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August 6, 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
License Amendment Request: Revisions to the Refueling Operations Section of the Technical Specifications

REFERENCES:

(a) NUREG-1432, Revision 2, Combustion Engineering Improved Standard Technical Specifications, April 2001

(b) Industry/TSTF Standard Technical Specification Change Traveler TSTF-312, Administratively Control Containment Penetrations, Revision 1

(c) Industry/TSTF Standard Technical Specification Change Traveler TSTF-197, Require Containment Closure when Shutdown Cooling Requirements are not met, Revision 2

Pursuant to 10 CFR 50.90, Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP) hereby requests an amendment to Renewed Operating License Nos. DPR-53 and DPR-69 to incorporate the changes described below into the Technical Specifications for Calvert Cliffs Unit Nos. 1 and 2.

DESCRIPTION

The proposed amendment revises Technical Specification 3.9, Refueling Operations to incorporate two changes previously approved for the Improved Standard Technical Specifications (ISTS). These changes are reflected in Revision 2 of NUREG-1432 (Reference a). Each proposed change is described below. Marked up Technical Specification pages are contained in Attachment (1). Changes to the Technical Specification Bases consistent with the Technical Specification Task Force (TSTF)-312 and TSTF-197 (References b and c) will be made once this request is approved.

Change 1 – Refueling Operations 3.9.3 Containment Penetrations

Technical Specification 3.9.3, Containment Penetrations, specifies the status of each type of containment penetration during core alterations and fuel handling within Containment. Technical Specification 3.9.3.d requires penetrations providing direct access from the containment atmosphere to the outside atmosphere

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to be closed by a manual or automatic isolation valve, blind flange, or equivalent capable of being closed by an operable containment purge valve isolation system. In accordance with TSTF-312 (Reference b), CCNPP is proposing to add a note under Limiting Condition for Operation (LCO) 3.9.3 allowing penetration flow path(s) that have direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative control. Limiting Condition for Operation 3.6.3, Containment Isolation Valves, ACTION Note 1 allows containment isolation valves to be opened in Modes 1 through 4 under administrative control. In this condition, the accident analyses credit the Containment as a barrier. In the lower energy conditions of LCO 3.9.3, opening containment isolation valves under administrative control is less risk significant. Therefore, this change is proposed to provide a consistent approach to containment boundary issues that utilizes previously approved acceptable compensatory measures.

The current analysis for the fuel handling incident presented to the Calvert Cliffs Updated Final Safety Analysis Report Section 14.18, "Fuel Handling Incident," assumes that the personnel air lock is open for the duration of the incident and one volume of containment atmosphere containing activity is released from Containment unfiltered. 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 will also apply to the containment penetration flow paths that are opened under administrative control. Actual offsite doses in the event of a fuel handling incident will be less because containment closure will be established. In a similar manner, allowing containment penetration flow paths to be opened under administrative control does not negatively impact the dose exposure of the Control Room operators following a fuel handling incident.

Change 2 – Change to Technical Specifications 3.9.4 and 3.9.5

Technical Specifications 3.9.4, Shutdown Cooling (SDC) and Coolant Circulation – High Water Level and 3.9.5, Shutdown Cooling (SDC) and Coolant Circulation – Low Water Level requires when the LCO requirements are not met to "Close all containment penetrations providing direct access from the containment atmosphere to outside atmosphere." This requirement is vague and, in some cases, overly restrictive.

In accordance with TSTF-197 (Reference c), CCNPP is proposing to replace the SDC requirement "Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere" with a requirement to:

a) either close the equipment hatch and secure with a minimum of four bolts or close the containment outage door, and;

b) close one door in each air lock; and

c) either close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, blind flange, or equivalent, or verify the penetration is capable of being closed by an operable containment purge valve isolation system.

The safety function of containment closure in the case of a loss of SDC is twofold: 1) the time required to close the Containment to prevent a radioactive release to the atmosphere outside Containment if SDC is

lost; and 2) the ability to retain the pressure generated by boiling of reactor coolant as result of a loss of SDC.

Currently, the Technical Specifications are vague and overly restrictive concerning the requirement for containment closure when SDC is lost. The proposed change eliminates unclear requirements and provides a clear way to establish containment closure that meets the Bases description for the Action, which is to prevent fission products from being released from the Containment during a loss of SDC incident. The containment purge isolation valves close rapidly on a high radiation signal or are closed by remote manual control. All required penetration closure devices can withstand the maximum calculated pressure that can develop in the Containment for the limiting loss for SDC.

