

December 14, 1988

Docket No. 50-382

DISTRIBUTION:

Mr. J. G. Dewease
Senior Vice President - Nuclear Operations
Louisiana Power and Light Company
317 Baronne Street, Mail Unit 17
New Orleans, Louisiana 70112

<u>Docket File</u>	Wanda Jones
NRC PDR	EJordan
Local PDR	BGrimes
PD4 Reading	ARM/LFMB
DHagan	GPA/PA
PNoonan	OGC-Rockville
DWigginton (2)	EButcher
JCalvo	ACRS (10)
TBarnhart (4)	Plant File
LRubenstein	WHodges

Dear Mr. Dewease:

SUBJECT: ISSUANCE OF AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3
(TAC NO. 67851)

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 25, 1988 as supplemented August 3, 1988.

The amendment changes the Appendix A Technical Specifications on boron dilution by adding mode 4 requirements, clarifying the surveillance to verify systems isolation only when the system is to be isolated, make surveillances consistent with the mode 4 and 5 limited conditions for operation, and revise the frequencies for backup dilution detection.

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

Sincerely,

/s/

David L. Wigginton, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 48 to NPF-38
2. Safety Evaluation

cc w/enclosures:
See next page

LTR NAME: AMEND WATERFORD

PD4/L *LN*
PNoonan
11/18/88

PD4/PM *LN*
DWigginton:
11/18/88

RSB *must* OGC-Rockville
WHodges *stua*
11/30/88 12/8/88

PD4/D *MAC*
JCalvo
11/14/88
12

8812220065 881214
PDR ADDCK 05000382
FDC

DFD
11
CP-100

December 14, 1988

Docket No. 50-382

DISTRIBUTION:

Mr. J. G. Dewease
Senior Vice President - Nuclear Operations
Louisiana Power and Light Company
317 Baronne Street, Mail Unit 17
New Orleans, Louisiana 70112

Docket File	Wanda Jones
NRC PDR	EJordan
Local PDR	BGrimes
PD4 Reading	ARM/LFMB
DHagan	GPA/PA
PNoonan	OGC-Rockville
DWigginton (2)	EButcher
JCalvo	ACRS (10)
TBarnhart (4)	Plant File
LRubenstein	WHodges

Dear Mr. Dewease:

SUBJECT: ISSUANCE OF AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3
(TAC NO. 67851)

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 25, 1988 as supplemented August 3, 1988.

The amendment changes the Appendix A Technical Specifications on boron dilution by adding mode 4 requirements, clarifying the surveillance to verify systems isolation only when the system is to be isolated, make surveillances consistent with the mode 4 and 5 limited conditions for operation, and revise the frequencies for backup dilution detection.

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

Sincerely,

/s/

David L. Wigginton, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 48 to NPF-38
2. Safety Evaluation

cc w/enclosures:
See next page

LTR NAME: AMEND WATERFORD

PD4/LA *LA*
PNoonan
11/18/88

PD4/PM *W*
DWigginton:
11/18/88

RSB *RSB* OGC-Rockville
WHodges *stua*
11/30/88 12/8/88

PD4/D *mc*
JCalvo
11/14/88
12



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

December 14, 1988

Docket No.: 50-382

Mr. J. G. Dewease
Senior Vice President - Nuclear Operations
Louisiana Power and Light Company
317 Baronne Street, Mail Unit 17
New Orleans, Louisiana 70112

Dear Mr. Dewease:

SUBJECT: ISSUANCE OF AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3
(TAC NO. 67851)

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 25, 1988 as supplemented August 3, 1988.

The amendment changes the Appendix A Technical Specifications on boron dilution by adding mode 4 requirements, clarifying the surveillance to verify systems isolation only when the system is to be isolated, make surveillances consistent with the mode 4 and 5 limited conditions for operation, and revise the frequencies for backup dilution detection.

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

Sincerely,

A handwritten signature in dark ink, appearing to read "D. Wigginton".

