



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

August 24, 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 –
ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSES RE:
REACTOR COOLANT SYSTEM LEAKAGE INSTRUMENTATION (TAC NOS.
ME5910 AND ME5911)

Dear Mr. Gellrich:

The Commission has issued the enclosed Amendment No. 299 to Renewed Facility Operating License No. DPR-53 and Amendment No. 276 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 March 22, 2011.

These amendments revised the TSs to define a new time limit for restoring inoperable reactor coolant system (RCS) leakage detection instrumentation to operable status. The proposed TS changes are consistent with TS Task Force (TSTF)-513, "Revise PWR [Pressurized-Water Reactor] Operability Requirements and Actions for RCS Leakage Instrumentation."

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, reading "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. 299 to DPR-53
2. Amendment No. 276 to DPR-69
3. Safety Evaluation

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UNITED STATES
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. 299
Renewed License No. DPR-53

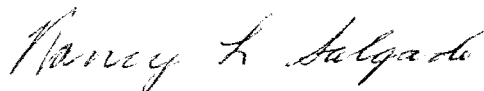
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) dated March 22, 2011, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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. 299, 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 90 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: August 24, 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. 276
Renewed License No. DPR-69

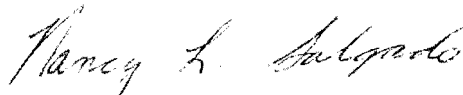
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 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted 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. 276, 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 90 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: August 24, 2011

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 299 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 276 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 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

3.4.14-1

3.4.14-2

3.4.14-3

Insert Pages

3.4.14-1

3.4.14-2

3.4.14-3

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. 299, 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. 276 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.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.14 RCS Leakage Detection Instrumentation

LCO 3.4.14 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. One containment sump level alarm; and
- b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment sump level alarm inoperable.	A.1 -----NOTE----- Not required until 12 hours after establishment of steady state operation. -----	
	Perform SR 3.4.13.1.	Once per 24 hours
	<u>AND</u> A.2 Restore containment sump level alarm to OPERABLE status.	30 days

RCS Leakage Detection Instrumentation
3.4.14

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required containment atmosphere radioactivity monitor inoperable.	B.1.1 Analyze grab samples of the containment atmosphere.	Once per 24 hours
	<u>OR</u>	
	B.1.2 -----NOTE----- Not required until 12 hours after establishment of steady state operation. -----	Once per 24 hours
	Perform SR 3.4.13.1.	
	<u>AND</u>	
	B.2 Restore required containment atmosphere radioactivity monitor to OPERABLE status.	30 days
C. ----- NOTE ----- Only applicable when the containment atmosphere gaseous radiation monitor is the only OPERABLE monitor. ----- Containment sump level alarm inoperable.	C.1 Analyze grab samples of the containment atmosphere.	Once per 12 hours
	<u>AND</u> C.2 Restore containment sump level alarm to OPERABLE status.	7 days

RCS Leakage Detection Instrumentation
3.4.14

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u> D.2 Be in MODE 5.	36 hours
E. All required alarms and monitors inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.14.1 Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	12 hours
SR 3.4.14.2 Perform CHANNEL FUNCTIONAL TEST of the required containment atmosphere radioactivity monitor.	31 days
SR 3.4.14.3 Perform CHANNEL CALIBRATION of the required containment sump level alarm.	24 months
SR 3.4.14.4 Perform CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor.	24 months



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 299 TO RENEWED

FACILITY OPERATING LICENSE NO. DPR-53

AND AMENDMENT NO. 276 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 March 22, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110830023), Calvert Cliffs Nuclear Power Plant, LLC (the licensee) proposed changes to the Technical Specifications (TSs) for Calvert Cliffs Nuclear Power Plant Unit Nos. 1 and 2 (Calvert Cliffs). The proposed changes revise TS 3.4.14, "Reactor Coolant System (RCS) Leakage Detection Instrumentation," and includes TS Bases changes that summarize and clarify the purpose of the TSs and the specified safety function of the leakage detection monitors.

