



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

September 8, 2011

Mr. George H. Gellrich, Vice President  
Calvert Cliffs Nuclear Power Plant, LLC  
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: REVISION TO TECHNICAL SPECIFICATION 3.3.1  
(TAC NOS. ME6250 AND ME6251)

Dear Mr. Gellrich:

The Commission has issued the enclosed Amendment No. 300 to Renewed Facility Operating License No. DPR-53 and Amendment No. 277 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 May 11, 2011.

The amendments revise a note to TS 3.3.1, "Reactor Protective System (RPS) Instrumentation - Operating," to change the value at which the RPS trip function, Steam Generator Pressure - Low, is bypassed from 785 psig to 785 psia. The revision corrects an administrative error that occurred during Calvert Cliffs' conversion to the Improved Standard TSs.

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,

A handwritten signature in black ink that reads "Douglas V. Pickett".

Douglas V. Pickett, 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. 300 to DPR-53
2. Amendment No. 277 to DPR-69
3. Safety Evaluation

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

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 300  
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, LLC (the licensee) dated May 11, 2011, 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. 300, are hereby incorporated into the renewed 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 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Nancy L. Salgado, Chief  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the License and Technical  
Specifications

Date of Issuance: September 8, 2011



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

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 277  
Renewed License No. DPR-69

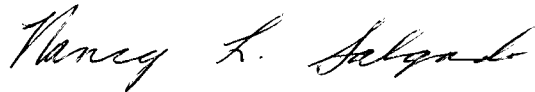
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  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted 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. 277, are hereby incorporated in the renewed 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 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Nancy L. Salgado, Chief  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the License and Technical  
Specifications

Date of Issuance: September 8, 2011

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 300 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 277 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

3

Insert Page

3

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

3.3.1-11

Insert Page

3.3.1-11

rules, regulations, and orders of the Commission, now or hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady-state reactor core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 300, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

- (a) For Surveillance Requirements (SRs) that are new, in Amendment 227 to Facility Operating License No. DPR-53, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 227. For SRs that existed prior to Amendment 227, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 227.

(3) Additional Conditions

The Additional Conditions contained in Appendix C as revised through Amendment No. 297 are hereby incorporated into this license. Calvert Cliffs Nuclear Power Plant, LLC shall operate the facility in accordance with the Additional Conditions.

(4) Secondary Water Chemistry Monitoring Program

The Calvert Cliffs Nuclear Power Plant, LLC, shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to quantify parameters that are critical to control points;

C. This license is deemed to contain and is subject to the conditions set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act, and the rules, regulations, and orders of the Commission, now and hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor steady-state core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 277 are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

(a) For Surveillance Requirements (SRs) that are new, in Amendment 201 to Facility Operating License No. DPR-69, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 201. For SRs that existed prior to Amendment 201, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 201.

(3) Less Than Four Pump Operation

The licensee shall not operate the reactor at power levels in excess of five (5) percent of rated thermal power with less than four (4) reactor coolant pumps in operation. This condition shall remain in effect until the licensee has submitted safety analyses for less than four pump operation, and approval for such operation has been granted by the Commission by amendment of this license.

(4) Environmental Monitoring Program

If harmful effects or evidence of irreversible damage are detected by the biological monitoring program, hydrological monitoring program, and the radiological monitoring program specified in the Appendix B Technical Specifications, the licensee will provide to the staff a detailed analysis of the problem and a program of remedial action to be taken to eliminate or significantly reduce the detrimental effects or damage.



Table 3.3.1-1 (page 3 of 3)  
Reactor Protective System Instrumentation

FUNCTION	MODES	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
9b. Asymmetric Steam Generator Transient (ASGT) <sup>(b)</sup>	1, 2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9	≤ 135 psid
10. Loss of Load <sup>(d)</sup>	1 <sup>(e)</sup>	SR 3.3.1.6 SR 3.3.1.7	NA

(a) Bistable trip unit may be bypassed when NUCLEAR INSTRUMENT POWER is < 1E-4% RTP or > 12% RTP. Bypass shall be automatically removed when NUCLEAR INSTRUMENT POWER is ≥ 1E-4% RTP and < 12% RTP.

(b) Bistable trip unit may be bypassed when NUCLEAR INSTRUMENT POWER is < 1E-4%. Bypass shall be automatically removed when NUCLEAR INSTRUMENT POWER is ≥ 1E-4% RTP. During testing pursuant to LCO 3.4.16, trips may be bypassed below 5% RTP.

(c) Bistable trip unit may be bypassed when steam generator pressure is < 785 psia. Bypass shall be automatically removed when steam generator pressure is ≥ 785 psia.

(d) Bistable trip unit may be bypassed when NUCLEAR INSTRUMENT POWER is < 15% RTP. Bypass shall be automatically removed when NUCLEAR INSTRUMENT POWER is ≥ 15% RTP.

(e) Trip is only applicable in MODE 1, NUCLEAR INSTRUMENT POWER ≥ 15% RTP.

(f) CHANNEL CHECK only applies to Wide Range Logarithmic Neutron Flux Monitor.



