

April 7, 2003

Mr. P. E. Katz, 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 TO CHANGE THE TECHNICAL SPECIFICATIONS RELATED
TO THE MOVEMENT OF IRRADIATED FUEL ASSEMBLIES
(TAC NOS. MB5414 AND MB5415)

Dear Mr. Katz:

The Commission has issued the enclosed Amendment No. 257 to Renewed Facility Operating License No. DPR-53 and Amendment No. 234 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 June 11, 2002, as supplemented by letter dated January 22, 2003.

These amendments make revision to TS 3.7.11, "Spent Fuel Pool Exhaust Ventilation System," to limit the types of fuel assemblies to which it applies. The TS would not require the spent fuel pool exhaust ventilation system to be operable or in operation for movement of fuel assemblies that have undergone an appropriate amount of decay time. The revision changes the applicability from "movement of irradiated fuel assemblies" to "movement of recently irradiated fuel assemblies," where recently irradiated fuel assemblies are those that have occupied a part of a critical reactor core within the previous 32 days.

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/

Guy S. Vissing, Senior Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosures: 1. Amendment No. 257 to DPR-53 and Amendment No. 234 to DPR-69
2. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page

*Safety Evaluation provided No Significant changes made

ADAMS Accession Number: ML030650403

OFFICE	PD1-1/PM	PD1-1/LA	PD1-1/SC	OGC	SPSB/SC	SPLB/SC
NAME	GVissing	SLittle	RLaufer	AHodgdon	FReinhart	EWeiss
DATE	3/12/03	3/12/03	3/28/03	3/25/03	1/31/03	1/16/03

OFFICIAL RECORD COPY

DATED: April 8, 2003

AMENDMENT NO. 257 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53
CALVERT CLIFFS UNIT 1

AMENDMENT NO. 234 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69
CALVERT CLIFFS UNIT 2

PUBLIC

PDI-1 Reading

RidsNrrDlpmLpdi (SRichards)

RidsNrrDlpmLpdi-1 (RLaufer)

RidsNrrPMGVissing

RidsNrrLASLittle

RidsOgcRp

RidsAcrsAcnwMailCenter

RidsRgn1MailCenter (BPlatchek)

GHill (2)

RidsNrrDrip (RDennig)

DSkay (NMSS/FCSS/SPIB)

WBeckner (NRR/DRIP/RORP)

MHart (NRR/DSSA/SPSB)

EForrest (NRR/DSSA/SPLB)

EWeiss (NRR/DSSA/SPLB)

FReinhart (NRR/DSSA/SPSB)

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 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. 257
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 June 11, 2002, as supplemented by letter dated January 22, 2003, 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. 257, 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by PTam for/

Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 7, 2003

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. 234
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 June 11, 2002, as supplemented by letter dated January 22, 2003, 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. 234, 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by PTam for/

Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 7, 2003

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 257 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 234 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

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

3.7.11-1

Insert Page

3.7.11-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 257 TO RENEWED
FACILITY OPERATING LICENSE NO. DPR-53
AND AMENDMENT NO. 234 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 June 11, 2002, as supplemented by letter dated January 22, 2003, 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 Technical Specifications (TSs). The proposed license amendment would make revision to TS 3.7.11, "Spent Fuel Pool Exhaust Ventilation System," to limit the types of fuel assemblies to which it applies. The proposed TSs would not require the spent fuel pool exhaust ventilation system (SFPEVS) to be operable or in operation for movement of fuel assemblies that have undergone an appropriate amount of decay time. The proposed revision would change the applicability from "movement of irradiated fuel assemblies" to "movement of recently irradiated fuel assemblies," where recently irradiated fuel assemblies are those that have occupied a part of a critical reactor core within the previous 32 days. The licensee has based this definition on its evaluation to determine the appropriate amount of time to allow for radioactive decay of short-lived isotopes so that there is no increase in the offsite dose if the ventilation system is not operable. The proposed TS change is consistent with changes previously approved for the Improved Standard Technical Specifications (ISTS) as described in Technical Specifications Task Force (TSTF)-51. The January 22, 2003, supplemental letter provided clarifying information that did not enlarge the scope of the amendment as noticed in the original *Federal Register* notice or change the initial proposed no significant hazards consideration determination.

2.0 REGULATORY EVALUATION

10 CFR 50.36(c)(2)(ii)(B) requires a Limiting Condition for Operation (LCO) in the TS for an operating restriction that is an initial condition of a design-basis accident.

General Design Criteria GDC-19, "Control Room" provides requirements for maintaining a habitable control room and includes limitations on radiological dose that may be received by control room operators.

GDC-61, "Fuel storage and handling and radioactivity control" requires that the fuel storage and handling...systems...shall be designed to assure adequate safety under normal and postulated

accident conditions. The systems shall be designed (1) with a capability to permit appropriate periodic inspection and testing of components important to safety, (2) with suitable shielding for radiation protection, (3) with appropriate containment, confinement, and filtering systems.

GDC-64, "Monitoring radioactivity releases," requires that the means shall be provided for monitoring the reactor containment atmosphere effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents.

TSTF-51 is an industry initiated and NRC-accepted method for allowing some engineered safety feature systems and components to be non-operable when moving irradiated fuel, subject to a defined decay period, and acceptable shutdown administrative controls.

For a license amendment request, the licensee must show, and the staff must find acceptable, that the plant continues to meet dose limit criteria given in 10 CFR Part 100, 10 CFR Part 50, Appendix A, GDC-19, and applicable sections of NUREG-0800, Standard Review Plan (SRP), Chapter 15, for DBAs. SRP 15.7.4, "Radiological Consequences of Fuel Handling Accidents," provides acceptance criteria that the dose must be well within the dose limits in Part 100. "Well within" is defined as 25% of the Part 100 limit, i.e., 75 rem for the thyroid dose and 6 rem for the whole body dose.

