SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO THE INSERVICE TEST PROGRAM AND

GRANTING OF RELIEF FROM ASME CODE SECTION XI
INSERVICE TESTING REQUIREMENTS

1.0 Introduction

The Inservice Test Program (ITP) for Calvert Cliffs Unit 1, for the period from May 8, 1975 to May 8, 1985, was submitted by letter dated February 5, 1980 and supplemented by letters dated May 9, 1980 and January 30, 1981. The licensee has stated that this program conforms to the 1974 edition of the ASME Boiler and Pressure Vessel Code, Section XI, and Addenda through Summer 1975, with exceptions discussed herein.

The ITP for Calvert Cliffs Unit 2, for the period from August 1, 1980 to April 1, 1987 was submitted by letter dated May 1, 1980 and supplemented by letter dated January 30, 1981. The licensee has stated that this program complies with the 1977 ASME Boiler and Pressure Vessel Code, Section XI, and Addenda through Summer 1978, with exceptions addressed herein.

2.0 Pump Testing

The ITP program submitted by BG&E was examined to verify that all safety related pumps were included in the program and that those pumps are subjected to the periodic tests as required by the ASME Code, Section XI. All safety related pumps were found to be included in the ITP program and, except for those pumps identified below for which specific relief from testing has been requested, the pump tests and frequency of testing comply with the code. Each BG&E request for relief from testing pumps, the code requirement for testing, BG&E's basis for requesting relief, and the NRC's evaluation of that request is summarized below, grouped according to the system in which the pumps reside:

2.1 Circulation Salt Water (SW) System

2.1.1 Relief Requested

The licensee has requested specific relief from the monthly requirement of Section XI to measure the lubricant level and pressure of pumps in the SW system.

Code Requirement

An in-service test shall be conducted on all safety related pumps, nominally once each month during normal plant operation. Each in-service test shall include the measurement, observation, and recording of all quantities in Table IWP-3100-1, except bearing temperature, which shall be measured during at least one in-service test each year.

Licensee's Basis for Requesting Relief

The pumps in the SW system have grease lubricated bearings. Observation of lubricant level or pressure is therefore not appropriate. The bearings are greased in accordance with the manufacturer's instructions on a regular preventative maintenance schedule.

NRC Evaluation

The NRC staff agrees with the licensee's basis, and therefore, grants relief from the Section XI requirement to measure salt water pump lubricant level and pressure. The licensee has demonstrated that an alternate means does exist to insure the reliability and availability of the circulating salt water pumps.

2.1.2 Relief Requested

By letters dated July 28, 1976 and May 24, 1977, the licensee requested specific relief from measuring circulating salt water pump suction pressure in accordance with the requirements of Section XI. Relief has been granted, based upon the licensee's commitment to calculate suction pressure, as documented in the NRC letters of December 10, 1976, from R. S. Boyd to J. W. Gore, and June 17, 1977 from D. K. Davis to A. E. Lundvall.

2.2 Low Pressure Safety Injection, Boric Acid, and Reactor Coolant Charging Pumps

2.2.1 Relief Requested

By letter dated July 28, 1976, the licensee requested specific relief from measuring certain pump performance parameters in accordance with the requirements of Section XI, for Unit 2. Specifically, bearing temperature for the following pumps would be measured by a contact pyrometer in lieu of adirect bearing temperature measurement: low pressure safety injection, boric acid, and reactor coolant charging pumps. In addition, suction and discharge pressure indications for reactor coolant charging pumps would not be taken as these indications are meaningless for a positive displacement pump. Flow rate measurement of the reactor coolant charging pumps is undertaken in lieu of suction and discharge pressure indications for the reactor coolant charging pumps. Relief was granted in the NRC letter of December 10, 1976, from R. S. Boyd to J. W. Gore.

2.3 Monthly Pump Performance Testing

2.3.1 Relief Requested

By application dated November 6, 1981, BG&E requested relief from the requirement to perform monthly pump performance testing. In lieu of the monthly pump performance tests, BG&E has proposed quarterly performance tests.

Licensee's Basis for Requesting Relief

The licensee has indicated that quarterly performance tests on pumps rather than monthly tests have been included in the 1980 Edition of ASME Code Section XI and have been proposed to be incorporated into 10 CFR 50.55a by invoking this edition of Section XI. The licensee has also stated that reduction in frequency will not reduce pump reliability, and may actually improve reliability by eliminating unnecessary pump cycling.

