



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 29, 1999

Mr. D. N. Morey
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 — ISSUANCE OF
AMENDMENTS RE: STEAM GENERATOR REPLACEMENTS
(TAC NOS. MA4393 and MA4394)

Dear Mr. Morey:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 147 to Facility Operating License No. NPF-2 and Amendment No. 138 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The amendments change the Unit 1 and Unit 2 Improved Technical Specifications (ITS) in response to your application of December 1, 1998, as supplemented by your letters of April 21, July 19, October 18, and November 11, 1999. The amendments revise the ITS to address changes associated with replacing the current Westinghouse Model 51 steam generators with Westinghouse Model 54F steam generators. The Unit 1 ITS set applies after you replace the Unit 1 steam generators in spring 2000 until you replace the Unit 2 steam generators in spring 2001. The Unit 2 ITS set applies after you replace both the Unit 1 and the Unit 2 steam generators.

We are also enclosing a copy of our related safety evaluation. We will include a Notice of Issuance in the Commission's biweekly *Federal Register* Notice.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Mark Padovan".

L. Mark Padovan, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosures: 1. Amendment No. 147 to NPF-2
2. Amendment No. 138 to NPF-8
3. Safety Evaluation

cc w/ encls: See next page

ATTACHMENT 1

ATTACHMENT TO LICENSE AMENDMENT No. 138

TO FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Replace the following pages of Facility Operating License No. NPF-8 with the attached revised pages. The revised pages are identified by amendment number and contain vertical lines indicating area of changes. Pages noted with an "*" have changed only due to information rolling over from one page to another.

<u>Remove</u>	<u>Insert</u>	<u>Remove</u>	<u>Insert</u>
3.3.1-17	3.3.1-17	B 3.6.5-3*	B 3.6.5-3*
3.3.2-11	3.3.2-11	B 3.6.6-3	B 3.6.6-3
3.4.5-2	3.4.5-2	B 3.7.16-1	B 3.7.16-1
B 3.4.5-5	B 3.4.5-5	5.5-5	5.5-5
B 3.4.5-6	B 3.4.5-6	5.5-6	5.5-6
3.4.6-2	3.4.6-2	5.5-7	5.5-7
B 3.4.6-5	B 3.4.6-5	5.5-8	5.5-8
3.4.7-1	3.4.7-1	5.5-9	5.5-9
3.4.7-2	3.4.7-2	5.5-10*	5.5-10
B 3.4.7-1	B 3.4.7-1	5.5-11	5.5-11
B 3.4.7-2	B 3.4.7-2	5.5-12*	5.5-12
B 3.4.7-4	B 3.4.7-4	5.5-13*	5.5-13
B 3.4.7-5	B 3.4.7-5	5.5-1	5.5-14
3.4.13-1	3.4.13-1	5.5-15*	5.5-15
B 3.4.13-2	B 3.4.13-2	5.5-16	5.5-16
B 3.4.13-3*	B 3.4.13-3*	5.5-17	5.5-17
B 3.4.13-4*	B 3.4.13-4*	5.5-18*	5.5-18
3.4.16-1	3.4.16-1	5.5-19	5.5-19
3.4.16-2	3.4.16-2	5.5-20	Delete
3.4.16-4	3.4.16-4	5.5-21	Delete
B 3.4.16-1	B 3.4.16-1	5.5-22	Delete
B 3.4.16-2	B 3.4.16-2	5.5-23	Delete
B 3.4.16-3	B 3.4.16-3	5.5-24	Delete
B 3.6.1-2	B 3.6.1-2	5.5-25	Delete
B 3.6.2-2	B 3.6.2-2	5.6-5	5.6-5
B 3.6.4-1	B 3.6.4-1	5.6-6	5.6-6
B 3.6.5-2	B 3.6.5-2		

Table 3.3.1-1 (page 4 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
11. Reactor Coolant Pump (RCP) Breaker Position						
a. Single Loop	1(g)	1 per RCP	N	SR 3.3.1.12	NA	NA
b. Two Loops	1(h)	1 per RCP	M	SR 3.3.1.12	NA	NA
12. Undervoltage RCPs	1(f)	3	M	SR 3.3.1.6 SR 3.3.1.10	≥ 2640 V	≥ 2680 V
13. Underfrequency RCPs	1(f)	3	M	SR 3.3.1.6 SR 3.3.1.10	≥ 56.9 Hz	≥ 57 Hz
14. Steam Generator (SG) Water Level — Low Low	1,2	3 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.14	≥ 27.6%	≥ 28%

(f) Above the P-7 (Low Power Reactor Trips Block) interlock.

