

March 9, 2006

Mr. James A. Spina, Vice President
Calvert Cliffs Nuclear Power Plant, Inc.
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 -
AMENDMENT RE: STEAM GENERATOR TUBE INTEGRITY
(TAC NOS. MC8067 AND MC8068)

Dear Mr. Spina:

The Commission has issued the enclosed Amendment No. 278 to Renewed Facility Operating License No. DPR-53 and Amendment No. 255 to Renewed Facility Operating License No. DPR-69 for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated July 13, 2005, as supplemented on November 29, 2005, and January 20 and February 13, 2006.

These amendments revise TS 1.1, "Definitions," TS 3.4.13, "RCS [reactor coolant system] Operational Leakage," TS 5.5.9, "Steam Generator Tube Surveillance Program," and TS 5.6.9, "Steam Generator Tube Inspection Report," and add a new specification (TS 3.4.18) for Steam Generator (SG) Tube Integrity. The changes implement the guidance for the industry initiative on Nuclear Energy Institute 97-06, "Steam Generator Program Guidelines." The changes are also consistent with TS Task Force (TSTF) Change TSTF- 449, Revision 4, "Steam Generator Tube Integrity."

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

Sincerely,

/RA/

Patrick D. Milano, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosures: 1. Amendment No. 278 to DPR-53
2. Amendment No. 255 to DPR-69
3. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page

Accession Number: ML060460089

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NAME	PMilano	SLittle	EMurphy	TBoyce	JBonanno	RLaufer
DATE	02/16/06	02/16/06	02/16/06	02/17/06	03/01/06	02/07/06

OFFICIAL RECORD COPY

DATED: March 9, 2006

AMENDMENT NO. 278 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53
CALVERT CLIFFS UNIT 1

AMENDMENT NO. 255 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69
CALVERT CLIFFS UNIT 2

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CALVERT CLIFFS NUCLEAR POWER PLANT, INC.

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 278
Renewed License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) dated July 13, 2005, as supplemented on November 29, 2005, and January 20 and February 13, 2006, 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.
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 Renewed Facility Operating License No. DPR-53 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 278, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard J. Laufer, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 9, 2006

CALVERT CLIFFS NUCLEAR POWER PLANT, INC.

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 255
Renewed License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) dated July 13, 2005, as supplemented on November 29, 2005, and January 20 and February 13, 2006, 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.
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 Renewed Facility Operating License No. DPR-69 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 255, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard J. Laufer, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 9, 2006

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 278 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 255 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

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

Remove Pages

ii
iii
iv
v
1.1-4
1.1-5
3.4.13-1
3.4.13-2

5.5-7
5.5-8
5.5-9
5.5-10
5.5-11
5.5-12
5.5-13
5.5-14
5.5-15
5.5-16
5.5-17
5.5-18
5.6-9
5.6-10

Insert Pages

ii
iii
iv
v
1.1-4
1.1-5
3.4.13-1
3.4.13-2
3.4.13-3
3.4.18-1
3.4.18-2
5.5-7
5.5-8
5.5-9
5.5-10
5.5-11
5.5-12
5.5-13
5.5-14
5.5-15
5.5-16
5.5-17
5.5-18
5.6-9
5.6-10

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 278 TO RENEWED
FACILITY OPERATING LICENSE NO. DPR-53
AND AMENDMENT NO. 255 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69
CALVERT CLIFFS NUCLEAR POWER PLANT, INC.
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By letter dated July 13, 2005, as supplemented on November 29, 2005, and January 20 and February 13, 2006 (Agencywide Documents Access and Management System Accession Nos. ML051990345, ML053390082, ML060240111 and ML060530037, respectively), the Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) submitted a request for changes to the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 (CCNPP), Technical Specifications (TSs). The requested changes would revise the existing steam generator (SG) tube surveillance program to be consistent with TS Task Force (TSTF) Change TSTF-449, "Steam Generator Tube Integrity," Revision 4, and the model safety evaluation prepared by the Nuclear Regulatory Commission (NRC) and published in the *Federal Register* notice on March 2, 2005 (70 FR 10298). In this regard, the scope of the application includes changes to the definition of leakage, changes to the primary-to-secondary leakage requirements, changes to the SG tube surveillance program (SG tube integrity), changes to the SG reporting requirements, and associated changes to the TS Bases.

The November 29, 2005, and January 20 and February 13, 2006, letters provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 6, 2005 (70 FR 72669).

2.0 REGULATORY EVALUATION

The background, description, and applicability of the proposed changes associated with the SG tube integrity issue and the applicable regulatory requirements were included in the NRC staff's model safety evaluation (SE) published in the *Federal Register* on March 2, 2005 (70 FR 10298). The "Notice of Availability of Model Application Concerning Technical Specification; Improvement To Modify Requirements Regarding Steam Generator Tube

Integrity; Using the Consolidated Line Item Improvement Process" was published in the *Federal Register* on May 6, 2005 (70 FR 24126), which made the model SE available to licensees for use.