David L. Wigginton, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 48 to NPF-38
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. Jerrold G. Dewease
Louisiana Power & Light Company

Waterford 3

CC:

W. Malcolm Stevenson, Esq.
Monroe & Leman
1432 Whitney Building
New Orleans, Louisiana 70103

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Office of Executive Director for
Operations
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Mr. E. Blake
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW
Washington, D.C. 20037

Mr. William H. Spell, Administrator
Nuclear Energy Division
Office of Environmental Affairs
Post Office Box 14690
Baton Rouge, Louisiana 70898

Resident Inspector/Waterford NPS
Post Office Box 822
Killona, Louisiana 70066

Mr. Ralph T. Lally
Manager of Quality Assurance
Middle South Services, Inc.
Post Office Box 61000
New Orleans, Louisiana 70161

President, Police Jury
St. Charles Parish
Hahnville, Louisiana 70057

Chairman
Louisiana Public Service Commission
One American Place, Suite 1630
Baton Rouge, Louisiana 70825-1697

William A. Cross
Bethesda Licensing Office
3 Metro Center
Suite 610
Bethesda, Maryland 20814

Mr. R. F. Burski, Acting
Nuclear Safety and Regulatory Affairs Manager
Louisiana Power & Light Company
317 Baronne Street
New Orleans, Louisiana 70112



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

LOUISIANA POWER AND LIGHT COMPANY

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48
License No. NPF-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Louisiana Power and Light Company (the licensee) dated March 25, 1988 as supplemented August 3, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

8812220068 881214
PDR ADOCK 05000382
P PIC

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-38 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 48, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Jose A. Calvo

Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 14, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 48
TO FACILITY OPERATING LICENSE NO. NPF-38
DOCKET NO. 50-382

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

Remove

3/4 1-15
3/4 1-16
3/4 1-17
3/4 1-17a
3/4 1-17b
3/4 1-17c
3/4 1-17d

Insert

3/4 1-15
3/4 1-16
3/4 1-17
3/4 1-17a
3/4 1-17b
3/4 1-17c
3/4 1-17d

REACTIVITY CONTROL SYSTEMS

BORON DILUTION

LIMITING CONDITION FOR OPERATION

3.1.2.9 Boron concentration shall be verified consistent with SHUTDOWN MARGIN requirements of Specifications 3.1.1.1, 3.1.1.2, and 3.9.1. Boron dilution events shall be precluded by:

- a. Either two boron dilution alarms (startup channel high neutron flux) shall be OPERABLE with the alarms set in accordance with Specification 4.1.2.9.5, or the primary makeup water flow path to the Reactor Coolant System shall be isolated, and
- b. Do not operate the plant in the configuration prohibited by Tables 3.1-1 through 3.1-5.

APPLICABILITY: MODES 3, 4, 5, and 6.

ACTION:

- a. With the boron concentration not consistent with required SHUTDOWN MARGIN, initiate emergency boration.
- b. With one boron dilution alarm inoperable and the primary makeup water flow path to the Reactor Coolant System not isolated, determine Reactor Coolant System boron concentration within 1 hour and at least at the monitoring frequency specified in Tables 3.1-1 through 3.1-5.
- c. With both boron dilution alarms inoperable and the primary makeup water flow path to the Reactor Coolant System not isolated, determine the Reactor Coolant System boron concentration by two independent means within 1 hour and at least at the monitoring frequency specified in Tables 3.1-1 through 3.1-5; otherwise, immediately suspend all operations involving positive reactivity changes or CORE ALTERATIONS (if applicable).

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- d. With the requirements of Specification 3.1.2.9b not satisfied, immediately remove power from charging pumps to comply with the above requirement or isolate the primary makeup water flow path to the Reactor Coolant System.
- e. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.2.9.1 The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 from MODE 2.

4.1.2.9.2 Each required boron dilution alarm shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days, and a CHANNEL CALIBRATION at least once per 18 months.

4.1.2.9.3 If the primary makeup water flow path to the Reactor Coolant System is isolated to fulfill 3.1.2.9.a, the required primary makeup water flow path to the Reactor Coolant System shall be verified to be isolated by either locked closed manual valves, deactivated automatic valves secured in the isolation position, or by power being removed from all charging pumps, at least once per 24 hours.

4.1.2.9.4 The requirements of Specification 3.1.2.9b shall be verified at least once per 24 hours.

4.1.2.9.5 Each required boron dilution alarm setpoint shall be adjusted to less than or equal to twice (2x) the existing neutron flux (cps) at the following frequencies:

- a. At least once per 5 hours if the reactor has been shut down less than 25 hours;
- b. At least once per 24 hours if the reactor has been shut down greater than or equal to 25 hours but less than 7 days;
- c. At least once per 7 days if the reactor has been shut down greater than or equal to 7 days.

