

March 21, 1988

Docket No. 50-382

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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. 33 TO FACILITY OPERATING LICENSE
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3
(TAC NO. 66292)

The Commission has issued the enclosed Amendment No. 33 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 August 28, 1987.

The amendment changes the Appendix A Technical Specifications by revising the limiting conditions for operation on shutdown margin with the control element assemblies (CEAs) withdrawn and with the CEAs inserted.

A copy of the Safety Evaluation supporting the amendment is also enclosed. Notice of Issuance will be included in the Commission's next Bi-weekly 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. 33 to NPF-38
2. Safety Evaluation

cc w/enclosures:
See next page

LTR NAME: WATERFORD 3 AMENDMENT NO. 65

PD4/LA *DM*
PNoonan
01/13/88

PD4/PM *WJ*
JWilson/DWigginton:sr
01/19/88

SRXB *WJ*
WHodges
01/28/88

OGC *WJ* *noted revision*
Shipping
01/18/88

PD4/D *MC*
JCalvo
01/21/88
3

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PDR

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Louisiana Power and Light Company
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David L. Wigginton, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
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PD4/LA *DM*
PNoonan
01/13/88

PD4/RM *JW*
JWilson/DWigginton: sr
01/19/88

SRXB *W*
WHodges
01/20/88

OGC *Wigginton*
Enforcing
01/16/88

PD4/D *MC*
JCalvo
01/21/88
3



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
March 21, 1988

Docket No. 50-382

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

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Sincerely,

A handwritten signature in cursive script, 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:

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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

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

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

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

Mr. K. W. Cook
Nuclear Safety and Regulatory Affairs Manager
Louisiana Power & Light Company
317 Baronne Street
New Orleans, Louisiana 70112

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

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



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. 33
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 August 28, 1987, 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.

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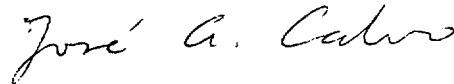
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-38 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 33, 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, 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: March 21, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 33

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

IV
3/4 1-1
3/4 1-3
3/4 1-3a

Insert

IV
3/4 1-1
3/4 1-3
3/4 1-3a

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BASES

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3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - ANY FULL LENGTH CEA WITHDRAWN

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to 5.15% delta k/k when T_{avg} is greater than 200°F or 2.0% delta k/k when T_{avg} is less than or equal to 200°F.

APPLICABILITY: MODES 1, 2*, 3, 4, and 5 with any full length CEA fully or partially withdrawn.

ACTION:

With the SHUTDOWN MARGIN less than that required above, immediately initiate and continue boration at greater than or equal to 40 gpm of a solution containing greater than or equal to 1720 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.1.1 With any full length CEA fully or partially withdrawn, the SHUTDOWN MARGIN shall be determined to be greater than or equal to that required above:

- a. Within 1 hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. If the inoperable CEA is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable CEA(s).
- b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that CEA group withdrawal is within the Transient Insertion Limits of Specification 3.1.3.6.
- c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical CEA position is within the limits of Specification 3.1.3.6.

* See Special Test Exception 3.10.1.

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e. below, with the CEA groups at the Transient Insertion Limits of Specification 3.1.3.6--
- e. When in MODE 3, 4, or 5, at least once per 24 hours by consideration of at least the following factors:
 - 1. Reactor Coolant System boron concentration,
 - 2. CEA position,
 - 3. Reactor Coolant System average temperature,
 - 4. Fuel burnup based on gross thermal energy generation,
 - 5. Xenon concentration, and
 - 6. Samarium concentration.

4.1.1.1.2 The overall core reactivity balance shall be compared to predicted values to demonstrate agreement within + 1.0% delta k/k at least once per 31 Effective Full Power Days (EFPD). This comparison shall consider at least those factors stated in Specification 4.1.1.1.e., above. The predicted reactivity values shall be adjusted (normalized) to correspond to the actual core conditions prior to exceeding a fuel burnup of 60 EFPDs after each fuel loading.

REACTIVITY CONTROL SYSTEMS

SHUTDOWN MARGIN - ALL FULL LENGTH CEAS FULLY INSERTED

LIMITING CONDITION FOR OPERATION

3.1.1.2 The SHUTDOWN MARGIN shall be greater than or equal to that shown in Figure 3.1-0.

APPLICABILITY: MODES 3, 4 and 5 with all full length CEAs fully inserted.