(g) Above the P-8 (Power Range Neutron Flux) interlock.

(h) Above the P-7 (Low Power Reactor Trips Block) interlock and below the P-8 (Power Range Neutron Flux) interlock.

Table 3.3.2-1 (page 4 of 4)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
5. Turbine Trip and Feedwater Isolation						
a. Automatic Actuation Logic and Actuation Relays	1,2	2 trains	H	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.8	NA	NA
b. SG Water Level - High High (P-14)	1,2	3 per SG	I	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7 SR 3.3.2.9	≤ 82.4%	≤ 82%
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
6. Auxiliary Feedwater						
a. Automatic Actuation Logic and Actuation Relays	1,2,3	2 trains	G	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.8	NA	NA
b. SG Water Level - Low Low	1,2,3	3 per SG	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7 SR 3.3.2.9 ^(g)	≥ 27.6%	≥ 28%
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
d. Undervoltage Reactor Coolant Pump	1,2	3	I	SR 3.3.2.5 SR 3.3.2.7 SR 3.3.2.9	≥ 2640 volts	≥ 2680 volts
e. Trip of all Main Feedwater Pumps	1	2 per pump	J	SR 3.3.2.10	NA	NA
7. ESFAS Interlocks						
a. Automatic Actuation Logic and Actuation Relays	1,2,3	2 trains	L	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.8	NA	NA
b. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	C	SR 3.3.2.6	NA	NA
c. Pressurizer Pressure, P-11	1,2,3	3	K	SR 3.3.2.4 SR 3.3.2.7	≤ 2003 psig	≤ 2000 psig
d. T _{avg} - Low Low, P-12 (Decreasing) (Increasing)	1,2,3	1 per loop	K	SR 3.3.2.4 SR 3.3.2.7	≥ 542.6°F ≤ 545.4°F	≥ 543°F ≤ 545°F

(g) Applicable to MDAFW pumps only.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One required RCS loop not in operation, and reactor trip breakers closed and Rod Control System capable of rod withdrawal.	C.1 Restore required RCS loop to operation.	1 hour
	<u>OR</u> C.2 De-energize all control rod drive mechanisms (CRDMs).	1 hour
D. Two required RCS loops inoperable. <u>OR</u> No RCS loop in operation.	D.1 De-energize all CRDMs.	Immediately
	<u>AND</u> D.2 Suspend all operations involving a reduction of RCS boron concentration.	Immediately
	<u>AND</u> D.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.5.1 Verify required RCS loops are in operation.	12 hours
SR 3.4.5.2 Verify steam generator secondary side water levels are $\geq 30\%$ (narrow range) for required RCS loops.	12 hours
SR 3.4.5.3 Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	7 days

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required RHR loop inoperable. <u>AND</u> Two required RCS loops inoperable.	B.1 Be in MODE 5.	24 hours
C. Required RCS or RHR loops inoperable. <u>OR</u> No RCS or RHR loop in operation.	C.1 Suspend all operations involving a reduction of RCS boron concentration. <u>AND</u> C.2 Initiate action to restore one loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify one RHR or RCS loop is in operation.	12 hours
SR 3.4.6.2	Verify SG secondary side water levels are $\geq 75\%$ (wide range) for required RCS loops.	12 hours
SR 3.4.6.3	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 RCS Loops — MODE 5, Loops Filled

LCO 3.4.7 One residual heat removal (RHR) loop shall be OPERABLE and in operation, and either:

- a. One additional RHR loop shall be OPERABLE; or
- b. The secondary side water level of at least two steam generators (SGs) shall be $\geq 75\%$ (wide range).

