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

March 4, 2009

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: REPLACEMENT OF THE TRISODIUM PHOSPHATE BUFFER WITH A SODIUM TETRABORATE BUFFER (TAC NOS. MD9531 AND MD9532)

Dear Mr. Spina:

The Commission has issued the enclosed Amendment No. 290 to Renewed Facility Operating License No. DPR-53 and Amendment No. 266 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 August 27, 2008, as supplemented by letters dated December 11, 2008, and March 2, 2009.

The amendments revise TS 3.5.5, "Trisodium Phosphate (TSP)," by changing the containment buffering agent from trisodium phosphate to sodium tetraborate. The change will minimize the potential for sump screen blockage under loss-of-coolant accident conditions due to potential chemical interactions between trisodium phosphate and insulation materials inside containment.

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,

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. 290 to DPR-53
2. Amendment No. 266 to DPR-69
3. Safety Evaluation

cc w/encls: Distribution via Listserv

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

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. 290
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 August 27, 2008, as supplemented by letters dated December 11, 2008, and March 2, 2009, 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. 290, 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 no later than startup from the spring 2010 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

Mark G. Kowal, 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: March 4, 2009

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

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. 266
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 August 27, 2008, as supplemented by letters dated December 11, 2008, and March 2, 2009, 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. 266, 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 prior to entry into Mode 4 following the spring 2009 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

Mark G. Kowal, 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: March 4, 2009

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 290 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 266 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	Insert Page
3	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	Insert Pages
iii	iii
3.5.5-1	3.5.5-1

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 2700 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. 290, 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. 267 are hereby incorporated into this license. Calvert Cliffs Nuclear Power Plant, Inc. shall operate the facility in accordance with the Additional Conditions.

(4) Secondary Water Chemistry Monitoring Program

The Calvert Cliffs Nuclear Power Plant, Inc., 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 2700 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. 266 are hereby incorporated into this license. The licensee shall operate the facility in accordnace 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.

3.5.4 Refueling Water Tank (RWT) 3.5.4-1
3.5.5 Sodium Tetraborate (STB) 3.5.5-1

3.6 CONTAINMENT SYSTEMS 3.6.1-1
3.6.1 Containment 3.6.1-1
3.6.2 Containment Air Locks 3.6.2-1
3.6.3 Containment Isolation Valves 3.6.3-1
3.6.4 Containment Pressure 3.6.4-1
3.6.5 Containment Air Temperature 3.6.5-1
3.6.6 Containment Spray and Cooling Systems 3.6.6-1
3.6.7 Deleted
3.6.8 Iodine Removal System (IRS) 3.6.8-1

3.7 PLANT SYSTEMS 3.7.1-1
3.7.1 Main Steam Safety Valves (MSSVs) 3.7.1-1
3.7.2 Main Steam Isolation Valves (MSIVs) 3.7.2-1
3.7.3 Auxiliary Feedwater (AFW) System 3.7.3-1
3.7.4 Condensate Storage Tank (CST) 3.7.4-1
3.7.5 Component Cooling (CC) System 3.7.5-1
3.7.6 Service Water (SRW) System 3.7.6-1
3.7.7 Saltwater (SW) System 3.7.7-1
3.7.8 Control Room Emergency Ventilation System (CREVS) .. 3.7.8-1
3.7.9 Control Room Emergency Temperature System (CRETS) .. 3.7.9-1
3.7.10 Emergency Core Cooling System (ECCS) Pump Room Exhaust Filtration System (PREFS) 3.7.10-1
3.7.11 Spent Fuel Pool Exhaust Ventilation System (SFPEVS) 3.7.11-1
3.7.12 Penetration Room Exhaust Ventilation System (PREVS) 3.7.12-1
3.7.13 Spent Fuel Pool (SFP) Water Level 3.7.13-1
3.7.14 Secondary Specific Activity 3.7.14-1
3.7.15 Main Feedwater Isolation Valves (MFIVs) 3.7.15-1
3.7.16 Spent Fuel Pool (SFP) Boron Concentration 3.7.16-1
3.7.17 Spent Fuel Pool (SFP) Storage 3.7.17-1