The licensee stated that the license amendment request (LAR) is consistent with Nuclear Regulatory Commission (NRC) approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler, TSTF-513, "Revise PWR [Pressurized-Water Reactor] Operability Requirements and Actions for RCS Leakage Instrumentation." The availability of this TS improvement was announced in the *Federal Register* on January 3, 2011 (76 FR 189) as part of the Consolidated Line Item Improvement Process (CLIIP).

2.0 REGULATORY EVALUATION

The 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. Paragraph (c)(2)(i) of 10 CFR 50.36 states that limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Paragraph (c)(2)(ii) of 10 CFR 50.36 lists four criteria for determining whether particular items are required to be included in the TS LCOs. The first criterion applies to installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary (RCPB). As described in the *Federal Register* Notice associated with this regulation (60 FR 36953, July 16, 1995), the scope of TS includes two general classes of technical matters: (1) those related to prevention of accidents, and (2) those related to

mitigation of the consequences of accidents. Criterion 1 addresses systems and process variables that alert the operator to a situation when accident initiation is more likely, and supports the first of these two general classes of technical matters which are included in the TSs. As specified in Paragraph (c)(2)(i) of 10 CFR 50.36, when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

The NRC's guidance for the format and content of PWR TSs can be found in NUREG-1432, Revision 3.0, "Standard Technical Specifications Combustion Engineering Plants." STS 3.4.15 "RCS Leakage Detection Instrumentation" contains the guidance specific to the RCS leakage detection instrumentation for PWRs. The STS Bases provide a summary statement of the reasons for the STS.

The Bases for STS 3.4.15 contained in NUREG-1432, Revision 3.0, provide background information, the applicable safety analyses, a description of the LCO, the applicability for the RCS leakage detection instrumentation TS, and describe the Actions and Surveillance Requirements. The TS Bases provide the purpose or reason for the TS which are derived from the analyses and evaluation included in the safety analysis report, and for these Specifications, the RCS leakage detection instrumentation design assumptions and licensing basis for the plant.

As stated in NRC Information Notice (IN) 2005-24, "Nonconservatism in Leakage Detection Sensitivity" (ADAMS Accession No. ML051780073), the reactor coolant activity assumptions for containment atmosphere gaseous radioactivity monitors may be nonconservative. This means the monitors may not be able to detect a one gallon-per minute (gpm) leak within 1 hour under all likely operating conditions.

The issue described in IN 2005-24 raised questions regarding the operability requirements for containment atmosphere gaseous radioactivity monitors. TSTF-513, Revision 3, revises the TS Bases to reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. Part of the TS Bases changes revise the specified safety function of the RCS leakage detection monitors to specify the required instrument sensitivity level. In addition, TSTF-513, Revision 3, includes revisions to TS Actions for RCS leakage detection instrumentation to establish limits for operation during conditions of reduced monitoring sensitivity because of inoperable RCS leakage detection instrumentation.

The regulation at 10 CFR Part 50, Appendix A, General Design Criteria (GDC) 30, "Quality of reactor coolant pressure boundary," requires means for detecting and, to the extent practical, identifying the location of the source of RCS leakage. Regulatory Guide (RG) 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973, describes acceptable methods of implementing the GDC 30 requirements with regard to the selection of leakage detection systems for the RCPB.

RG 1.45, Revision 0, Regulatory Position C.2, states that "Leakage to the primary reactor containment from unidentified sources should be collected and the flow rate monitored with an accuracy of one gallon per minute (gpm) or better."

RG 1.45, Revision 0, Regulatory Position C.3 states:

At least three separate detection methods should be employed and two of these methods should be (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring. The third method may be selected from the following:

- a. monitoring of condensate flow rate from air coolers [or]
- b. monitoring of airborne gaseous radioactivity.

Humidity, temperature, or pressure monitoring of the containment atmosphere should be considered as alarms or indirect indication of leakage to the containment.

RG 1.45, Revision 0, Regulatory Position C.5 states, "The sensitivity and response time of each leakage detection system in regulatory position 3 above employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of one gpm in less than one hour." RG 1.45, Revision 0, states, "In analyzing the sensitivity of leak detection systems using airborne particulate or gaseous radioactivity, a realistic primary coolant radioactivity concentration assumption should be used. The expected values used in the plant environmental report would be acceptable." The appropriate sensitivity of a plant's containment atmosphere gaseous radioactivity monitors is dependent on the design assumptions and the plant-specific licensing basis as described in the plant's final safety analysis report (FSAR). The NRC staff's approval of the use of expected primary coolant radioactivity concentration values used in the environmental report creates a potential licensing conflict when a licensee is able to achieve and maintain primary coolant radioactivity concentration values lower than the value assumed in the environmental report.