TABLE 3.1-1

**REQUIRED MONITORING FREQUENCIES FOR BACKUP BORON
DILUTION DETECTION AS A FUNCTION OF OPERATING
CHARGING PUMPS AND PLANT OPERATIONAL MODES FOR
 K_{eff} GREATER-THAN 0.98**

$K_{eff} > 0.98$

OPERATIONAL MODE	Number of Operating Charging Pumps*			
	0	1	2	3
3	12 hours	0.75 hours	Operation not allowed**	
4	12 hours	Operation not allowed**		
5 RCS filled	8 hours	Operation not allowed**		
5 RCS partially drained	8 hours	Operation not allowed**		
6	Operation not allowed**			

*Charging pump OPERABILITY for any period of time shall constitute OPERABILITY for the entire monitoring frequency.

**The precluded number of charging pumps shall be verified to be inoperable by racking out their motor circuit breakers.

TABLE 3.1-2

REQUIRED MONITORING FREQUENCIES FOR BACKUP BORON
DILUTION DETECTION AS A FUNCTION OF OPERATING
CHARGING PUMPS AND PLANT OPERATIONAL MODES FOR
 K_{eff} GREATER THAN 0.97 AND LESS THAN OR EQUAL TO 0.98

$$0.98 \geq K_{eff} > 0.97$$

OPERATIONAL MODE	Number of Operating Charging Pumps*			
	0	1	2	3
3	12 hours	2.0 hours	0.5 hours	Operation not allowed**
4	12 hours	0.75 hours		Operation not allowed**
5 RCS filled	8 hours	1.0 hours		Operation not allowed**
5 RCS partially drained	8 hours	0.75 hours		Operation not allowed**
6	Operation not allowed**			

*Charging pump OPERABILITY for any period of time shall constitute OPERABILITY for the entire monitoring frequency.

**The precluded number of charging pumps shall be verified to be inoperable by racking out their motor circuit breakers.

TABLE 3.1-3

REQUIRED MONITORING FREQUENCIES FOR BACKUP BORON
DILUTION DETECTION AS A FUNCTION OF OPERATING
CHARGING PUMPS AND PLANT OPERATIONAL MODES FOR
 K_{eff} GREATER THAN 0.96 AND LESS THAN OR EQUAL TO 0.97

$$0.97 \geq K_{eff} > 0.96$$

OPERATIONAL MODE	Number of Operating Charging Pumps*			
	0	1	2	3
3	12 hours	3.0 hours	1.25 hours	0.5 hours
4	12 hours	1.5 hours	0.5 hours	Operation not allowed**
5 RCS filled	8 hours	1.5 hours	0.5 hours	Operation not allowed**
5 RCS partially drained	8 hours	0.75 hours	Operation not allowed**	
6	Operation not allowed**			

*Charging pump OPERABILITY for any period of time shall constitute OPERABILITY for the entire monitoring frequency.

**The precluded number of charging pumps shall be verified to be inoperable by racking out their motor circuit breakers.

TABLE 3.1-4

**REQUIRED MONITORING FREQUENCIES FOR BACKUP BORON
DILUTION DETECTION AS A FUNCTION OF OPERATING
CHARGING PUMPS AND PLANT OPERATIONAL MODES FOR
K_{eff} GREATER THAN 0.95 AND LESS THAN OR EQUAL TO 0.96**

$$0.96 \geq K_{eff} > 0.95$$

OPERATIONAL MODE	Number of Operating Charging Pumps*			
	0	1	2	3
3	12 hours	4.0 hours	2.0 hours	1.0 hours
4	12 hours	2.25 hours	0.75 hours	Operation not allowed**
5 RCS filled	8 hours	2.5 hours	0.75 hours	Operation not allowed**
5 RCS partially drained	8 hours	2.0 hours	0.5 hours	Operation not allowed*
6	Operation not allowed**			

*Charging pump OPERABILITY for any period of time shall constitute OPERABILITY for the entire monitoring frequency.

**The precluded number of charging pumps shall be verified to be inoperable by racking out their motor circuit breakers.

TABLE 3.1-5

**REQUIRED MONITORING FREQUENCIES FOR BACKUP BORON
DILUTION DETECTION AS A FUNCTION OF OPERATING
CHARGING PUMPS AND PLANT OPERATIONAL MODES FOR
 K_{eff} LESS THAN OR EQUAL TO 0.95**

$K_{eff} \leq 0.95$

OPERATIONAL MODE	Number of Operating Charging Pumps*			
	0	1	2	3
3	12 hours	5.0 hours	2.0 hours	1.0 hours
4	12 hours	3.0 hours	1.0 hours	0.5 hours
5 RCS filled	8 hours	3.0 hours	1.25 hours	0.5 hours
5 RCS partially drained	8 hours	2.75 hours	1.0 hours	Operation not allowed**
6	24 hours	2.25 hours	0.75 hours	Operation not allowed**

*Charging pump OPERABILITY for any period of time shall constitute OPERABILITY for the entire monitoring frequency.