3.0 TECHNICAL EVALUATION

In its July 13, 2005, application, the licensee proposed changes to the TSs that are consistent, with one exception, with the proposed changes approved in TSTF-449. The NRC model SE provides a detailed evaluation of the proposed changes that are requested by the licensee in its application. Consistent with TSTF-449, the proposed TS changes included: (1) a revised definition of LEAKAGE in TS 1.1, (2) a revised TS 3.4.13, "RCS [Reactor Coolant System] Operational Leakage," (3) a new TS 3.4.18, "Steam Generator (SG) Tube Integrity," (4) a revised TS 5.5.9, "Steam Generator Tube Surveillance Program," (5) a revised TS 5.6.9, "Steam Generator Tube Inspection Report," and (6) revised Table of Content pages to reflect the proposed changes. However, as discussed below, the licensee took an exception to TSTF-449, Revision 4, regarding the current primary-to-secondary operational leakage limit.

The NRC staff reviewed the licensee's application for consistency with TSTF-449. The staff made the following observation as a result of its review.

In TSTF-449, the TS limit on normal operating primary-to-secondary leakage rate through any one SG is significantly less than accident induced primary-to-secondary leakage assumed in the licensing basis accident analyses. For CCNPP, the TS operating primary-to-secondary leakage limit and the accident induced primary-to-secondary leakage assumed in the accident analyses are identical in value. Given this situation, the NRC staff evaluated the acceptability of the TS limit and licensing basis assumption presented in the licensee's application as compared to the difference between leakage limits presented in TSTF-449. Since the leakage rate observed during operation may increase during a design-basis accident (DBA), it may be necessary to keep the actually observed operating leak rate well below the operational TS leak rate limit to ensure that the accident induced leakage rate that is assumed in the accident analysis is not exceeded. The accident induced leakage rate can increase as a result of either: (1) the higher differential pressure between the primary and secondary coolant systems associated with a DBA causing the leak rate from flaws leaking during normal operation to leak at higher rates; or (2) the higher loadings associated with a DBA causing a flaw that was not leaking during normal operation to leak during the accident.

As a result of this issue, the licensee agreed to modify its plant procedures to ensure that the accident-induced leak rate limit (i.e., the value of leakage rate assumed in the accident analyses) will not be exceeded during a DBA. The licensee stated that it would place an administrative limit on the observed operational leakage to 50 gpd per SG to provide assurance that the accident-induced leakage would not exceed the TS limit on accident induced leakage of 100 gpd per SG. The administrative limit, which is to ensure that the accident-induced leakage analysis assumption is not exceeded, depends on several factors, which can change from cycle to cycle.

The NRC staff did not review the adequacy of the administrative operating leakage limit selected by the licensee. Rather, the staff reviewed the adequacy of the proposed TS limits for operating and accident-induced leakage. However, the staff recognized that adoption of the 50 gpd administrative limit on normal operating leakage provided added confidence that the

accident-induced leakage limit assumed in the accident analyses would not be exceeded. The TS limits on operating and accident induced leakage (100 gpd per SG) were consistent with the licensee's final safety analysis report and lower than the value approved in the generic TSTF-449. With respect to the remainder of the licensee's application, the NRC staff finds it is generally consistent with TSTF-449 and is bounded by the generic SE. Therefore, the staff finds the proposed changes are acceptable.

Conclusion

The proposed TS changes establish a programmatic, largely performance-based regulatory framework for ensuring SG tube integrity is maintained. The NRC staff finds that it addresses key shortcomings of the current framework by ensuring that SG programs are focused on accomplishing the overall objective of maintaining tube integrity. It incorporates performance criteria for evaluating tube integrity that the NRC staff finds consistent with the structural margins and the degree of leak tightness assumed in the current plant licensing basis. The NRC staff finds that maintaining these performance criteria provides reasonable assurance that the SGs can be operated safely without increase in risk.

The revised TSs will contain limited specific details concerning how the SG Tube Surveillance Program is to achieve the required objective of maintaining tube integrity; the intent being that the licensee will have the flexibility to determine the specific strategy for meeting this objective. However, the NRC staff finds that the revised TSs include sufficient regulatory constraints on the establishment and implementation of the SG Tube Surveillance Program such as to provide reasonable assurance that tube integrity will be maintained.

Failure to meet the performance criteria will be reportable pursuant to the requirements in 10 CFR Parts 50.72 and 50.73. The NRC reactor oversight process provides a process by which the NRC staff can verify that the licensee has identified any SG Tube Surveillance Program deficiencies that may have contributed to such an occurrence and that appropriate corrective actions have been implemented.

In conclusion, the NRC staff finds that the TS changes proposed by the licensee in its July 13, 2005, application conform to the requirements of 10 CFR 50.36 and establish a TS framework that will provide reasonable assurance that SG tube integrity is maintained without undue risk to public health and safety.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Maryland State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 the amendments involve no

significant hazards consideration, and there has been no public comment on such finding (70 FR 72669). Accordingly, the amendments meet 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 the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

A complete list of references used to complete this review can be found in the NRC's model SE published in the *Federal Register* on March 2, 2005 (70 FR 10298).

Principal Contributor: L. Miller

Date: March 9, 2006