3.8 ELECTRICAL POWER SYSTEMS 3.8.1-1
3.8.1 AC Sources–Operating 3.8.1-1
3.8.2 AC Sources–Shutdown 3.8.2-1
3.8.3 Diesel Fuel Oil 3.8.3-1
3.8.4 DC Sources–Operating 3.8.4-1
3.8.5 DC Sources–Shutdown 3.8.5-1
3.8.6 Battery Cell Parameters 3.8.6-1

3.5 EMERGENCY CORE COOLING SYSTEM (ECCS)

3.5.5 Sodium Tetraborate (STB)

LCO 3.5.5 The STB baskets shall contain ≥ 13,750 lbm of STB.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. STB not within limits.	A.1 Restore STB to within limits.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.5.1	Verify the STB baskets contain ≥ 13,750 lbm of equivalent weight sodium tetraborate decahydrate.	24 months
SR 3.5.5.2	Verify that a sample from the STB baskets provides adequate pH adjustment of water borated to be representative of a post-loss-of-coolant accident sump condition.	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. 290 TO RENEWED

FACILITY OPERATING LICENSE NO. DPR-53

AND AMENDMENT NO. 266 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 August 27, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082480669), as supplemented by letters dated December 11, 2008 (ADAMS Accession No. ML083460557), and March 2, 2009, 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 amendments revise TS 3.5.5, "Trisodium Phosphate (TSP)," by changing the containment buffering agent from trisodium phosphate (TSP) to sodium tetraborate (STB). The change will minimize the potential for sump screen blockage under loss-of-coolant accident (LOCA) conditions due to potential chemical interactions between TSP and insulation materials inside containment.

Specifically, the amendments revise (1) TS 3.5.5 to reflect the change from TSP to STB, (2) Limiting Condition for Operation (LCO) to reflect the change in weight from the change of TSP to STB, (3) TS Surveillance Requirement (SR) 3.5.5.1 to reflect the weight requirements for STB, and (4) SR 3.5.5.2 to reflect the change from TSP to STB. The TS Table of Contents would be revised to reflect the change from TSP to STB in the title of TS 3.5.5.

The letters dated December 11, 2008, and March 2, 2009, 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.

2.0 REGULATORY EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff review addresses the impact of the proposed change from TSP to STB on the containment sump performance, especially potential chemical effect impact on sump screen blockage and head loss.

The containment sump (also known as the emergency recirculation sump) is part of the emergency core cooling system (ECCS). Every nuclear power plant is required by Section 50.46 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," to have an ECCS to mitigate a design-basis accident. 10 CFR 50.46(a) states, in part, that each pressurized light-water nuclear

power reactor must be provided with an ECCS that must be designed so that its calculated cooling performance following a postulated LOCA conforms to the criteria set forth in paragraph (b) of this section. 10 CFR 50.46(b)(5), "Long-term cooling," states, "After any calculated successful initial operation of the ECCS, the calculated core temperature shall be maintained at an acceptably low value and decay heat shall be removed for the extended period of time required by the long-lived radioactivity remaining in the core." In addition, the NRC staff utilized the following regulatory guidance in performing this review:

- NUREG-0800, Standard Review Plan, Section 6.5.2, "Containment Spray as a Fission Product Cleanup System," which states, in part, that long-term iodine retention may be assumed only when the equilibrium sump solution pH, after mixing and dilution with the primary coolant and ECCS injection, is above 7.

- Regulatory Guide 1.82, Revision 3, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident," Section 1.1.2, which states, in part, that debris that could accumulate on the sump screen should be minimized.

3.0 TECHNICAL EVALUATION

As a result of this license amendment, the licensee will remove TSP as a buffering agent from containment. Current CCNPP containment materials include sources of phosphate (from the TSP) and calcium (from insulation materials). The combination of these materials is expected to form a calcium phosphate precipitate in a post-LOCA containment pool.