**The precluded number of charging pumps shall be verified to be inoperable by racking out their motor circuit breakers.

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

CEA POSITION

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full-length (shutdown and regulating) CEAs, and all part-length CEAs which are inserted in the core, shall be OPERABLE with each CEA of a given group positioned within 7 inches (indicated position) of all other CEAs in its group.

APPLICABILITY: MODES 1* and 2*.

ACTION:

- a. With one or more full-length CEAs inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in at least HOT STANDBY within 6 hours.
- b. With more than one full-length or part-length CEA inoperable or misaligned from any other CEA in its group by more than 19 inches (indicated position), be in at least HOT STANDBY within 6 hours.
- c. With one full-length or part-length CEA misaligned from any other CEA in its group by more than 19 inches, operation in MODES 1 and 2 may continue, provided that within 1 hour the misaligned CEA is either:
 1. Restored to OPERABLE status within its above specified alignment requirements, or
 2. Declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. After declaring the CEA inoperable, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6 provided:
 - a) Within 1 hour the remainder of the CEAs in the group with the inoperable CEA shall be aligned to within 7 inches of the inoperable CEA while maintaining the allowable CEA sequence and insertion limits shown on Figure 3.1-2; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.
 - b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within 6 hours.

*See Special Test Exceptions 3.10.2 and 3.10.4.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 48 TO

FACILITY OPERATING LICENSE NO. NPF-38

LOUISIANA POWER AND LIGHT COMPANY

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated March 25, 1988 as supplemented August 3, 1988, Louisiana Power and Light Company (LP&L or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-38) for Waterford Steam Electric Station, Unit 3. The proposed changes would add mode 4 boron dilution requirements, clarify the surveillance on system isolation, make surveillances consistent with the mode 4 and 5 limited conditions for operation, and revise the frequencies for backup boron dilution detection.

2.0 DISCUSSION

The licensee has performed an analysis of boron dilution events when using the Shutdown Cooling System for core decay heat removal. Under postulated conditions, a stagnant flow can exist which has the effect of reducing the active reactor coolant system (RCS) volume. This reduction and the revised analysis results in modifications to the limiting conditions for operation to add mode 4 dilution requirements and to the frequencies of backup boron dilution detection. The licensee has maintained the setpoints for boron dilution detection alarms.

3.0 EVALUATION

The licensee's assumption of stagnant flow and reduced active RCS volume are reasonable and separation of mode 4 and 5 requirements in the limiting conditions for operation are appropriate. The reanalysis of the boron dilution event used the minimum time intervals for operator action (30 minutes for mode 6, 15 minutes for modes 3-5) and in some cases, original conservatisms have been appropriately reduced in the calculations for monitoring frequencies for backup boron dilution detection. We have also analyzed these frequencies and have found that sufficient margin has been added to the calculated values.

8812220072 881214
PDR ADOCK 05000382
P PIC

In the March 25, 1988 submittal, the licensee proposed limiting conditions for operation for mode 4 and 5 which required removing power from one charging pump. In the monitoring frequencies for backup boron dilution detection, Table 3.1-5, the licensee listed times for modes 4 and 5 which did not conform to the limiting condition for operation (LCO). This was brought to the licensee's attention as a possible oversight in either the LCO or monitoring frequency. The actions in Tables 3.1-1 through 3.1-5 were determined to be correct and revised wording for LCO 3.1.2.9b was proposed. The licensee agrees with the revised wording which directs that the plant not be operated in the configurations prohibited by Tables 3.1-1 through 3.1-5. The staff finds these changes and the proposed amendment acceptable.

4.0 CONTACT WITH STATE OFFICIAL

The NRC staff has advised the Administrator, Nuclear Energy Division, Office of Environmental Affairs, State of Louisiana of the proposed determination of no significant hazards consideration. No comments were received.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

Based upon its evaluation of the proposed changes to the Waterford 3 Technical Specifications, the staff has concluded that: there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. The staff, therefore, concludes that the proposed changes are acceptable, and are hereby incorporated into the Waterford 3 Technical Specifications.

Dated: December 14, 1988

Principal Contributors: D. Wigginton
C. Liang