NRC Evaluation

The NRC agrees with the licensee's basis. The staff is concerned, however, that operation of safety related pumps only at quarterly, intervals might lead to degradation of this equipment. Conversations with the licensee indicate that the safety related pumps are required, by procedure, to be run on a monthly basis. Accordingly, we grant this relief; however we will require that all pumps in the test program continue to be run on a monthly basis for the duration of the ITP intervals.

2.4 High Differential Pressure (ΔP) Alert and Action Ranges

2.4.1 Relief Request

By application dated November 6, 1981, BG&E requested relief from the high differential pressure alert and action range* requirements of Section XI. Observation of these alert and action ranges had resulted in unnecessary testing of safety related pumps. The licensee has stated that the small increases in ΔP, quired to activate alert and action activities, are meaningless with regard to centrifugal pumps.

NRC Evaluation

Small positive increases in observed ΔP are most likely not significant with regard to centrifugal pumps. Moreover, such factors as instrument uncertainty, water density, and instrument error might lead to spurious actuation of alert and action ranges. We conclude, however, that elimination of alert and action ranges are not justified at this time. Pump overpressure may result from maintenance errors or pump clogging, which lead to system degradation; these situations must be promptly diagnosed and corrected. Based upon the above, we find that alert and action ranges should be set at 1.05 and 1.07 times the reference pump ΔP when tested in a fixed resistance system at Calvert Cliffs 1 and 2. These ranges are sufficiently broad to prevent needless pump testing, and unnecessary unavalability, while providing a means to diagnose and correct significant problems.

*Article IWP-3000 of Section XI describes the alert and action ranges for pumps. A pump performing in the alert range would be subjected to an increased frequency of testing. Exceeding the alert band would result in action being taken to declare the pump inoperable. For high ΔP, the alert range begins at 1.02 times the pump reference ΔP and the action range begins at 1.03 times the pump reference ΔP.

3.0 VALVE TESTING PROGRAM

3.1 General Considerations

3.1.1 Testing of Valves Which Perform a Pressure Isolation Function

Several safety systems connected to the reactor coolant pressure boundary have design pressures below the reactor coolant system operating pressure.

Redundant isolation valves within the Class 1 boundary forming the interface between these high and low pressure systems protect the low pressure systems from pressures which exceed their design limit. In this role, the valves perform a pressure isolation function.

We view as important the redundant isolation provided by these valves. We consider it necessary to assure that the condition of each of these valves is adequate to maintain this redundant isolation and system integrity. For these reasons, we believe that some method, such as pressure monitoring, leak testing, radiography and ultrasonic testing, should be used to assure the condition of each valve is satisfactory in maintaining this pressure isolation function.

Conversations with the licensee indicate that the following check valves are leak tested:

SI-118 (SI header check)
SI-128 (SI header check)
SI-138 (header check)
SI-148 (header check)

These valves should be categorized as AC and leak tested in accordance with IWV-3420.

The check valves which isolate the safety injection tanks from the reactor coolant system should also be leak tested, or monitored, since failure of these valves would result in overpressurization, and failure of the safety injection tanks. These valves are as follows:

SI-217 (11A loop inlet check)
SI-227 (11B loop inlet check)
SI-237 (12A loop inlet check)
SI-247 (12B loop inlet check)

SI-215 (11A SI tank outlet check)
SI-225 (11B SI tank outlet check)
SI-235 (12A SI tank outlet check)
SI-245 (12B SI tank outlet check)

With regard to the loop inlet check valves, a continuous indication alarm on pressure between adjacent loop inlet and tank outlet valves is displayed in the control room. For example, the pressure between SI-215 and SI-217 can be determined. Thus, should loop inlet check valve SI-217 fail, the pressure between valves SI-215 and SI-217 would be noted in the control room. Conversations with the licensee

indicate that the reactor operator is required to take positive measures to assess check valve leakage following receipt of an alarm*. For the tank outlet valves, these valves are leak tested when the safety injection tanks are filled, on at least a monthly basis. For example when safety injection tank 11A is filled, the flow path is as follows:

- from the HPI pump to the line between SI-215 and SI-217
- from the line between SI-215 and SI-217, through normally closed valves 1-CV-618 and 1-CV-611, to safety injection tank 11A

With the HPI pump in operation and valve 1-CV-618 closed, a leak in tank outlet valve SI-215 would increase the level in safety injection tank 11A and would be noted in the control room via the safety injection tank level instrumentation. We find the above procedure to be acceptable and require its performance at least once per refueling cycle. No records need be maintained for this item.

