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Calvert Cliffs
Nuclear Power Plant

A Member of the
Constellation Energy Group

September 12, 2000

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Response to Request for Additional Information and Revised License Amendment Request: Revision to Ventilation Filter Testing Program Technical Specification per Generic Letter 99-02

REFERENCES:

(a) Telephone Conference between Mr. T. W. Grover, et al. (BGE) and Mr. A. W. Dromerick, et al. (NRC), dated May 15, 2000, same subject

(b) Letter from Mr. C. H. Cruse (BGE) to NRC Document Control Desk, dated November 22, 1999, "License Amendment Request: Revision to Ventilation Filter Testing Program Technical Specification per Generic Letter 99-02"

This letter submits the information we agreed to provide you in the May 15, 2000 teleconference (Reference a). The information supports, clarifies, and also, in some cases, revises the information provided in Reference (b). The information does not impact any of the considerations described in the Determination of Significant Hazards previously submitted in Reference (b). The revised Technical Specification(s) (TS) page is enclosed in Attachment (1).

Requested Information:

1. *For all five systems, (1) control room emergency ventilation system (CREVS), (2) emergency core cooling system (ECCS) pump room exhaust filtration system (PREFS), (3) penetration room exhaust ventilation system (PREVS), (4) spent fuel pool exhaust ventilation system, and (5) iodine removal system, refer to or provide docketed information that states the actual charcoal face velocities during accident conditions.*

CCNPP Response:

For all five systems listed in Question 1, the actual system face velocities are less than or equal to 40 ft/min.

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2. *For the CREVS, the licensee is proposing to reduce the relative humidity (RH) for the laboratory charcoal testing from the current 95% to 70%. Refer to or provide the bases for the recent plant modifications that justify the conclusion that air entering the charcoal will be maintained less-than-or-equal to 50% RH under all design-basis accident conditions.*

CCNPP Response:

According to Generic Letter (GL) 99-02, the TS should state that testing is performed at 95% or 70% RH with humidity control. Generic Letter 99-02 allows for humidity control to be provided by an NRC-approved analysis that demonstrates that air entering the charcoal will be maintained less than or equal to 70% RH under worst-case accident conditions. Reference (b) indicated that recent plant modifications to the CREVS ensure that air entering the charcoal will be maintained less than or equal to 50% RH under all design basis accident conditions. In the discussion that follows, we will demonstrate that the CREVS meets the GL 99-02 requirements for the TS to state that the testing is performed at 70% RH. To demonstrate that air entering the charcoal will be maintained less than or equal to 70% RH under worst-case accident conditions, we have considered extremely conservative conditions, which demonstrate that the air entering the charcoal under all design basis accident conditions will always be at or below 60% RH.

As described in Updated Final Safety Analysis Report (UFSAR), Section 9.8.2.3, the control room (CR) and cable spreading room (CSR) are incorporated into a single year-round air conditioning system servicing both Units 1 and 2. As listed in UFSAR Table 9-18, the CREVS's design basis is to maintain the CR and the CSR environments at 75°F. There is no TS requirement to maintain the CR/CSR at that temperature. However, TS Basis 3.7.9 indicates that during emergency operation the temperatures in these areas are maintained below 104°F. The UFSAR and TS do not mention the expected or required level of RH in the CR or CSR.

The design-basis normal conditions for the CR/CSR ventilation system are 75°F and 50% RH. The ambient conditions occasionally experienced in the CR/CSR are sometimes as low as 72°F and as high as 54% RH. The lowest design temperature listed in UFSAR Table 9-18 for all areas surrounding the CR/CSR, which are potential sources for in-leakage, is 60°F. During normal operation, the actual temperatures of areas surrounding the CR/CSR have always been above 60°F.

As a result of plant modifications, the CREVS is presently lined up in a full-recirculation mode of operation. The charcoal filtration is located in the return side of the ventilation system, downstream of the CR/CSR. With the system in this configuration, the unfiltered in-leakage is less than 4000 cfm. The supply fan design flow rate is approximately 41,500 cfm.

The effect of the unfiltered in-leakage has been analyzed to show that the RH of the air entering the charcoal will be maintained less-than-or-equal to 70% RH under all design-basis accident conditions. We conservatively assume that the ambient conditions in the CR/CSR are 72°F and 54% RH. Second, we assume that ambient conditions in surrounding areas are 60°F and 100% RH. These assumptions are considered to be conservative and bounding under all design-basis accident conditions. The mixing of the two flows would result in a RH of no greater than 60%. Therefore, the CREVS controls the RH to less than or equal to 70% under worst-case design-basis accident conditions.