The NRC and the nuclear industry jointly sponsored Integrated Chemical Effects Tests (ICET) to investigate potential chemical effects in representative post-LOCA containment environments. The ICET series was conducted by Los Alamos National Laboratory (LANL), at the University of New Mexico. ICET #3 showed that the presence of calcium silicate (cal-sil) insulation and TSP in a simulated post-LOCA containment pool rapidly formed a calcium phosphate precipitate. Information Notice (IN) 2005-26, "Results of Chemical Effects Head Loss Tests in a Simulated PWR [Pressurized Water Reactor] Sump Pool Environment," along with IN 2005-26, Supplement 1, "Additional Results of Chemical Effects Tests in a Simulated PWR Sump Pool Environment," discussed results from NRC-sponsored head loss testing at Argonne National Laboratory (ANL). These ANL test results showed that substantial head loss can occur if sufficient calcium phosphate is produced in a simulated post-LOCA containment pool and is transported to a pre-existing bed on the containment sump screen. Therefore, the proposed CCNPP amendment removes TSP from containment.

Post-LOCA containment pool buffering is primarily required to reduce the release of iodine fission products from the pool to the containment atmosphere as iodine gas in order to control the radiological consequences of an accident. Maintaining a pH above 7 prevents significant amounts of iodine, released from fuel failures and dissolved in the recirculation water, from converting to a volatile form and evolving into the containment atmosphere. Since the ability to control pH in a post-LOCA containment pool is affected by removal of TSP, CCNPP proposes to use STB as the new buffering agent.

The method of introducing the buffer material to the post-LOCA environment is the same for STB as for TSP. The existing six TSP baskets would be used to hold the STB. The minimum and maximum amounts of STB were determined by the licensee. Their analyses included consideration of minimum and maximum quantities of boron and borated water and the time-

dependent post-LOCA sump temperature. The analyses also included radiolysis of air and water, radiolysis of chloride-bearing electrical cable insulation and jacketing, and spilled reactor core inventory. The licensee determined that the minimum amount of STB required to maintain the minimum sump pH of 7.0 is greater than or equal to 13,448 lbs. Inserting a margin of conservatism, the licensee concluded that the minimum TS value would be 13,750 lbs. The NRC staff performed a detailed evaluation to confirm the licensee's pH calculations. The staff reviewed the licensee's methodology, assumptions, and performed hand calculations to verify the resulting pH value after 30 days. The staff's independent verification demonstrated the containment sump pH would remain above 7 for at least 30 days with the quantities of STB described above. From an email dated September 26, 2008, from the licensee (ADAMS Accession No. ML082730056), the maximum amount of STB that would fit into the baskets is approximately 16,800 lbs which would give a pH of 7.8.

The original calculation for the generation of nitric acid only accounted for the gamma dose contribution. Subsequently, the licensee did a calculation for the generation of nitric acid from the gamma and beta dose. The licensee found that the generation of nitric acid from the gamma and beta dose was 2.51 times greater than with just the gamma dose contribution. This would increase the required amount of STB by approximately 226 lbs. The increase in the amount of STB is still bounded by the minimum TS value of 13,750 lbs. In addition, there is additional conservatism in the calculation of the hydrochloric acid (HCl). In the HCl calculation, the entire mass of the cable insulation in containment would see the highest gamma and beta dose contribution. The licensee's analysis suggests that the cable would actually see significantly less dose. Therefore, the contribution from the HCl is conservatively high and provides additional margin in the final calculation of STB required. For these two reasons, the original calculation of the minimum amount of STB remains conservative. The staff has reviewed this analysis and has found it to be acceptable.