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 300 TO RENEWED

FACILITY OPERATING LICENSE NO. DPR-53

AND AMENDMENT NO. 277 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By letter dated May 11, 2011 (Agencywide Document Access and Management System (ADAMS) Accession No. ML11132A144), Calvert Cliffs Nuclear Power Plant, LLC (the licensee) submitted a request for changes to the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, Technical Specifications (TSs). The requested change would modify a note within TS 3.3.1, "Reactor Protective System (RPS) Instrumentation – Operating," that incorrectly lists the unit of measure as psig (pounds per square inch gauge) as opposed to psia (pounds per square inch absolute). Specifically, the proposed change will revise note (c) of TS Table 3.3.1-1, "Reactor Protective System Instrumentation," to indicate the value at which the RPS trip function, Steam Generator Pressure – Low, is bypassed at 785 psia as opposed to 785 psig.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission's (NRC's) regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." 10 CFR 50.36 requires that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls.

As discussed in 10 CFR 50.36(c)(3), SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met. TS Table 3.3.1-1, "Reactor Protection System Instrumentation," identifies which SRs are applicable to each function of the RPS instrumentation. The proposed TS change revises a note to TS Table 3.3.1-1.

### 3.0 TECHNICAL EVALUATION

The RPS is designed to ensure safe operation of the reactor through the establishment of limiting safety system settings that ensure safety limits are not exceeded during normal operations or anticipated operational occurrences. One of the RPS functions is the Steam Generator Pressure-Low Trip. The Steam Generator Pressure-Low trip provides protection against an excessive rate of heat extraction from the steam generators, which would result in a rapid uncontrolled cooldown of the reactor coolant system as the result of a main steam line break accident. The Steam Generator Pressure-Low instrumentation also has an operating bypass circuitry that allows this trip function to be manually bypassed when steam generator pressure is reduced during startup and shutdown operating conditions. The bypass is automatically removed when steam generator pressure is raised above the pretrip setpoint.

TS Table 3.3.1-1 has a note (c) that identifies when the Steam Generator Pressure-Low trip can be bypassed and when it is automatically removed. Note (c) of TS Table 3.3.1-1 currently states:

- (c) Bistable trip unit may be bypassed when steam generator pressure is < 785 psig. Bypass shall be automatically removed when steam generator pressure is  $\geq$  785 psig.

In the application, the licensee stated that the above bypass setpoints were originally calculated to be 785 psia. Furthermore, the application stated that the bypass setpoints have not changed and were inadvertently changed to 785 psig during the Calvert Cliffs conversion to the Improved Standard TSs (ISTS) in 1996. As a result, the licensee has requested an administrative TS change to revise note (c) of TS Table 3.3.1-1 to state:

- (c) Bistable trip unit may be bypassed when steam generator pressure is < 785 psia. Bypass shall be automatically removed when steam generator pressure is  $\geq$  785 psia.

To further support their conclusion that the bypass setpoints have always been 785 psia and that this action simply corrects an administrative error that occurred during their conversion to the ISTS, the licensee offered the following:

- Calvert Cliffs Updated Final Safety Analysis Report (UFSAR) Table 7.1, "Reactor Trip Allowable Limits and Pretrip Limits," includes the same note for the Steam Generator Pressure-Low trip and identifies bypass setpoints of 785 psia. Thus, the proposed TS change is consistent with the UFSAR.
- TS Table 3.3.4-1, "Engineered Safety Features Actuation System Instrumentation," lists the same Steam Generator Pressure-Low bypass setpoints and says the trip "may be manually bypassed when steam generator pressure is < 785 psia. The bypass shall be automatically removed whenever steam generator pressure is  $\geq$  785 psia."
- The licensee states that they operate and test the trip and pre-trip setpoints and bypass using psia as opposed to psig.

The NRC staff review consisted of confirming the licensee's assertion that the proposed TS change corrects a previous administrative error and that the correct TS bypass values are, in fact, 785 psia. In this regard, the staff has made the following observations:

- The staff reviewed the licensee's letter dated December 4, 1996 (ADAMS Accession No. 9612120219), which was their original application to adopt the ISTS. The staff was able to confirm that original marked up TS Table 3.3-1, "Reactor Protective Instrumentation," included a note (b) for Steam Generator Pressure-Low that identified the bypass setpoints as 785 psia. The licensee's application did not propose changing this value. Therefore, the staff confirmed the licensee's assertion that an administrative error during the conversion resulted in the bypass setpoints being changed to 785 psig.
- The staff reviewed Calvert Cliffs UFSAR Table 7-1 and confirmed that the UFSAR is consistent with the proposed TS change.
- The staff reviewed current TS Table 3.3.4-1 and confirmed that the bypass setpoints are 785 psia.
- The licensee's statement that they continue to operate and test the trip and pre-trip setpoints and bypass using psia as opposed to psig provides assurance that there are no equipment operability concerns.
- The staff observed Calvert Cliffs calculation CA02091, Revision 6, and confirmed that the TS value for the RPS setpoint block reset is 785 psia.

Based on the observations made above, the NRC staff concludes that an administrative error resulted in the identified discrepancy and that note (c) to TS Table 3.3.1-1 should indeed be 785 psia. Therefore, the staff finds the proposed TS change acceptable.

#### 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 and changes SRs. 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 (76 FR 34766). The amendments also relate to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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.

Principal Contributor: Douglas Pickett

Date: September 8, 2011

September 8, 2011

Mr. George H. Gellrich, 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: REVISION TO TECHNICAL SPECIFICATION 3.3.1  
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Sincerely,  
*/ra/*

Douglas V. Pickett, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
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Docket Nos. 50-317 and 50-318

Enclosures:

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