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Calvert Cliffs
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A Member of the
Constellation Energy Group

September 11, 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
Request for Relief from ASME Code Requirements for Safety and Relief Valve Hold Times Relief Request Number VR-16

Pursuant to 10 CFR 50.55a(a)(3)(i), Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP) hereby submits proposed alternatives to certain requirements of 10 CFR 50.55a(f). The CCNPP inservice test program is based on the requirements in the 1989 edition of the American Society of Mechanical Engineers (ASME) Code Section XI. The 1989 edition of the ASME Code Section XI, Article IWV-1100 ,"Valve Testing," specifies that valve testing shall be performed in accordance with the requirements stated in ASME/American National Standards Institute (ANSI) Operations and Maintenance (OM) Standard (Part 10 "Inservice Testing of Valves in Light-Water Reactor Power Plants"). The applicable edition of the OM Standard (1987 edition through Oma-1988 addenda) Part 10, paragraph 4.3.1, "Safety Valve and Relief Valve Tests," states that, "Safety and relief valves shall meet the inservice test requirements of the OM Standard Part 1." Part 1 of the OM Standard, "Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices," provides general requirements for periodic performance testing and monitoring of pressure relief devices utilized in nuclear power plant systems that are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident.

The enclosed request for relief proposes alternatives to the ASME/ANSI OM Standard, Part 1 (OM-1) paragraphs 8.1.1.8, 8.1.2.8, and 8.1.3.7. The proposed alternatives are a generic request, applicable to all safety and relief valves at CCNPP, and are associated with the requirement that a minimum of 10 minutes shall elapse between successive valve openings. The proposed alternatives reduce/eliminate the minimum hold time between successive tests for all safety and relief valves. Calvert Cliffs has determined, as described in the attached relief request, that the proposed alternatives provide an acceptable level of quality and safety.

The net result of the Code-required minimum 10-minute hold time between successive openings results in an increase in manpower and system outage time required to perform the tests, without a commensurate increase in test accuracy. This also results in an increase in radiation exposure for components located in radiation areas. The proposed elimination/reduction of the 10-minute hold time reduces the system

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outage time, facilitates plant safety by the timely return of plant safety systems to service, and enhances personnel safety.

Relief valve tests are performed throughout the year at CCNPP with the majority of the tests performed during or in support of refueling outages. Calvert Cliffs requests approval of this relief request prior to January 12, 2001, to facilitate our preparations for the upcoming spring 2001Unit 2 refueling outage.

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

Very truly yours,

CHC/ALS/dlm

Attachment: (1) Relief Request Number VR-16, "Safety and Relief Valve Hold Time"

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ATTACHMENT (1)

RELIEF REQUEST NO. VR-16

SAFETY AND RELIEF VALVE HOLD TIME

Calvert Cliffs Nuclear Power Plant, Incorporated
Calvert Cliffs Nuclear Power Plant
September 11, 2000

ATTACHMENT (1)

SAFETY/RELIEF VALVE HOLD TIME AT AMBIENT CONDITIONS RELIEF REQUEST NO. VR-16

Generic Relief Request

Component Number(s): All safety and relief valves.

Category: C

Function(s): Provide over-pressure protection to associated systems.

Test Requirement: ASME/ANSI Operations and Maintenance (OM) Code, Part 1, OM-1, 1987 Edition, Oma-1988 Addenda, Sections 8.1.1.8, 8.1.2.8, and 8.1.3.7, Time Between Valve Openings: A minimum of 10 minutes shall elapse between successive openings.

Basis for Relief: This is a generic request for relief for all safety and relief valves. For these valves, the requirement for verifying temperature stability (by waiting 10 minutes between successive openings) is inappropriate and of no value. There is negligible affect on valve setpoint due to minor temperature deviations that might occur at these conditions.