Establishing containment closure meets the Bases description for the Action, which is to prevent fission products from being released from the Containment during a loss of SDC incident. Containment closure is a well understood and controlled condition that is used routinely during a refueling outage. Utilizing containment closure instead of the current special actions gives a greater confidence that the Containment will be in the appropriate state.

Therefore, the analysis assumptions and Bases assumptions for the Actions are preserved while eliminating an unclear requirement, lessening the administrative burden on the plant, and increasing confidence that the Containment will be in the proper status should an event occur.

DETERMINATION OF SIGNIFICANT HAZARDS

The proposed amendment revises the Unit Nos. 1 and 2 Technical Specification Refueling Operations Section to incorporate two changes previously approved for the Improved Standard Technical Specifications. These changes are reflected in NUREG-1432, Revision 2. Specifically, the proposed changes will allow penetration flow paths that have direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative control. Also, the proposed changes clarify containment closure requirements and allow containment purge valves to remain open provided the containment purge isolation system is operable when shutdown cooling (SDC) requirements are not met.

These proposed changes have been evaluated against the standards in 10 CFR 50.92 and have been determined to not involve a significant hazards consideration, in that operation of the facility in accordance with the proposed amendments:

1. *Would not involve a significant increase in the probability or consequences of an accident previously evaluated.*

   Closing the containment penetrations is considered to be a mitigator of the radiological consequences of a fuel handling incident and a loss of SDC, not an initiator. Therefore, allowing containment penetration flow paths to be unisolated and the containment purge valves to be opened during these outage activities does not involve a significant increase in the probability of an accident previously evaluated.

   The consequence of a fuel handling incident is the release of radioactivity from Containment. The impact of the proposed change to the calculated offsite dose resulting from a fuel handling incident has been evaluated and determined to be acceptable. The fuel handling incident analysis assumes no containment closure. The amount of radioactivity that could be released as a result of the proposed change is bounded by the current analysis of record. Therefore, having containment penetration flow

paths unisolated during core alterations and fuel handling does not involve an increase in the consequences of an accident previously evaluated.

The consequence of a loss of SDC is the potential for release of radioactivity to the atmosphere outside Containment. Closing containment penetrations is a mitigator of that consequence. Administrative controls will be put in place to ensure that in an emergency containment closure can be quickly achieved. The containment purge system isolation valves are closed automatically on a containment high radiation signal and can be shut by remote manual operation. Therefore, the proposed changes do not involve a significant increase in the consequences of a loss of SDC.

Therefore, the proposed Technical Specification changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. *Would not create the possibility of a new or different type of accident from any accident previously evaluated.*

   This requested change does not involve a significant change in the operation of the plant and no new accident initiation mechanism is created by the proposed changes. Closing containment penetrations is considered to be a mitigator of the radiological consequences of any accident in the Containment, not an initiator. The containment penetration flow paths are currently opened and closed during the course of an outage. The proposed changes allow them to remain open during a period when they are currently required to be closed.

   Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. *Would not involve a significant reduction in a margin of safety.*

   The margin of safety for containment closure during core alternation/fuel handling is based on the amount of offsite dose resulting from a fuel handling incident. An offsite dose calculation previously approved by the Nuclear Regulatory Commission for a fuel handling incident assumes no containment closure, and any activity released from the Containment is unfiltered. The analysis will apply to the containment penetration flow paths that could be opened under administrative controls and therefore, does not involve a significant reduction in the margin of safety.

   The margin of safety for containment closure in the case of loss of SDC is twofold: 1) the time required to close the Containment to prevent a radioactive release to the atmosphere outside Containment if SDC is lost; and 2) the ability to retain the pressure generated by boiling of reactor coolant as a result of a loss of SDC.

   Currently the Technical Specifications are vague and overly restrictive concerning the requirement for containment closure when SDC is lost. The proposed change eliminates unclear requirements and provides a clear way to establish containment closure that meets the Bases description for the Action, which is to prevent fission products from being released from the Containment during a loss of SDC incident. The containment purge isolation valves close rapidly on a high radiation signal or are closed by remote manual operation. The proposed changes do not increase the possibility of a release of radiation following a loss of SDC incident

Therefore, the ability to provide containment closure is maintained and the margin of safety is not significantly reduces by this proposed activity.

ENVIRONMENTAL ASSESSMENT

We have determined that operation with the proposed amendments will not result in any significant change in the types or significant increases in the amounts of any effluents that may be released offsite, and no significant increases in individual or cumulative occupational radiation exposure. Therefore, the proposed amendments are eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact assessment is needed in connection with the approval of the proposed amendments.