3.1.2 Stroke Testing Check Valves

The staff stated its position to the licensee that check valves whose safety function is to open are expected to be full-stroked. If only limited operation is possible (and it has been demonstrated by the licensee and agreed to by the staff) the check valve shall be partial stroked. Since disk position is not always observable, the NRC staff stated that verification of the plant's safety analysis flow rate through the check valve would be an adequate demonstration of full-stroke requirement. Any flow rate less than design will be considered part-stroke exercising unless it can be shown that the check valve's disk position at the lower flow rate would be equivalent to or greater than the design flow rate through the valve. The licensee agreed to accept this position if they use flow as a means for exercising check valves.

3.1.3 Stroke Testing of Motor-Operated Valves

The licensee has requested relief from the part-stroke requirement of Section XI for all power-operated valves. The licensee has stated that none of the Category A or B power-operated valves identified can be part-stroked because of the design logic of the operating circuits. These circuits are such that when an open or close signal is received the valve must complete a full stroke before the relay is released to allow the valve to stroke in the other direction. We find that the above relief request from part-stroking is warranted because it is impractical to part-stroke and should be granted because the required function of the valves involves only full-open or full-closed positions. Therefore, we conclude that granting this relief does not endanger public health and safety.

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*The Calvert Cliffs Alarm Manual specifies the required operator response to this alarm.The response includes verification of leakage source and boron concentration in the injection tank. The leak rate must also be determined since Technical Specification 3.4.6.2 limits identifiable leakage from all reactor coolant system sources to 10 GPM.

3.1.4 Test Frequency of Check Valves Tested at Cold Shutdowns

The Code states that, in the case of cold shutdowns, valve testing need not be performed more often than once every three months for Category A and B valves and once every nine months for Category C valves (check valves only). It is our position that Category C valves should be tested on the same schedule as Category A and B valves. This position is also in agreement with the current edition and addenda of the code. The licensee has agreed to this position that valve testing will be performed once every three (3) months for Category A, B, and C check valves as indicated in the ITP submittals.

3.1.5 Testing Valves at Cold Shutdown

The Code permits valves to be tested at cold shutdown, and the Code conditions under which this is permitted are noted in Appendix A. These valves are specifically identified by the licensee and are full-stroke exercised during cold shutdowns; therefore, the licensee is meeting the requirements of the ASME Code and it will not be necessary to grant relief. However during our review of the licensee's program, we have verified that it was not practical to exercise these valves during power operation and that we agree with the licensee's basis.

It should be noted that the staff differentiates for valve testing purposes between the cold shutdown mode and the refueling mode. It is not intended that testing be performed at refueling outages instead of planned or unplanned cold shutdowns unless specific relief to test only at refueling has been granted by the NRC staff. The testing frequencies specified by subarticles IWV-3410(a) and IWV -3520(a) should be maintained as closely as practicable.

Inservice valve testing at cold shutdown is acceptable when the following conditions are met: It is understood that the licensee is to commence testing within two hours after cold shutdown condition is achieved but no later than 48 hours after shutdown and continue until complete or plant is ready to return to power. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed at one cold shutdown should be performed during any subsequent cold shutdowns that may occur before refueling to meet the Code specified testing frequency.

For planned cold shutdowns, where the licensee will complete all the valves identified in his ITP program for testing in the cold shutdown mode, exceptions to the 48 hours may be taken. The licensee's ITP submittals indicate that they conform to our requirements for valve testing at Cold Shutdown.

3.1.6 Safety Related Valves

This review was limited to safety-related valves. Safety-related valves are defined as those valves that are needed to mitigate the consequences of an accident and/or to shut down the reactor and to maintain the reactor in a cold shutdown condition. Valves in this category would typically include certain ASME Code Class 1, 2 and 3 valves and could include some non-code Class valves.

It should be noted that the licensee may have included nonsafety-related valves in their Inservice Test Program as a decision on the licensee's part to expand the scope of their program.

3.1.7 Category A Valve Leak Check Requirements for Containment Isolation Valves (CIV)

All CIVs shall be classified as Category A (A-1 or A-2 in Unit 2) valves. The Category A valve leak rate test requirements IWV-3420(a-e) have been superseded by Appendix J requirements for CIVs. The staff has concluded that the applicable leak test procedures and requirements for CIVs are determined by 10 CFR 50 Appendix J. Relief from paragraph IWV-3420 (a-e), for CIVs presents no safety problem since the intent of IWV-3420 (a-e), which is to demonstrate the leak tightness of the valves, is met by Appendix J requirements.