3. *According to GL 99-02, to maintain the tolerances specified in ASTM [American Society for Testing and Materials] D3803-1989, for all five systems, the TS should state that testing is performed at a temperature of 30 °C, and not ≤ 30 °C. (In other words, the less-than-or-equal-to sign should be removed). Please revise your proposed TS amendment request accordingly.*

CCNPP Response:

Calvert Cliffs Nuclear Power Plant (CCNPP) is revising its proposed License Amendment Request (Reference b) accordingly as indicated on the marked-up TS page in Attachment (1). The revision does not change the Determination of Significant Hazards submitted in Reference (b). In addition, this revision change makes no changes to any other part of Reference (b), other than the removal of the less-than-or-equal-to sign. It simply specifies a temperature at which the charcoal test is performed, rather than a range of temperatures.

4(a) *What is the basis [for] the penetration value of 50% for the ECCS PREFS if this system is not credited in the UFSAR dose analysis?*

CCNPP Response:

Generic Letter 99-02 provided sample TS along with a methodology for calculating allowable penetration values. A penetration value of 50% was calculated using the methodology in GL 99-02. Currently, the allowable penetration limit in TS 5.5.11.c for the ECCS PREFS is 10%. Based on a safety factor of two, per GL 99-02, and based on the fact that the ECCS PREFS is not credited in CCNPP's accident analyses, a penetration of 50% is proposed to implement the guidance of GL 99-02.

4(b) *If the system is not credited in the dose analysis, why is the system included in the TS?*

CCNPP Response:

In 1968, the Preliminary Safety Evaluation Report contained an offsite dose calculation for a low pressure safety injection pump passive seal failure in the ECCS pump room post-recirculation actuation signal. The offsite dose calculation assumed no credit for the ECCS filtration system.

Upon issuance of the original Final Safety Analysis Report in 1972, the passive seal failure analysis in the ECCS pump room had been removed. However, in response to a question from the NRC, CCNPP committed to use the charcoal filters when the ECCS pumps are operated after an accident. The original TS, issued about the same time, contained the surveillance requirements for the charcoal filters, but did not contain operability requirements or bases.

The Combustion Engineering (CE) Standard TS were adopted in the mid-1970s with the operability requirements and CE bases for the ECCS PREFS. However, the ECCS PREFS were not credited in the dose analyses.

The Improved TS were adopted in the mid-1990s with the same operability requirements and bases as the CE Standard TS. Again, the ECCS PREFS were not credited in the dose analyses.

Standard Review Plan 15.6.5, Appendix B, states: "For a plant that does not provide an ESF *[engineered safety feature]* atmosphere filtration system, the dose assessment should include the leakage from a gross failure of a passive component . . . For a plant that does provide an ESF atmosphere filtration system in the areas of potential leakage from a gross failure of passive

components, such dose assessment need not be performed." Since CCNPP has a safety-related ECCS PREFS, such dose assessment has not been performed.

Calvert Cliffs Nuclear Power Plant is currently evaluating removal of the ECCS PREFS from the TS.

Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

STATE OF MARYLAND :
: TO WIT:
COUNTY OF CALVERT :

I, Charles H. Cruse, being duly sworn, state that I am Vice President - Nuclear Energy, Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP), and that I am duly authorized to execute and file this License Amendment Request on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 12 day of September, 2000.

WITNESS my Hand and Notarial Seal: Michelle D Hall
Notary Public

My Commission Expires: February 1, 2002
Date

CHC/TWG/bjd

Attachment: (1) Technical Specification Marked-up Page

cc: R. S. Fleishman, Esquire
J. E. Silberg, Esquire
Director, Project Directorate I-1, NRC
A. W. Dromerick, NRC
H. J. Miller, NRC
Resident Inspector, NRC
R. I. McLean, DNR

ATTACHMENT (1)

TECHNICAL SPECIFICATION MARKED-UP PAGE

Calvert Cliffs Nuclear Power Plant, Inc.
September 12, 2000

5.5 Programs and Manuals

Revision 2, and ANSI N510-1975, at the system flowrate specified as follows ± 10%:

ESF Ventilation System	Flowrate
CREVS	2,000 cfm
ECCS PREFS	3,000 cfm
PREVS	2,000 cfm
SFP Ventilation System	32,000 cfm
IRS	20,000 cfm

c. Demonstrate for each of the ESF systems within 31 days after removal that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, shows the methyl iodide ~~(elemental iodine for the IRS)~~ penetration less than ~~or equal to~~ the value specified below when tested in accordance with ~~ANSI N510-1975 and the testing protocol of~~ ~~ANSI D3803-89~~ ASTM D3803-1989 at a temperature of 30°C ~~(130°C for the IRS)~~ and greater than or equal to the relative humidity specified as follows:

ESF Ventilation System	Penetrations	RH
CREVS	~~10%~~ 5%	~~95%~~ 70%
ECCS PREFS	~~10%~~ 50%	95%
PREVS	~~10%~~ 35%	95%
SFP Ventilation System	~~10%~~ 15%	95%
IRS	~~5%~~ 35%	95%

d. For each of the ESF systems, demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52,