RG 1.45, Revision 1, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage," was issued in May 2008. RG 1.45, Revision 1, describes methods for implementing GDC 30 requirements that are different from those in RG 1.45, Revision 0, and was developed and issued to support new reactor licensing. Revision 1 allows that having two TS leakage detection methods capable of detecting a one gpm leak within 1 hour provides adequate leakage detection capability from a safety perspective. It recommends that other potential indicators (including the gaseous radiation monitors) be maintained even though they may not have the same detection capability. These indicators, in effect, provide additional defense-in-depth.

The regulation in GDC 4 of Appendix A to 10 CFR Part 50, "Environmental and dynamic effects design bases," requires structures, systems, and components important to safety to be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. GDC 4 allows the use of leak before break (LBB) technology to exclude dynamic effects of pipe ruptures in the design bases when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping.

Calvert Cliffs was designed and constructed to meet the intent of the Atomic Energy Commission's (AEC's) proposed GDC published in July 1967. As such Calvert Cliffs RCS leakage detection instrumentation meets proposed GDC 16, "Monitoring Reactor Coolant

Pressure Boundary," requirement that "means shall be provided for monitoring the reactor coolant pressure boundary to detect leakage." Although not specifically designed to meet GDC 30, Calvert Cliffs through its meeting the requirement of the AEC's proposed GDC 16 and through methods in place to identify RCS leakage sources, meets the intent of GDC 30.

As part of the licensee's submittal to use LBB methodology, Calvert Cliffs RCS leakage detection instrumentation system was evaluated against each of the regulatory positions contained in RG 1.45. In the subsequent NRC Safety Evaluation (SE) dated February 3, 1994 (ADAMS Legacy Library Accession No. 9402090130), it was determined that Calvert Cliffs RCS leakage detection system satisfied RG 1.45 and the LBB analysis of the primary coolant loop piping satisfies the NRC LBB criteria.

3.0 TECHNICAL EVALUATION

In adopting the changes to TSs included in TSTF-513, Revision 3, the licensee proposed to revise TS 3.4.14, "RCS Leakage Detection Instrumentation" Conditions and Required Actions. The licensee proposed adding new Condition C to TS 3.4.14. New Condition C would be applicable when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor. This new Condition is necessary because improved fuel integrity and the resulting lower primary coolant radioactivity concentration affects a plant's containment atmosphere gaseous radioactivity monitor to a greater extent than other monitors. The proposed Required Actions for new Condition C require the licensee to analyze grab samples of the containment atmosphere once per 12 hours and restore the required containment sump monitor to operable status within 7 days. These actions are in addition to the Required Actions of Condition A, which requires performing an RCS mass balance once per 24 hours.

The NRC staff determined that the proposed Condition C is more restrictive than the current requirement, because the current Condition that would apply to the situation when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor would allow the licensee 30 days to restore the inoperable monitors to operable status. The proposed Actions and Completion Times are adequate because the grab samples combined with the more frequent RCS mass balances will provide an alternate method of monitoring RCS leakage when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor and the 12-hour interval is sufficient to detect increasing RCS leakage long before a piping flaw could progress to a catastrophic failure of the primary RCPB. Allowing 7 days to restore another RCS leakage monitor to operable status is reasonable given the diverse methods employed in the Required Actions to detect an RCS leak and the low probability of a large RCS leak during this period. Proposed Condition C is conservative relative to the STS, sufficiently alerts the operating staff, provides a comparable ability to detect RCS leakage, and provides time intervals that are reasonable. Therefore, the NRC staff determined that proposed Condition C provides an adequate assurance of safety when judged against current regulatory standards.