The licensee shall comply with Sections f and g of IWV-3420 until relief is requested from these paragraphs. It should be noted that these paragraphs are only applicable where a Type C, Appendix J, leak test is performed.

Based on the considerations discussed above, the staff concludes that the alternate testing proposed above will give the reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.1.8 Application of Appendix J Testing to the ITP Program

The Appendix J review for this plant is a completely separate review from the ITP review. However, the determinations made by that review are directly applicable to the ITP. Our review has determined that the current ITP as submitted by the licensee correctly reflects our interpretation of Section XI vis-a-vis Appendix J. The licensee has agreed that, should the Appendix J program be amended, they will amend their ITP accordingly.

3.2 High Pressure Safety Injection (HPSI) System, Low Pressure Safety Injection (LPSI) System, Containment Spray (CS) System

3.2.1 Category A, A/C, and A/E Valves

3.2.1.1 Relief Requested

The licensee has requested specific relief from full-stroke exercising the following Category A/C (A-1 in Unit 2) valves in accordance with the requirements of Section XI and proposed to partial-stroke exercise these valves during cold shutdowns and refueling outages:

SI-316 (containment spray header check)
SI-326 (containment spray header check)
SI-330 (containment spray header containment side check)
SI-340 (containment spray header containment side check)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

Due to the present piping configuration, check valves SI-316, SI-326, SI-330, and SI-340 cannot be stroked during operation without spraying large quantities of contaminated water into the containment. This contaminated refueling pool water is also borated to approximately 2300 ppm. Spraying the containment would result in a radioactive contamination cleanup problem and seriously damage components such as lagging, reactor coolant pumps, and control rod drive motors. These 8-inch check valves can only be partial-stroke exercised during cold shutdowns and refueling outages due to the installed test connection pipe size of 3 inches located inside the containment.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The licensee has established that full-stroke exercising these valves would be impractical and that partial-stroke exercising during cold shutdowns and refueling outages in accordance with the proposed alternate test appears to be the only viable way with the present piping design. The licensee has indicated, however, that the containment spray header check valves are local leak rate "type C" tested as required by Appendix J to 10 CFR Part 50. We conclude that full-stroke testing of the containment spray header check valves is impractical and that the present leak testing of these valves is sufficient under 10 CFR Part 50, Appendix J.

In addition to the testing described above, the licensee has agreed to disassemble the subject valves at least once during the duration of the ITP interval to inspect the valve internals. If during the ITP interval, repairs are required on the valves, disassembly to perform these repairs shall satisfy this requirement.

3.2.1.2 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

SI-455 (leakoff return header isolation)
SI-651 (shutdown cooling return isolation)
SI-652 (shutdown cooling return isolation)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut Category A/E containment isolation valves are passive valves locked in the position required to perform their safety function. These valves are leak-tested to the requirements of Section XI for valves SI-651 and SI-652, and Appendix J for valve SI-455 to verify their leak-tight integrity. The valve position before and after operation is recorded.

NRC Evaluation

The NRC staff agrees with the licensee's basis. These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shutdown the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

3.2.1.3 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valve.

SI-463(SI leakoff to RWT isolation)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

This normally shut, manually operated containment isolation valve is a passive valve in the position required to perform its safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

This valve is in its safety-related position and is not required to open or close to mitigate the consequences of an accident or safely shutdown the plant. Therefore, the operability of this valve is inconsequential with regard to the safety function which it performs.

We conclude that the quarterly stroke testing is meaningless for this valve and the relief should be granted.

3.2.2 Category C Valves

3.2.2.1 Relief Request

The licensee has requested specific relief from full-stroke exercising the following Category C (C-1 Unit 2) valves in accordance with the requirements of Section XI and proposed to partial-stroke exercise these valves during cold shutdowns and refueling outages:

SI-4148 (containment sump outlet check valve)
SI-4149 (containment sump outlet check valve)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These check valves cannot be full-stroke exercised without flooding the containment floor with contaminated refueling pool water that is borated to approximately 2300 ppm. This would result in serious damage to lagging and electrical systems control components in addition to the radioactive contamination cleanup problem of the containment sump and associated equipment. The LPSI pumps and associated 10-inch piping is used to provide a flow path for partial-stroke exercising these 24-inch check valves. This test is accomplished by filling the recirculation piping to the sump floor and observing a level decrease when the LPSI pump is started.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The licensee has established that full-stroke exercising these valves would be impractical and that partial-stroke exercising during cold shutdowns and refueling outages in accordance with the proposed alternate test appears to be the only viable way with the present piping design. The licensee has informed us, however, that the above referenced check valves are leak tested during every cold shutdown, not more often than every ninety days. We require that these valves be leak tested at least once per refueling cycle.