-----NOTES-----

1. The RHR pump of the loop in operation may not be in operation for ≤ 2 hours per 8 hour period provided:
 - a. No operations are permitted that would cause reduction of the RCS boron concentration; and
 - b. Core outlet temperature is maintained at least 10°F below saturation temperature.
2. One required RHR loop may be inoperable for ≤ 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation.
3. No reactor coolant pump shall be started with one or more RCS cold leg temperatures $\leq 325^{\circ}\text{F}$ unless:
 - a. The secondary side water temperature of each SG is $< 50^{\circ}\text{F}$ above each of the RCS cold leg temperatures; or
 - b. The pressurizer water volume is less than 770 cubic feet (24% of wide range, cold, pressurizer level indication).
4. All RHR loops may be removed from operation during planned heatup to MODE 4 when at least one RCS loop is in operation.
5. The number of operating Reactor Coolant Pumps is limited to one at RCS temperatures $< 110^{\circ}\text{F}$ with the exception that a second pump may be started for the purpose of maintaining continuous flow while taking the operating pump out of service.

APPLICABILITY: MODE 5 with RCS loops filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR loop inoperable. <u>AND</u> Required SGs secondary side water levels not within limits.	A.1 Initiate action to restore a second RHR loop to OPERABLE status.	Immediately
	<u>OR</u> A.2 Initiate action to restore required SG secondary side water levels to within limits.	Immediately
B. Required RHR loops inoperable. <u>OR</u> No RHR loop in operation.	B.1 Suspend all operations involving a reduction of RCS boron concentration.	Immediately
	<u>AND</u> B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	Verify one RHR loop is in operation.	12 hours
SR 3.4.7.2	Verify SG secondary side water level is $\geq 75\%$ (wide range) in required SGs.	12 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Specific Activity

LCO 3.4.16 The specific activity of the reactor coolant shall be within limits.

APPLICABILITY: MODES 1 and 2,
MODE 3 with RCS average temperature (T_{avg}) \geq 500°F.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. DOSE EQUIVALENT I-131 $>$ 0.5 μ Ci/gm.	-----Note----- LCO 3.0.4 is not applicable. -----	
	A.1 Verify DOSE EQUIVALENT I-131 within the acceptable region of Figure 3.4.16-1.	Once per 4 hours
	<u>AND</u> A.2 Restore DOSE EQUIVALENT I-131 to within limit.	48 hours
B. Gross specific activity of the reactor coolant not within limit.	B.1 Be in MODE 3 with $T_{avg} <$ 500°F.	6 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A not met. <u>OR</u> DOSE EQUIVALENT I-131 in the unacceptable region of Figure 3.4.16-1.	C.1 Be in MODE 3 with $T_{avg} < 500^{\circ}F$.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.16.1 Verify reactor coolant gross specific activity $\leq 100/\bar{E}$ $\mu Ci/gm$.	7 days
SR 3.4.16.2 -----NOTE----- Only required to be performed in MODE 1. ----- Verify reactor coolant DOSE EQUIVALENT I-131 specific activity $\leq 0.5 \mu Ci/gm$.	14 days <u>AND</u> Between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RTP within a 1 hour period