Certain American Society of Mechanical Engineers Code Class 1 piping systems in Calvert Cliffs have been approved by the NRC for LBB. The basic concept of LBB is that certain piping material has sufficient fracture toughness (i.e., ductility) to resist rapid flaw propagation; thereby minimizing the probability of a pipe rupture. The licensee has evaluated postulated flaws in RCS loop piping and determined the piping has sufficient fracture toughness that the postulated flaw

would not lead to pipe rupture and potential damage to adjacent safety-related systems, structures and components before the plant could be placed in a safe, shutdown condition. The NRC staff has previously reviewed and approved these plant-specific LBB analyses. Before remotely approaching a pipe rupture, the postulated flaw would lead to limited but detectable leakage, which would be identified by the leak detection systems in time for the operator to take action. The staff previously addressed concerns that LBB depends on erroneous leak rate measurements in the final rule making for use of LBB technology. In addressing the concerns, it was noted that:

One criterion for application of leak-before-break is that postulated flaw sizes be large enough so that the leakage is about ten times the leak detection capability, and that this flaw be stable even if earthquake loads are applied to the pipe in addition to the normal operating loads. This margin of a factor of ten is more than ample to account for uncertainties in both leakage rate calculations and leak detection capabilities. Furthermore, additional sensitivity studies reported by Lawrence Livermore National Laboratory in NUREG/CR-2189, dated September 1981, entitled "Probability of Pipe Fracture in the Primary Coolant Loop of a PWR Plant" indicate that even in the absence of leak detection, the probability of pipe ruptures in PWR primary coolant loop piping is sufficiently low to warrant exclusion of these events from the design basis.
(51 FR 12502-01)

The proposed actions for inoperable RCS leakage detection instrumentation maintain sufficient continuity, redundancy, and diversity of leakage detection capability that an extremely low probability of undetected leakage leading to pipe rupture is maintained. This extremely low probability of pipe rupture continues to satisfy the basis for acceptability of LBB in GDC 4. The licensee proposes minor changes to ensure continuity of the TS format. These changes re-letter current Condition C, which applies when the required action and the associated completion time are not satisfied, to Condition D. Current Condition D, which applies when all required alarms and monitors are inoperable, to Condition E. Similar changes were made to the associated Required Actions. The NRC staff determined that these changes are editorial, and therefore acceptable.

The associated TS Bases submitted with the licensee's proposed revision for TS 3.4.14 reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation and reflect the proposed TS changes. The proposed TS Bases changes related to the operability of the RCS leakage detection instrumentation are acceptable because they provide background information, the applicable safety analyses, a description of the LCO, and the applicability for the RCS leakage detection instrumentation TS and are consistent with the design basis of the facility. These instruments satisfy Criterion 1 of 10 CFR 50.36(c)(2)(ii) in that they are installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCPB.

The licensee proposed a minor variation from the TS changes described in TSTF-513, Revision 3. The proposed variation is to add the Note "Not required until 12 hours after establishment of steady state operation" to Required Actions A.1 and B.1.2. Required Actions A.1 and B.1.2 require performing an RCS mass balance once per 24 hours. The Calvert Cliffs TSs currently do not contain this Note because Calvert Cliffs TSs adopted the format and content of NUREG-1432 prior to this Note being added. Later revisions of NUREG-1432 added

this Note. The licensee stated that adding the Note now in both places, aligns Calvert Cliffs TS with the most current revision of NUREG-1432 and maintains the intent of TSTF-513. The NRC staff reviewed the proposed change and determined that while it was a less restrictive change compared to the current Calvert Cliffs TS, it still affords adequate assurance of safety when judged against current regulatory standards. The staff determined that the change was necessary to allow sufficient time to collect and process all data for the RCS mass balance after stable plant conditions are established.

The NRC staff evaluated the licensee's proposed changes against the applicable regulatory requirements listed in Section 2 of this SE. The staff also compared the proposed changes to the changes made to STS by TSTF-513, Revision 3. The staff determined that all the proposed changes afford adequate assurance of safety when judged against current regulatory standards. Therefore, the staff finds the proposed changes 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. 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 21920). 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.

Principal Contributor: Matthew Hamm

Date: August 24, 2011

August 24, 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 –
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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/

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

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MHamm, ITSB

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NAME	DPickett	SLittle	RElliot by memo dated	KRoach	NSalgado
DATE	08 / 10 / 11	08 / 10 / 11	07 / 19 / 11	08 / 19 / 11	08 / 23 / 11

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