.2.3.5 requires that measurement instrumentation be calibrated within 7 days prior to the performance of the RCS calorimetric flow measurement. The bases for the Specification require that a measurement uncertainty of 2.1 percent be included in the equation for total RCS flow. The proposed change will continue to meet these existing bases. Therefore, no reduction in the margin of safety will occur.

The calibration procedure is unaffected by a change in the allowable time for its performance. As such, there is no increase in the probability of occurrence of any accident previously analyzed in Chapter 15 of the Final Safety Analysis Report (FSAR). The proposed change is bounded by the existing documented basis for the FSAR and the Technical Specifications. Therefore, it will not increase the consequences of any accident previously evaluated.

The proposed change to the Technical Specifications does not require any physical modifications to plant equipment nor does it affect any required maintenance or testing of equipment. Therefore, there will be no increase in the probability of occurrence of a malfunction of equipment important to safety. Since this change is bounded by the current FSAR Chapter 15 analyses and the Technical Specifications, there is no increase in the consequences of a malfunction of equipment important to safety.

The only logical mechanism for increasing the possibility of a new or different kind of accident by the proposed increase in allowed calibration interval would be an adverse impact on the error analysis for the precision heat balance. However, both the Westinghouse analysis and vendor test data show that an increase from 7 days to 21 days will have no significant impact on this analysis. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

In summary, the proposed change does not introduce any new plant equipment, will not modify existing plant equipment, and will not change the performance of existing procedures. It does, however, remain bounded by existing analyses. Therefore, there is reasonable assurance that the proposed change to Specification 4.2.3.5 will not adversely affect the health and safety of the public.

ENCLOSURE 2

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
REACTOR COOLANT SYSTEM (RCS) FLOW MEASUREMENT CALIBRATION

10CFR50.92 EVALUATION

The Commission has provided standards in 10CFR50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards determination. The bases for this determination are as follows:

Proposed Change

The proposed amendment revises Technical Specification 4.2.3.5 concerning the calibration of measurement instrumentation. Specifically, the change revises the allowable time period from 7 days to 21 days for the calibration of instrumentation utilized in the performance of the reactor coolant system calorimetric flow measurement.

Basis

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change only increases the maximum calibration period of the measurement instrumentation used for the precision heat balance measurement from 7 days to 21 days prior to the test. The 21 day interval is within the 30 day bounds assumed by Westinghouse in the error analysis for the precision heat balance measurement instrumentation. Further, an analysis of vendor transmitter test data shows that any increase in instrument drift between 7 days and 21 days is negligible. Therefore, there would be no significant increase in the probability or consequences of an accident previously evaluated.

ENCLOSURE 2 (continued)

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The only logical mechanism for increasing the possibility of a new or different kind of accident by the proposed increase in the allowed calibration interval would be an adverse impact on the error analysis for the precision heat balance measurement. However, both the Westinghouse analysis and vendor test data show that an increase from 7 days to 21 days will have no significant impact on this analysis. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

An increase in the allowable calibration time interval from 7 to 21 days has no effect on the RCS flow measurement uncertainty which forms the current basis for the Final Safety Analysis Report Chapter 15 accident analyses and the plant Technical Specifications. Additionally, the proposed change does not introduce new equipment or alter the way existing surveillances or testing are performed. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

ENCLOSURE 3

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
REACTOR COOLANT SYSTEM (RCS) FLOW MEASUREMENT CALIBRATION

ENVIRONMENTAL CONSIDERATIONS

10CFR51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released off-site; (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9). Pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

The proposed amendment revises Technical Specification 4.2.3.5 concerning the calibration of measurement instrumentation. Specifically, the change revises the allowable time period from 7 days to 21 days for the calibration of instrumentation utilized in the performance of the RCS calorimetric flow measurement.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released off-site.

The proposed amendment does not introduce any new equipment nor does it require existing equipment or systems to perform a different type of function than they are currently designed to perform. As such, the change can not affect the types or amounts of any effluents that may be released off-site.

3. The proposed amendment does not result in an increase in individual or cumulative occupational radiation exposure.

The proposed amendment does not change the way existing surveillances or testing are performed nor does it add additional surveillances or testing requirements. However, it will decrease the need for repeat calibrations and may result in a dose reduction compared with current practice. Therefore, the amendment has no affect on either individual or cumulative occupational radiation exposure.