We conclude that full-stroke exercising of the above check valves in accordance with the ASME code is impractical. Leak testing of these valves during each refueling cycle provides reasonable assurance of the continued integrity of the valves.

In addition to the testing described above, the licensee has agreed to disassemble the subject valves at least once during the duration of the ITP interval to inspect the valve internals. If during the ITP interval, repairs are required on the valves, disassembly to perform these repairs shall satisfy this requirement.

3.3 Chemical and Volume Control (CVC) System

3.3.1 Category A, A/C and A/E Valves

3.3.1.1 Relief Request

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valve.

CVC-517 (auxiliary spray line stop valve)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

This normally shut containment isolation valve is passive, locked in the position required to perform its safety function. This valve is leak-tested to the requirements of Section XI to verify its leak-tight integrity. The valve position before and after operation is recorded.

NRC Evaluation

The NRC staff agrees with the licensee's basis. This valve is in its safety-related position and is not required to open or close to mitigate the consequences of an accident or safely shutdown the plant. Therefore, the operability of this valve is inconsequential with regard to the safety function which it performs.

We conclude that the quarterly stroke testing is meaningless for this valve and the relief should be granted.

3.4 Demineralized Water (DW) System

3.4.1 Category A, A/C, and A/E Valves

3.4.1.1 Relief Request

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

DW-280 (demineralized water inside containment isolation valve)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation valves are passive valves locked in the position required to perform their safety function. These valves are leak-tested to the requirements of 10 CFR Part 50, of Appendix J, to verify their leak-tight integrity. The valve position before and after operation is recorded.

NRC Evaluation

The NRC staff agrees with the licensee's basis. These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.5 Gas Analysis (PS) System

3.5.1 Category A, A/C, and A/E Valves

3.5.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

PS-6540A through G (gas analysis inside and outside containment isolation valves)
PS-6507A through G (gas analysis inside containment isolation valve)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation valves are passive valves locked in the psoition required to perform their safety function. These valves are leak-tested to the requirements of 10 CFR Part 50, Appendix J, to verify their leak-tight integrity. The valve position before and after operation is recorded.

NRC Evaluation

The NRC staff agrees with the licensee's basis. These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shutdown the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.6 Spent Fuel Pool Cooling (SFP) System

3.6.1 Category A, A/C and A/E Valves

3.6.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

SFP-170, -171, -172, -174, -176, -178, -179, -180, -182, -184, -186, -189 (spent fuel pool cooling isolation valves)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation valves are passive valves locked in the position required to perform their safety function. These valves are leak-tested to the requirements of Appendix J to verify their leak-tight integrity. The valve position before and after operation is recorded.

NRC Evaluation

The NRC staff agrees with the licensee's basis. These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.7 Nitrogen (N2) System

3.7.1 Category A/C Valves

3.7.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/C (AC-1 in Unit 2) valves.

N2-344 (N2 to SI tank) Unit 1
N2-345 (RCDT N2 supply) Unit 1
N2-347 (N2 to SI tank) Unit 2
N2-348 (RCDT N2 supply) Unit 2

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation check valves are passive valves in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.7.1.2 Relief Requested

The licensee has requested specific relief from exercising the following Category A/C (AC-1 in Unit 2) valves.

N2-346 and N2-350 (SG and quench tank N2 supply) Unit 1
N2-352 (RCDT N2 supply) Unit 1
N2-349 and N2-351 (SG and quench tank N2 supply) Unit 2
N2-353 (RCDT N2 supply) Unit 2

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation check valves are passive valves in the position required to perform their function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.8 Reactor Coolant Waste Process (ES) System

3.8.1 Category A/E Valves

3.8.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

ES-142 and ES-143 (EXT STM containment isolations)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut, manually operated containment isolation valves are passive valves locked in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.9 Plant Heating (PH) System

3.9.1 Category A/C Valves

3.9.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/C (AC-1 in Unit 2) valves.

PH-376 (plant heating containment inlet) Unit 1
PH-387 (plant heating containment inlet) Unit 2

Code Requirements

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation check valves are passive valves in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.10 Plant Air (PA) System

3.10.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

PA-136 and PA-137 (plant air containment isolations) Unit 2
PA-153 and PA-154 (plant air containment isolations) Unit 1

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut, manually operated containment isolation valves are passive valves locked in position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.11 Plant Service Water (PSW) System

3.11.1 Category A/E Valves

3.11.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/E (A-2 in Unit 2) valves.