ACTION:

With the SHUTDOWN MARGIN less than that shown in Figure 3.1-0, immediately initiate and continue boration at greater than or equal to 40 gpm of a solution containing greater than or equal to 1720 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.2 With all full length CEAs fully inserted, the SHUTDOWN MARGIN shall be determined to be greater than or equal to that shown in Figure 3.1-0 at least once per 24 hours by consideration of the following factors:

1. Reactor Coolant System boron concentration,
2. CEA position,
3. Reactor Coolant System average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration, and
6. Samarium concentration.

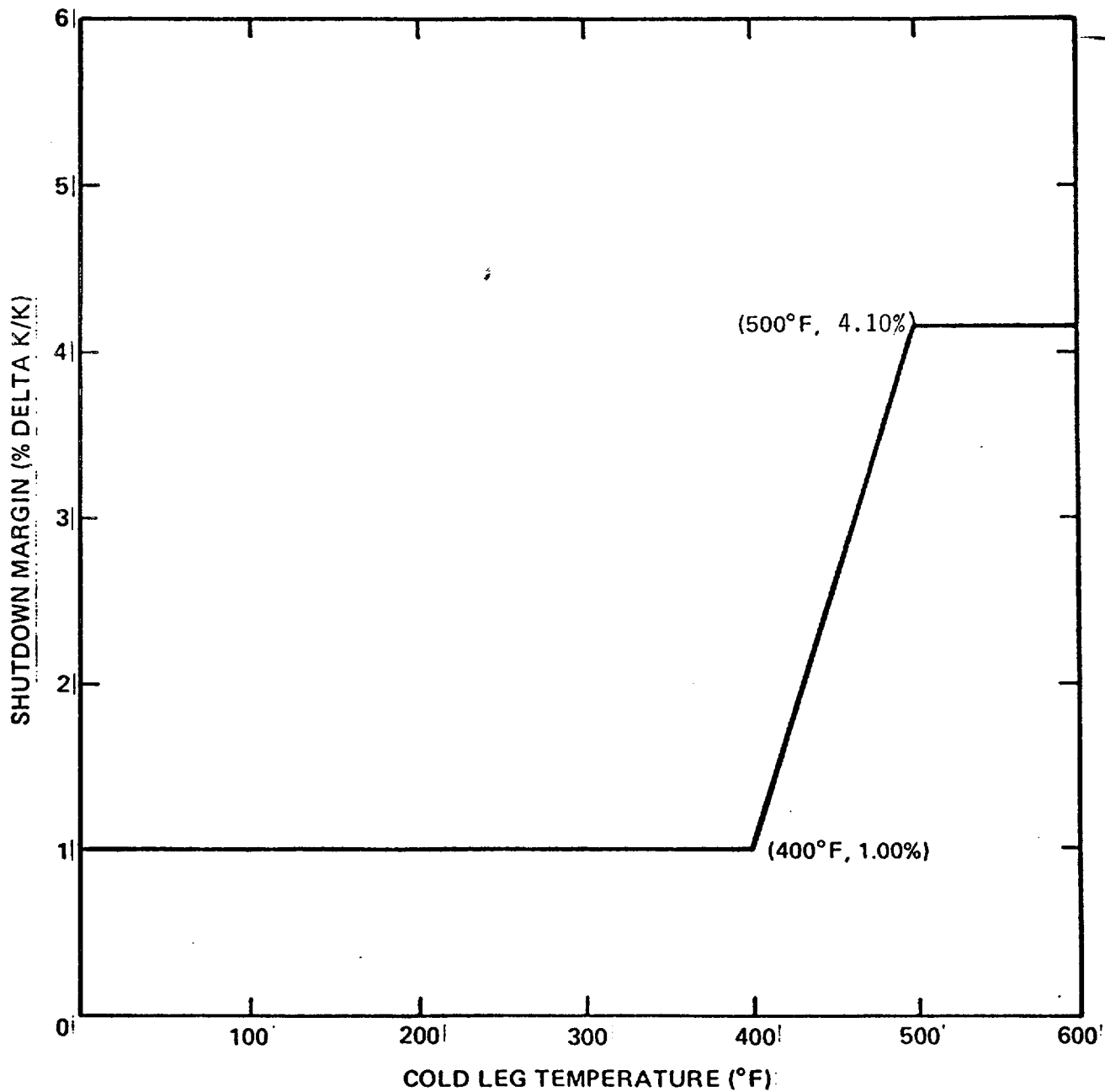


Figure 3.1-0

SHUTDOWN MARGIN AS A FUNCTION
OF COLD LEG TEMPERATURE



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 33 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 August 28, 1987, 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 revise Technical Specification Limiting Condition for Operation (LCO) 3.1.1.1, Shutdown Margin-Any CEA Withdrawn and Technical Specification LCO 3.1.1.2, Shutdown Margin-All CEAs Inserted. In addition, several administrative changes are being proposed to clarify LCOs 3.1.1.1 and 3.1.1.2 and make them consistent with normal plant operating procedures.

2.0 DISCUSSION

The intent of Technical Specification 3.1.1.2 is to ensure that the reactor remains subcritical following any design basis event of anticipated operational occurrence. Operation in Mode 2 requires a K-eff of equal to or greater than 0.99. Presently, LCO 3.1.1.2 of the licensee's Technical Specifications requires a shutdown margin of at least 1.0% (greater if T-cold is greater than 400°F) when all control element assemblies (CEAs) are inserted. Therefore, with the Mode 2 K-eff greater than 0.99 and the LCO 3.1.1.2 less than 1% (or 0.99) it is impossible to satisfy the Shutdown Margin requirements of LCO 3.1.1.2 and, at the same time, achieve Mode 2 operation. The proposed change will therefore correctly eliminate the Mode 2 applicability as well as the accompanying notes and surveillances.

The proposed change would make two additional changes as well. The first is to revise the required value of the Shutdown Margin in Figure 3.1-0 (LCO 3.1.1.2) from 4.15% to 4.10% when T-cold is greater than 500°F. This change reflects the actual value of Shutdown Margin that was assumed in the Cycle 2 Safety Analysis. The licensee's reload analysis was found acceptable in the Safety Evaluation transmittal by NRC letter dated January 16, 1987.

