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April 23, 2003

U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 2; Docket No. 50-318; License No. DPR 69
Licensee Event Report 2003-01
Emergency Air Lock Containment Penetration Closure Requirements Violation

The attached report is being sent to you as required under 10 CFR 50.73 guidelines. Should you have questions regarding this report, we will be pleased to discuss them with you.

Very truly yours,

A handwritten signature in black ink, appearing to read "K. Nietmann", with a horizontal line extending to the right.

KJN/ALS/bjd

Attachment

cc: J. Petro, Esquire
J. E. Silberg, Esquire
Director, Project Directorate I-1, NRC
G. S. Vissing, NRC

H. J. Miller, NRC
Resident Inspector, NRC
R. I. McLean, DNR

Handwritten initials "J.E.S." in black ink, located in the bottom right corner of the page.

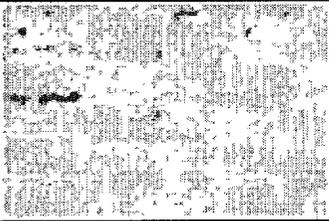
Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME Calvert Cliffs Nuclear Power Plant, Unit 2	2. DOCKET NUMBER 05000 318	3. PAGE 1 OF 04
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4. TITLE
Emergency Air Lock Containment Penetration Closure Requirements Violation

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	23	2003	2003	01	00	04	23	2003		05000
9. OPERATING MODE			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR **: (Check all that apply)							
6			20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
10. POWER LEVEL			20.2201(d)			20.2203(a)(4)			50.73(a)(2)(iii)	50.73(a)(2)(x)
000			20.2203(a)(1)			50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)	73.71(a)(4)
			20.2203(a)(2)(i)			50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)	73.71(a)(5)
			20.2203(a)(2)(ii)			50.36(c)(2)			50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)			50.46(a)(3)(ii)			50.73(a)(2)(v)(C)	
			20.2203(a)(2)(iv)			50.73(a)(2)(i)(A)			50.73(a)(2)(v)(D)	
			20.2203(a)(2)(v)	X	50.73(a)(2)(i)(B)			50.73(a)(2)(vii)		
			20.2203(a)(2)(vi)			50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)	
			20.2203(a)(3)(i)			50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME A. L. Simpson, Senior Engineer	TELEPHONE NUMBER (Include Area Code) 410-495-6913
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
A	NH	PEN	C310	Y					

14. SUPPLEMENTAL REPORT EXPECTED

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO
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15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

Calvert Cliffs Nuclear Power Plant's Technical Specifications requires one door in the emergency air lock (a containment penetration) to be closed during core alterations or during movement of irradiated fuel assemblies within the Containment Building. However, on February 24, 2003 at 1500 during a Containment Building tour, it was identified that the Unit 2 Emergency Air Lock was not in the Technical Specification required status. Specifically, "daylight" was seen around a hose penetrating the emergency air lock temporary closure device. The emergency air lock temporary closure device can be used in place of an emergency air lock door. Subsequent investigation determined that the violation occurred on February 23, 2003 at approximately 1300 when a contract employee cut through the foam sealant in the temporary closure device to install an oxygen hose needed to support steam generator replacement activities. The oxygen hose was removed and the hole was sealed on February 25, 2003, prior to commencing core off-load. However, since core alterations (specifically control element assembly uncoupling) were performed on February 23, 2003 from 0955 until 1805, a condition existed that is prohibited by the plant's Technical Specifications.

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		2003	- 001	- 00			

17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

I. DESCRIPTION OF EVENT

Calvert Cliffs Nuclear Power Plant's Technical Specifications requires one door in the emergency air lock (EAL) (a containment penetration) to be closed during core alterations or during movement of irradiated fuel assemblies within the Containment Building. However, on February 24, 2003 at 1500 during a Containment Building tour, it was identified that the Unit 2 EAL was not in the Technical Specification required status. Specifically, "daylight" was seen around a hose penetrating the EAL temporary closure device. The EAL temporary closure device can be used in place of an EAL door in Modes 5, 6, or defueled. Subsequent investigation determined that the violation occurred on February 23, 2003 at approximately 1300 when a contract employee cut through the foam sealant in the temporary closure device to install a one inch diameter oxygen hose needed to support steam generator replacement activities. The contract employee failed to recognize the requirement to maintain containment penetration closure and did not seal the area around the oxygen hose. Documentation in the plant's outage logs indicates that the oxygen hose was removed and the hole was sealed on February 25, 2003, prior to commencing core off-load activities. However, since core alterations (specifically control element assembly uncoupling) were performed on February 23, 2003 from 0955 until 1805 a condition existed that is prohibited by the plant's Technical Specifications.

This event is applicable to Unit 2 only. When the subject condition existed, Unit 2 was in Mode 6, at 0 percent power, with the Reactor Coolant System at approximately 106 degrees F and at atmospheric pressure. No other structures, systems, or components needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident, were affected by this condition. Unit 1 was at 100 percent power and was not affected by the subject condition.