PSW-130 and PSW-131 (plant service water containment isolations Unit 1)

PSW-128 and PSW-139 (plant service water containment isolations Unit 2)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut, manually operated containment isolation valves are passive valves locked in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.12 Fire Water (FP) System

3.12.1 Category A/C Valves

3.12.1.1 Relief Requested

The licensee has requested specific relief from exercising the following Category A/C (AC-1 in Unit 2) valves.

FP-141A and FP-141B (containment fire water supply) Unit 1
FP-145A and FP-145B (containment fire water supply) Unit 2

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut containment isolation check valves are passive valves in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety function is their leak-tight integrity.

These valves are in their safety-related position and are not required to open or close to mitigate the consequences of an accident or safely shut down the plant. Therefore, the operability of these valves is inconsequential with regard to the safety function which they perform.

We conclude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

3.13 H_2 Purge (HP) System

3.13.1 Category A/E and A/C Valves

3.13.1.1 Relief Requested

The licensee has requested relief from exercising the following Category A/E (A-2 in Unit 2) valves.

HP-6900-MOV (H_2 Purge Containment Isolation)
HP-6901-MOV (H_2 Purge Containment Isolation)
HP-6903-MOV (H_2 Purge Containment Isolation)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

These normally shut, motor operated containment isolation valves are passive valves locked in the position required to perform their safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of these valves is shut and their only safety-related function is their leak-tight integrity. The staff feels that passive valves not required to change position to perform their safety function should not be exercised.

We conclude that the quarterly stroke testing is meaningless for these valves and relief should be granted.

3.13.1.2 Relief Requested

The licensee has requested specific relief from exercising the following Category A/C (AC-1 in Unit 2) valve.

HP-104 (H_2 Purge Containment Isolation Check)

Code Requirement

Refer to Appendix A.

Licensee's Basis for Requesting Relief

This normally shut containment isolation check valve is a passive valve in the position required to perform its safety function.

NRC Evaluation

The NRC staff agrees with the licensee's basis. The safety-related position of this valve is shut and its only safety function is its leak-tight integrity. The staff feels that passive valves not required to change position to perform their safety function should not be exercised.

We conlcude that the quarterly stroke testing is meaningless for these valves and the relief should be granted.

4.0 Conclusion

We conclude that the ITP programs for Calvert Cliffs Units 1 and 2 are in conformance with the appropriate editions of the ASME Boiler and Pressure Vessel Code, and Addenda. With regard to exceptions to the Code, relief is based upon our review of the information submitted by BG&E to support the determination that compliance with the ASME Code inservice testing requirements would be impractical for the facility. We have determined that the testing from which relief is sought is impractical and pursuant to 10 CFR § 50.55a(g)(6)(i), that the granting of this relief is authorized and will not endanger life or property, or the common defense and security, and is otherwise in the public interest. In making this determination we have given due consideration to the burden that could result if these requirements were imposed on the the facility. We have determined that the granting of this relief does not involve a significant increase in the probability or consequences of an accident nor a significant decrease in safety margin; and thus, does not involve a significant hazards consideration. Furthermore, we have determined that the granting of this relief from ASME Code requirements does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. We have concluded that the granting of this relief is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4) that neither an environmental impact statement nor a negative declaration and environmental impact appraisal needs to be prepared in connection with this action.

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APPENDIX A

Code Requirements

Subsection IWV-3410(a) of the 1974 Edition of the Section XI ASME Code (which discusses full-stroke and partial-stroke requirements) requires that Code Category A and B valves be exercised once every three months, with exceptions as defined in IWV-3410(b) (1), (e) and (f). IWV-3520(a) (which discusses full-stroke and partial-stroke requirements) requires that Code Category C valves be exercised once every three months, with exceptions as defined in IWV-3520(b). In the above cases of exceptions, the Code permits the valves to be tested at cold shutdown where:

(a) It is not practical to exercise the valves to the position required to fulfill their function or to the partial position during power operation.

(b) It is not practical to observe the operation of the valves (with fail-safe actuators) upon loss of actuator power.

Subsection IWV-3410(c) requires all Category A and B power-operated valves to be stroke time-tested to the nearest second or 10% of the maximum allowable owner-specified stroke time.