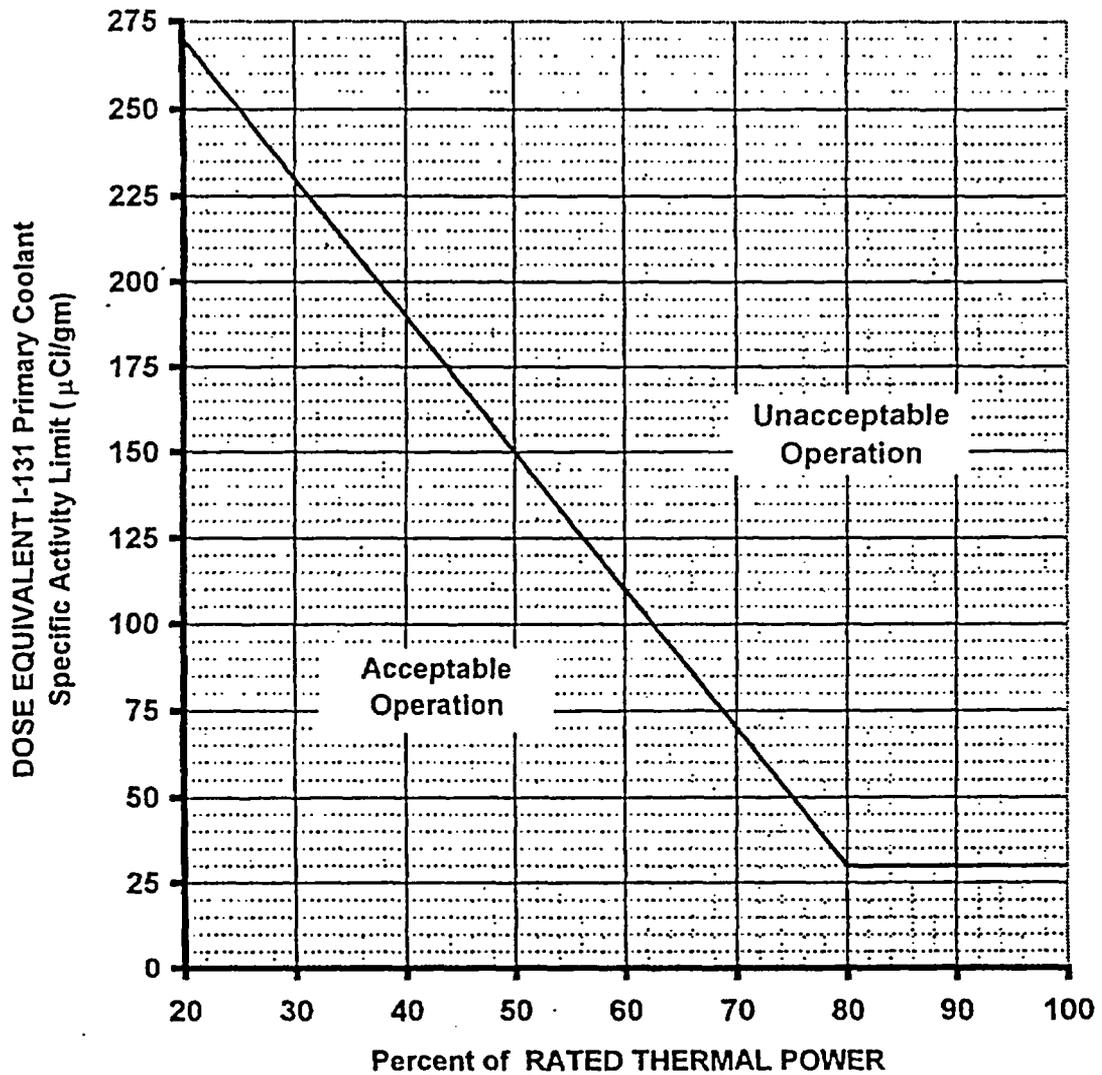


Figure 3.4.16-1

DOSE EQUIVALENT I-131 Primary Coolant Specific Activity Limit Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity $> 0.5 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.

June 13, 2003

Mr. J. B. Beasley
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

**SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2 RE: ISSUANCE OF
AMENDMENTS (TAC NO. MB8229)**

Dear Mr. Beasley:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 151 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Unit 2. The amendment consists of changes to the Technical Specifications in response to your application dated March 31, 2003, as supplemented by letter dated April 29, 2003.

The amendment modifies Surveillance Requirement (SR) 3.4.11.1, for Farley, Unit 2 only, by the addition of the following note that states, "Not required to be performed for Unit 2 for the remainder of Operating Cycle 16 for Q2B31MOV800B." In addition, a temporary Technical Specification SR 3.4.11.4 is added to provide compensatory action for this block valve while SR 3.4.11.1 is suspended. Further, this SR requires that power to the Farley, Unit 2, Power Operated Relief Valve Q2B31MOV8000B be checked at least every 24 hours for the remainder of Operating Cycle 16.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Frank Rinaldi, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-364

Enclosures:

1. Amendment No. 151 to NPF-8
2. Safety Evaluation

cc w/encls: See next page

ATTACHMENT TO LICENSE AMENDMENT NO. 151

TO FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Replace the following pages of the Appendix A Technical Specifications and associated Bases with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3.4.11-3
3.4.11-4
B 3.4.11-7
B 3.4.11-8