The Class 2 main steam safety valves (MSSV) are tested in-situ in either Mode 1, 2, or 3. Typically, they are testing during power operation just prior to removing a unit from service for a refueling outage. They also may, if necessary, be tested just after shutting down the reactor for a refueling outage or prior to returning the unit to power operation. In Modes 1, 2, and 3, plant and ambient conditions (e.g., steam pressure and temperature and MSSV room temperature) are typically stable, although the test medium is at a temperature significantly above the ambient temperature of the MSSV room.

The MSSVs are tested in-situ using a test device that limits the duration of the actual valve opening to less than one second. As a result, the steam flow through the valve is minimized. This minimizes any valve temperature change. The MSSV room conditions exposes the test personnel to high humidity and high temperature environment. Additionally, the MSSV room is located within the radiologically controlled area in the Auxiliary Building. The proposed 5-minute hold time reduces the length of time test personnel are exposed to these radiological and hostile environment conditions. Therefore, reducing the hold time between successive tests reduces the risk to their personal and radiation safety.

Numerous other Class 2 and 3 safety and relief valves associated with contaminated systems are bench-tested in the "hot shop," located within the radiologically-controlled area in the Auxiliary Building, to prevent the spread of contamination. These tests are performed under ambient conditions using a test medium at ambient conditions. Therefore, there is no source of thermal imbalance that might affect the test results.

(CCNPP generic relief request VR-02 was previously submitted and approved to recognize that the thermal stability requirements of OM-1 paragraph 8.1.3.4 were adequately satisfied by testing safety and relief valves under ambient conditions using a test medium at ambient conditions.)

Entry into the hot shop testing facility requires full anti-Cs. During the test, personnel are exposed to background radiation levels present in the Auxiliary Building hot shop, as well as the radiation levels associated with the specific valve being tested. The proposed elimination of the hold time between successive tests for Class 2 and 3 safety and relief valves tested under ambient conditions using a test medium at ambient conditions reduces the duration of each test. Most importantly, reducing the hold times reduces the length of time that the test personnel must spend in close proximity to the valve. As a result, personnel radiation exposure is reduced.

The pressurizer safety valves are typically bench-tested in an off-site vendor's test facility. However, in the past, they have been tested in-situ, and could be again should the need arise. The personnel safety and radiation exposure concerns applicable to bench-testing and/or in-situ testing of other safety and relief valves also exist for bench-testing or in-situ testing the pressurizer safety valves.

For all safety and relief valves, including those located in "clean areas" that are in-situ/bench-tested in the mechanical maintenance shop, the proposed reduction/elimination of the hold time between successive tests will reduce the duration of each test. Since there are numerous safety and relief valve tests for both units and most require at least two people (note that the MSSV tests require significantly more people), the proposed reduction/elimination of the hold time between successive tests is expected to also result in a significant cumulative reduction in limited manpower resources.

The proposed reduction in the hold time between successive tests from 10 to 5 minutes for safety and relief valves tested under other than ambient conditions is consistent with the changes in the 1997 ASME OM Code Part 1, as compared to previous editions of the OM Code. Additionally, empirical data based on CCNPP experience supports the conclusion that the minimum hold time between successive tests has no value for safety and relief valves tested under ambient conditions using test medium at ambient conditions.

The net result of having to wait 10 minutes between successive openings is an increase in manpower and time to perform the tests, and an increase in radiation exposure when located in radiation areas, without a commensurate increase in test accuracy.

SAFETY/RELIEF VALVE HOLD TIME AT AMBIENT CONDITIONS
RELIEF REQUEST NO. VR-16

Code Alternative: For safety and relief valves tested under ambient conditions using test medium at ambient conditions, the 10-minute hold requirement between successive openings will be deleted. For safety and relief valves tested at other than ambient conditions, a 5-minute hold time will be used between successive valve openings.

Implementation Schedule: This relief request applies to the third 10-year inservice test interval, which extends from January 15, 1998 to January 14, 2008. Therefore, upon approval, this relief request will be implemented from that point forward until the expiration of the third 10-year inservice test interval.