SAFETY COMMITTEE REVIEW

The Plant Operations and Safety Review Committee and the Offsite Safety Review Committee have reviewed these proposed amendments and concur that operation with the proposed amendments will not result in an undue risk to the health and safety of the public.

SCHEDULE

The proposed changes make the requirements for containment penetrations during refueling operations consistent throughout Technical Specifications. The 2003 Unit 2 Refueling Outage is currently scheduled to begin mid February 2003. Therefore, we request approval of the proposed changes by February 1, 2003.

PRECEDENT

The changes have been approved by the Nuclear Regulatory Commission for incorporation in the ISTS and are incorporated in NUREG-1432, Revision 2. Plants converting to the ISTS under Revision 2 of the NUREG could adopt these changes. In addition, a number of plants have submitted and/or received approval for these changes as individual items.

- TSTF-312
  Ft. Calhoun – Approved March 26, 2002
  DC Cook – Approved November 21, 2001
  Shearon Harris – Approved July 30, 2001
  Callaway – Approved September 26, 2000
  Wolf Creek – Approved September 12, 2000
  Comanche Peak – Approved September 5, 2000
  Watts Bar – Approved August 24, 2000

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

Very truly yours,

Peter E. Katz

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.

Peter E. Katz

Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 6th day of August, 2002.

WITNESS my Hand and Notarial Seal:

Denise D. Snukis
Notary Public

My Commission Expires:

02/01/06
Date

PEK/DJM/bjd

Attachment: (1) Marked up Technical Specification Pages

cc: R. S. Fleishman, 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

ATTACHMENT (1)

MARKED UP TECHNICAL SPECIFICATION PAGES

3.9.3-1

3.9.4-2

3.9.5-2

3.9 REFUELING OPERATIONS

3.9.3 Containment Penetrations

LCO 3.9.3 The containment penetrations shall be in the following status:

a. 1. The equipment hatch closed and held in place by a minimum of four bolts, or

2. The containment outage door is capable of being closed under administrative control;

b. One door in the emergency air lock is closed;

---------- NOTE ----------
The emergency air lock temporary closure device can be used in place of an emergency air lock door.
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c. The personnel air lock shall be either:

1. closed by one personnel air lock door, or

2. capable of being closed by an OPERABLE personnel air lock door under administrative control.

d. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:

1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. capable of being closed by an OPERABLE Containment Purge Valve Isolation System.

INSERT 1 →

APPLICABILITY: During CORE ALTERATIONS,
During movement of irradiated fuel assemblies within containment.

Insert 1

---------- NOTE ----------

Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required SDC loop inoperable or not in operation.	A.1 Initiate action to restore SDC loop to OPERABLE status and operation.	Immediately
	AND	
	A.2 Suspend operations involving a reduction in reactor coolant boron concentration.	Immediately
	AND	
	A.3 Suspend loading of irradiated fuel assemblies in the core.	Immediately
	AND	
	~~A.4~~ ~~Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.~~	~~4 hours~~

Insert 2

Insert 2

A.4.1	Close equipment hatch and secure with a minimum of four bolts,	4 hours
	OR	
A.4.2	Close the containment outage door.	
AND		
A.5	Close one door in each air lock.	4 hours
AND		
A.6.1	Close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, blind flange, or equivalent.	4 hours
	OR	
A.6.2	Verify each penetration is capable of being closed by an OPERABLE Containment Purge Valve Isolation System.	4 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. No SDC loop OPERABLE or in operation.	B.1 Suspend operations involving a reduction in reactor coolant boron concentration.	Immediately
	AND	
	B.2 Initiate action to restore one SDC loop to OPERABLE status and to operation.	Immediately
	AND	
	B.3 ~~Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.~~	~~4 hours~~

Insert 3 →

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	Verify required SDC loops are OPERABLE and one SDC loop is in operation.	12 hours
SR 3.9.5.2	Verify SDC loop in operation is circulating reactor coolant at a flow rate of ≥ 1500 gpm.	12 hours

Insert 3

B.3.1	Close equipment hatch and secure with a minimum of four bolts,	4 hours
	OR	
B.3.2	Close the containment outage door.	
AND		
B.4	Close one door in each air lock.	4 hours
AND		
B.5.1	Close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, blind flange, or equivalent.	4 hours
	OR	
B.5.2	Verify each penetration is capable of being closed by an OPERABLE Containment Purge Valve Isolation System.	4 hours