Insert

3.4.11-3
3.4.11-4
B 3.4.11-7
B 3.4.11-8

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. More than one block valve inoperable.	F.1 Place associated PORVs in manual control.	1 hour
	<u>AND</u>	
	F.2 Restore one block valve to OPERABLE status.	2 hours
	<u>AND</u>	
	F.3 Restore remaining block valve to OPERABLE status.	72 hours
G. Required Action and associated Completion Time of Condition F not met.	G.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	G.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.11.1</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be met with block valve closed in accordance with the Required Action of Condition B or E. 2. Not required to be performed prior to entry into MODE 3. 3. Not required to be performed for Unit 2 for the remainder of operating cycle 16 for block valve Q2B31MOV8000B. <p>-----</p> <p>Perform a complete cycle of each block valve.</p>	<p>92 days</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.11.2	<p style="text-align: center;">NOTE</p> <p>Not required to be performed prior to entry into MODE 3.</p> <hr/> <p>Perform a complete cycle of each PORV during MODE 3 or 4.</p>	18 months
SR 3.4.11.3	Perform a complete cycle of each PORV using the backup PORV control system.	18 months
SR 3.4.11.4	<p style="text-align: center;">NOTE</p> <p>Required to be performed only for Unit 2 for the remainder of operating cycle 16.</p> <hr/> <p>Check power available to the Unit Two PORV block valve Q2B31MOV8000B.</p>	24 hours



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 30, 1999

Mr. D. N. Morey
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 — ISSUANCE OF
AMENDMENTS RE: CONVERSION TO IMPROVED STANDARD TECHNICAL
SPECIFICATIONS (TAC NOS. MA1364 and MA1365)

Dear Mr. Morey:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 146 to Facility Operating License No. NPF-2 and Amendment No. 137 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The amendments change the Unit 1 and Unit 2 Technical Specifications (TS), TS Bases, and Facility Operating Licenses in response to your application of March 12, 1998, as supplemented by your following letters:

- April 24, 1998
- August 20, 1998
- November 20, 1998
- February 3, 1999
- February 20, 1999
- April 30, 1999 (two letters)
- May 28, 1999
- June 30, 1999
- July 27, 1999
- August 19, 1999
- August 30, 1999
- September 15, 1999
- September 23, 1999

The amendments fully convert your Current TS (CTS) to Improved TS (ITS) based on NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1, of April 1995. The amendments add two new Additional Conditions to Appendix C of the Unit 1 and Unit 2 Facility Operating Licenses. The first new Additional Condition authorizes you to relocate certain CTS requirements to Southern Nuclear Operating Company-controlled documents. The second new condition addresses the schedule for performing new and revised ITS surveillances.

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

DF01

PDR ADDCL 05000348

Mr. D. N. Morey

- 2 -

November 30, 1999

We have also enclosed a copy of our related safety evaluation. We will include a Notice of Issuance in the Commission's biweekly *Federal Register* Notice.

Sincerely,

Original signed by:
L. Mark Padovan, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

- Enclosures: 1. Amendment No. 146 to NPF-2
- 2. Amendment No. 137 to NPF-8
- 3. Safety Evaluation
- 4. Notice of Issuance

cc w/encls: See next page

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NAME	MPadovan	2P	CHawes		SE dated*	SEs dated*	SEs dated*	SE dated*
DATE	10/10/99		11/13/99		9/10/98	2/31 & 7/26/99	4/7, 5/19, & 7/23/99	7/28/99

EMCB/SC	EEIB/SC	IOLB/SC	IOLB/SC	RTSB/BC	OGC	PDII-1/SC
SE dated*	SE dated*	SE dated*	SE dated*	WBeckner	WBeckner	REmch
9/8/99	6/16/99	6/28/99	6/28/99	11/16/99	11/15/99	11/30/99

NO W/changes

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ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Two or more charging pumps capable of injecting into the RCS.</p>	<p>A.1 ----- NOTE----- Two charging pumps may be capable of injecting into the RCS during pump swap operation for ≤ 15 minutes. ----- Initiate action to verify a maximum of one charging pump is capable of injecting into the RCS.</p>	<p>Immediately</p>
<p>B. An accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.</p>	<p>B.1 Isolate affected accumulator.</p>	<p>1 hour</p>
<p>C. Required Action and associated Completion Time of Condition B not met.</p>	<p>C.1 Increase RCS cold leg temperature to $> 325^{\circ}\text{F}$. <u>OR</u> C.2 Depressurize affected accumulator to less than the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.</p>	<p>12 hours 12 hours</p>