The second change proposed by the licensee would change both the index page and the heading of LCO 3.1.1.1 and LCO 3.1.1.2 to refer to "full-length CEAs" rather than "CEAs". This is simply a clarification to

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reflect the fact that part-length CEAs were not credited in the safety analysis that was performed to justify this change nor are they credited in the actual calculation of Shutdown Margin as discussed in Section 1.0 of the licensee's Technical Specifications.

3.0 EVALUATION

As previously mentioned, Technical Specification 3.1.1.2 is to ensure that the reactor remains subcritical following any design basis event or anticipated operational occurrence. If the reactor has a neutron multiplication factor (k-eff) of equal to or greater than 0.99 (Mode 2) it would be impossible, as presently required in LCO 3.1.1.2, to maintain a shutdown margin equal to or greater than 1.0% with all full-length CEAs inserted. Therefore, removal of those portions of the LCO which involves Mode 2 operation is strictly an administrative change in that it corrects an error in the Technical Specification and will have no effect on the capability of the plant safety systems to maintain the reactor in a subcritical condition following any design basis event or anticipated operation occurrence.

In addition, changing the required shutdown margin when all full-length CEAs are inserted and the Reactor Coolant Temperature (T-cold) is greater than 500°F from 4.15% to 4.10% is being done to make the Technical Specification Shutdown Margin requirement consistent with the licensee's Cycle 2 safety analysis. That is, for those safety analysis events that are affected by Shutdown Margin with all CEAs inserted, a Shutdown Margin of 4.10% was assumed. Since the proposed change is consistent with the safety analysis and since the results of the safety analysis have been shown to be acceptable for all events, the proposed change will have no effect on the capability of the plant safety systems to maintain the reactor in a subcritical condition following any design basis event or anticipated operational occurrence.

For reasons stated above, the staff concludes that the proposed change to Technical Specifications 3.2.1 and 3.2.4 is 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 20 and changes surveillance requirements. 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: March 21, 1988

Principal Contributor: J. Wilson