The NRC staff reviewed the licensee's regulatory and technical analyses related to the impact of the proposed change from TSP to STB on containment sump performance, particularly the potential impact from chemical effects on sump screen blockage and head-loss aspects of design-basis accidents. The licensee's evaluation determined that STB is an acceptable alternative to TSP based on industry testing of buffers outlined in WCAP-16596-NP, "Evaluation of Alternative Emergency Core Cooling System Buffering Agents," and through plant-specific application of the chemical model developed in WCAP-16530-NP, "Evaluation of Post-Accident Chemical Effects in Containment Sump Fluids to Support [Generic Safety Issue] GSI-191." Under the existing TSP conditions, the model predicts approximately 82 lbs of chemical precipitates. For the proposed STB condition using conservative values for pH, temperature, and quantities of contributing materials, the model predicts approximately 30 lbs of chemical precipitates. Based on the WCAP-16530-NP model, the switch from TSP to STB results in a reduction in the mass of predicted chemical precipitates of approximately 52 lbs. In addition, the switch to STB eliminates the formation of calcium phosphate precipitates which have been shown to have severe head-loss implications at the critical early stages of a simulated post-LOCA event (see NRC IN 2005-26).

The staff finds that changing buffer materials from TSP to STB at CCNPP will result in an improved situation from a chemical effects standpoint. However, despite the significant reduction in the total amount of chemical precipitates, the WCAP-16530-NP model still predicts approximately 30 lbs of precipitate under STB conditions. The licensee will need to demonstrate acceptable ECCS performance under the proposed STB conditions in its responses to Generic

Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors."

Summary

Based on confirmatory calculations, the NRC staff finds that replacing the TSP containment sump buffer with STB in the quantities specified by the licensee will provide acceptable containment sump buffering such that the sump pH will be maintained in an acceptable range under post-LOCA conditions.

Although potential chemical effects exist with the use of STB in the CCNPP containment, the NRC staff determined that chemical effects at CCNPP will be of lower quantity and will be delayed to a more favorable time with STB compared to TSP. Based on the proper buffering to be provided by STB in the quantities specified and the relative reduction in the mass of chemical precipitates in the case of a LOCA, the staff finds that the replacement of TSP with STB in the quantities specified is acceptable. The NRC staff will be reviewing the licensee's approach to resolving potential chemical effects associated with STB as part its review of the licensee's submittal in response to GL 2004-02.

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 to 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 (73 FR 62562). 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: Emma Wong

Date: March 4, 2009

March 4, 2009

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: REPLACEMENT OF THE TRISODIUM PHOSPHATE BUFFER WITH A SODIUM TETRABORATE BUFFER (TAC NOS. MD9531 AND MD9532)

Dear Mr. Spina:

The Commission has issued the enclosed Amendment No. 290 to Renewed Facility Operating License No. DPR-53 and Amendment No. 266 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 August 27, 2008, as supplemented by letters dated December 11, 2008, and March 2, 2009.

The amendments revise TS 3.5.5, "Trisodium Phosphate (TSP)," by changing the containment buffering agent from trisodium phosphate to sodium tetraborate. The change will minimize the potential for sump screen blockage under loss-of-coolant accident conditions due to potential chemical interactions between trisodium phosphate and insulation materials inside containment.

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
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318
Enclosures:
1. Amendment No. 290 To DPR-53
2. Amendment No. 266 To DPR-69
3. Safety Evaluation
cc w/encls: Distribution via Listserv

Distribution:

PUBLIC	LPLI-1 R/F	RidsNrrDorlLpi-1	SLittle
RidsNrrPMDPickett	RidsOgcMailCenter	RidsAcrsAcnwMailCenter	
RidsNrrDciCsgb	RidsNrrDirsItsb	EWong, CSGB	GDentel, R1

Amendment No.: ML090150508

OFFICE	LPLI-1/PM	LPLI-1/LA	CSGB/BC	ITSB/BC	OGC	LPLI-1/BC
NAME	DPickett	SLittle	AHiser signed on	RElliott	BHarris	MKowal
DATE	03 /03/ 09	01 / 22 / 09	12 / 12 /08	01 / 27 / 09	03 /03/ 09	03 / 04 / 09

OFFICIAL RECORD COPY