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December 12, 2002

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 Concerning the License Amendment Request to Revise the Refueling Operations Section of the Technical Specifications

REFERENCES:

(a) Telephone Conference between Ms. D. J. Moeller, et.al. (CCNPP) and Mr. S. Sheng, et.al. (NRC) dated October 2, 2002, same subject

(b) Letter from Mr. P. E. Katz (CCNPP) to NRC Document Control Desk, dated August 6, 2002, "License Amendment Request: Revisions to the Refueling Operations Section of the Technical Specifications"

(c) Letter from Mr. C. H. Cruse (BGE) to NRC Document Control Desk, dated January 27, 2000, "License Amendment Request: Modification of Containment Closure During Core Alterations/Fuel Handling and Loss of Shutdown Cooling"

(d) Letter from Ms. D. Skay (NRC) to Mr. C. H. Cruse (CCNPP), dated March 12, 2001, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 – Amendment RE: Containment Closure (TAC Nos. MA8063 and MA8064)"

This letter provides the information we agreed to provide you during Reference (a). This information supports and/or clarifies the information provided in Reference (b). This information does not affect the No Significant Hazards Consideration Determination or the Environmental Impact Review of Reference (b).

Requested Information:

1. *The Reviewer's Note in TSTF-312 requires a confirmatory dose calculation indicating acceptable dose consequences if a FHA [fuel handling accident] occurs while the penetrations are open. We need to verify your position that the FHA analysis assumption that any radioactive release is unfiltered bounds having the penetrations open. The application indicates that the FHA analysis*

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assumed the personnel air lock door is open but not the penetrations. It is also stated that the time to close such penetrations or combinations of penetrations shall be included in the confirmatory calculations.

CCNPP Response:

The current analysis for the fuel handling incident presented in the Calvert Cliffs Updated Final Safety Analysis Report Section 14.18, "Fuel Handling Incident," assumes that the personnel air lock and the containment outage door (COD) are open for the duration of the incident and one volume of unfiltered containment atmosphere containing activity is released from Containment every two hours. The license amendment request to have the COD open during fuel handling and core alterations (Reference c) was reviewed and approved by the Nuclear Regulatory Commission staff (Reference d). The assumptions and methodology given in Regulatory Guide 1.25, "Assumptions Used for Evaluation the Potential Radiological Consequences of a Fuel Handling Incident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," were used in the current analysis. One hundred percent of the noble gases and 1% of the iodines in the gas gap of the affected assembly are assumed to be immediately released to the containment atmosphere. The current analysis also assumes that the fuel has decayed for 100 hours prior to the incident and there is at least 23 feet of water above the fuel (Technical Specification 3.9.6). The analysis results are maximum offsite doses of 14.06 rem to the thyroid, and 0.457 rem to the whole body, which are within the Standard Review Plan 15.7.4, Revision 1, guidelines of 75 rem to the thyroid and 6 rem to the whole body (25% of the 10 CFR Part 100 limits).

Since the analysis assumes the radioactive release is unfiltered, the analysis also applies to the penetrations or combinations of penetrations and is not changed if the personnel air lock, the COD, and the containment penetrations are open at the same time. Actual offsite doses in the event of a fuel handling incident are expected to be less because containment closure will be established promptly following a fuel handling incident. Note that if the open penetrations exit Containment into the penetration room, the air from that room is exhausted through a charcoal and high efficiency particulate air filtration system. The exclusion area boundary atmospheric dispersion coefficient is unaffected by the multiple release points.

The control room atmospheric dispersion coefficient assumes uniform containment leakage over the containment surface. Since the largest containment opening by far is the COD and since the atmospheric dispersion coefficient from the COD to the Control Room is less than that from the containment surface to the Control Room, use of the current design basis containment to Control Room atmospheric dispersion coefficient is conservative.

2. *The Reviewer's Note also requires commitments from the licensee to implement acceptable administrative procedures to ensure that in the event of a FHA, the penetrations can and will be promptly closed. Insert 2 in the TSTF provides some information on what are attributes of acceptable administrative controls. The application appears to be silent on the administrative controls you have or will put in place to meet the requirements of the TSTF.*

CCNPP Response:

Calvert Cliffs has established administrative controls in plant procedures that are used during lower-mode operations to enhance overall nuclear safety with respect to containment closure. These controls include, but are not limited to, using a tracking mechanism of the containment penetrations that do not meet containment closure requirements. The tracking mechanism is a tool used by Calvert

Cliffs that describes the ownership and responsibility of a containment penetration that does not meet closure requirements. The information includes the designated contacts that will be called if restoration of the penetration becomes necessary. This tracking mechanism describes the reason the penetration is open, method for restoration, estimated time required to physically establish closure, maximum restoration time, and personnel protective equipment necessary to support restoration or closure should conditions develop that require containment closure.

The site also uses a Containment Closure Penetration Status Board that depicts every containment penetration. This status board used in conjunction with the tracking mechanism (when applicable) provides an overall picture of containment penetration status.

3. *Technical Specifications 3.9.4 and 3.9.5. According to the application, the two purposes of closing Containment in the case of a loss of SDC [shutdown cooling] are fission product release prevention and the retention of the pressure generated by the boiling of the reactor coolant. The containment door is probably fine for limiting fission product release but can it act as a pressure boundary?*

CCNPP Response:

The steel COD assembly is installed on the outside of the containment equipment hatch opening. The operational part of the assembly is a hinged door that can be sealed in the closed position by handwheel-operated dogs. The door assembly is designed to withstand the maximum calculated pressure of 12 psig that can develop in the Containment for the limiting loss-of-shutdown cooling event. The COD was tested for its capability to close and seal prior to being placed in-service. The license amendment request to use the COD in place of the equipment hatch (Reference c) was reviewed and approved by the Nuclear Regulatory Commission staff (Reference d).

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, Peter E. Katz, being duly sworn, state that I am Vice President - 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 12th day of December, 2002.

WITNESS my Hand and Notarial Seal:

Notary Public

My Commission Expires: 2/1/06
Date

PEK/DJM/bjd

cc: J. Petro, Esquire
J. E. Silberg, Esquire
Director, Project Directorate I-1, NRC
D. M. Skay, NRC
H. J. Miller, NRC
Resident Inspector, NRC
R. I. McLean, DNR