3.0 TECHNICAL EVALUATION

3.1 Technical Evaluation Applicable to Plant Systems

The licensee states that the proposed amendment revises TS 3.7.11, SFPEVS, for Unit Nos. 1 and 2 to redefine the applicability of the TS to limit the types of fuel assemblies to which it applies. TS 3.7.11 requires that the SFPEVS be operable and in operation during movement of irradiated fuel assemblies in the Auxiliary Building. This proposed amendment revises TS 3.7.11 to eliminate the requirement that the ventilation system be operable or in operation for movement of other than recently irradiated fuel assemblies in the Auxiliary Building. Recently irradiated fuel assemblies are those that have occupied part of a critical reactor core within the previous 32 days. An evaluation has determined that 32 days is adequate time to allow for sufficient radioactive decay of short lived isotopes resulting in no increase in offsite dose if the ventilation system is not operable.

The Nuclear Regulatory Commission (NRC) staff reviewed the proposed change and concluded that the change is consistent with TSTF-51, which requires the insertion of the word "recently" in front of "irradiated fuel" to define the time period in which the TS requirements must be applicable and when they may be relaxed to facilitate fuel movement activities with the SFPEVS not in operation or in a non-operable status. The insertion of the word "recently" satisfies the requirement for compliance with 10 CFR 50.36 (c)(2)(ii)(B), established for an operating restriction that is an initial condition of a design basis accident.

The NRC staff notes that GDC-61 requires that the fuel storage and handling systems shall be designed to assure adequate safety under normal and postulated accident conditions with appropriate containment, confinement, and filtering systems. The SFPEVS serves this function.

In addition, the NRC staff notes that TSTF-51 also requires shutdown administrative controls that place the SFPEVS in service in the event of an accident. Operation of the SFPEVS assures that releases from the accident are directed to a filter system where they are filtered.

The NRC staff reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment, which are described in the licensee's submittal. The detailed evaluation described in this section supports the conclusion 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

3.2 Technical Evaluation Applicable to the Radiological Analysis

The NRC staff reviewed the impact of the proposed TS changes on the design basis fuel handling accident dose analyses. In support of the proposed TS changes, the licensee performed an evaluation to determine how much radioactive decay is required to reduce the iodine inventory to the same extent that the SFPEVS charcoal filters would. In other words, to determine at what time radioactive decay balanced the previously credited charcoal adsorption efficiency. Cases were evaluated for assemblies seated in the spent fuel pool (SFP) racks and for an assembly undergoing reconstitution. All analysis assumptions, with exception of the charcoal filtration efficiency credit and decay time after shutdown, were the same as documented in the Calvert Cliffs Updated Final Safety Analysis Report (UFSAR), Section 14.18 for the SFP case. The licensee's evaluation determined the iodine source term, based on a decay time of 27 days post-shutdown without credit for the SFPEVS filters, is approximately equal to the licensee's previous iodine source term that included charcoal filtration credit. For reconstitution, because of the reduced SFP water level and decontamination factor credit, 32 days is needed. The dose results of these cases were the same as those reported in UFSAR Section 14.18. The NRC staff performed independent analyses using the licensee's UFSAR assumptions with exception of the new decay times of 27 days and 32 days and no credit for filtration. These staff analyses confirm the licensee's results, which remain well within the Part 100 dose limits.

The NRC staff asked the licensee for additional information on how control room habitability is shown to be maintained for an FHA in the SFP area without the SFPEVS in operation. By letter dated January 22, 2003, the licensee described how this concern was addressed. The licensee did not specifically calculate the control room doses for the FHA in the SFP area without credit for SFPEVS operation, but instead determined that the existing control room habitability analysis remains bounding for the proposed changes. This determination is based on the calculated decay times being required to compensate for the SFP filter credit post-FHA and for the decrease in decontamination factor during reconstitution activities. The continued use of the design basis stack release atmospheric dispersion factors remains conservative, since the ground level release atmospheric dispersion factors that would be used for a release from the SFP area are of smaller value than those for the stack. Additionally, the licensee states that the limiting FHA is an FHA in containment with various doors open, as documented in UFSAR Section 9.8.2.3. This analysis assumes 100 hours of decay, the same number of damaged fuel rods and takes no credit for filtration, all of which would make the radioactivity assumed available for release a much larger quantity than that assumed for the FHA in the SFP area.

This analysis relies on the operator donning self-contained breathing apparatus (SCBA) within 82 minutes, so that the thyroid dose is maintained within GDC-19 limits. In general, control room habitability at Calvert Cliffs is currently maintained on an interim basis by the operators' use of SCBA and potassium-iodide (KI) tablets as temporary compensatory measures until the control room habitability analysis, based either on an alternative source term or including a thyroid dose calculation, is finalized. Based on the preceding information, the staff agrees with the licensee's assertion that the current UFSAR control room habitability analysis for the FHA in containment remains limiting, and also that it is bounding for the FHA in the SFP area without credit for SFPEVS operation and decay times of 27 days and 32 days.

Based upon the above discussion, the staff concludes that there is reasonable assurance that the radiological consequences of an FHA in the SFP area are well within the dose limits given in 10 CFR Part 100 and meet the intent of requirements of 10 CFR Part 50, Appendix A, GDC-19 for control room habitability.

3.3 Conclusions on the Regulatory and Technical Evaluations

On the basis of the above regulatory and technical evaluations of the licensee's justifications for the TS changes, the staff concludes that the licensee's proposed TS change is 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 (67 FR 63689). 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 Contributors: M. Hart
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Date: April 7, 2003