II. CAUSE OF EVENT

Contributing causes to the subject event were inadequate work packages and inadequate communications, both of which were the result of human performance errors. Specifically, the work packages were inadequate because they did not provide caution statements or adequately describe containment closure requirements necessary when performing work activities at the EAL temporary closure device penetrations. Furthermore, the site procedure containing these cautions and closure requirements was not included in the work packages. Communications were inadequate in that the requirements for containment closure were not communicated or known to the individuals performing the task. Opportunities to communicate effectively were missed during pre job briefs. As a result of these issues, the individuals failed to recognize the consequences of penetrating the foam sealant in the EAL temporary closure device.

III. ANALYSIS OF EVENT

The subject event describes a condition that was prohibited by the plant's Technical Specifications. The condition existed for a period longer than permitted by the plant's Technical Specifications (i.e., greater than the allowed completion time) therefore this licensee event report

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is required per 10 CFR 50.73 (a)(2)(i)(B). The subject condition, a degraded penetration, did not increase the probability of a loss of core cooling or of a fuel handling incident. There was no impact on mitigating systems if a loss of cooling had occurred. The area of the degraded penetration was too small to cause a large release. Therefore, the subject event does not result in an increase in core damage frequency or large early release frequency.

The Technical Specification requirements on containment penetration closure ensure that a release of fission product radioactivity within the Containment Building will be restricted to within regulatory limits. Containment penetration closure means that all potential escape paths are closed or capable of being closed. The containment personnel air lock and the containment outage door are potential escape paths that may be open during the movement of irradiated fuel assemblies in containment and during core alterations provided that each door is capable of being closed by a designated individual. During core alterations or movement of irradiated fuel assemblies within the Containment Building, a release of fission product radioactivity within the Containment Building will be restricted from escaping to the environment when these requirements are met. In Mode 6, the potential for containment pressurization as a result of an accident is not likely. Therefore, since there is no design basis accident potential for containment pressurization, the 10 CFR Part 50, Appendix J leakage criteria and tests are not required.

The EAL, part of the containment pressure boundary, has a door at both ends. The containment air locks, which are part of the containment pressure boundary, provide a means for personnel access. Each air lock has a door at both ends. When containment penetration closure is required, at least one door must be closed. The EAL temporary closure device may be used to replace an EAL door. The EAL temporary closure device permits installation of temporary penetrations for gas, water, and electrical cables to support outage activities in the Containment Building. The EAL temporary closure device provides an adequate barrier to shield the environment from the containment atmosphere in case of a design basis event that does not create a pressure increase inside Containment. The consequences of a fuel handling incident in the Containment Building are limited since the potential escape paths for fission product radioactivity released within Containment are limited.

The plant's safety analysis assumes that a fuel handling incident is initiated when a fuel assembly is dropped during fuel handling in the Containment Building or the spent fuel pool. The subject condition existed during control element assembly uncoupling (core alterations) only and not during the movement of irradiated fuel assemblies. The containment penetration closure requirements are applicable during performance of core alterations because a potential for a fuel handling incident exists. The subject event did not affect the method of performing CEA uncoupling as described in the Updated Final Safety Analysis Report. Therefore, the probability of a fuel handling incident was not increased. A fuel handling incident as described in the Updated Final Safety Analysis Report does not credit containment closure. Therefore, the consequences of a fuel handling incident are not increased by a small opening in the EAL temporary closure device.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

IV. CORRECTIVE ACTIONS

- A. Plant procedure change requests have been initiated to require installation of chains and signs at the EAL requiring notification of operations prior to entry and to require planners to include containment closure compliance steps in future work packages.
- B. The existing work packages were changed to include a caution statement regarding work at the EAL during containment closure.
- C. Contract personnel have been trained on lessons learned from this event and on expectations of using human performance error prevention tools.

V. ADDITIONAL INFORMATION

A. Affected Component Identification:

Component or System	IEEE 803 EIS Funct	IEEE 805 System ID
Reactor Containment Building	PEN	NH

B. Previous Similar Events:

A review of Calvert Cliffs' licensee event reports over the past several years was performed. The review did not identify any similar reportable events where the containment penetration closure requirements were violated due to personnel error.

A review of Calvert Cliffs' issue reports over the past several years was also performed. The review identified one similar non-reportable event. Specifically, as documented in Issue Report No. IR4-015-734, contract employees installed a 1/4 inch copper tube through the Unit 2 EAL on February 21, 2003 to support steam generator replacement activities. The contract employees were unaware of containment closure requirements and failed to install isolation valves and caps. However, containment closure requirements were satisfied due to the installation of a foreign material exclusion device on the tubing end. The subsequent causal analysis identified inadequate work packages, inadequate communications, and lack of ownership as contributing factors. The condition was discovered on February 25, 2003, therefore, corrective actions were not established in time to prevent the subject event described in this licensee event report.