



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO REQUESTS FOR RELIEF FROM INSERVICE TESTING REQUIREMENTS
FLORIDA POWER & LIGHT COMPANY, ET AL.
ST. LUCIE PLANT, UNIT NO. 2
DOCKET NO. 50-389

INTRODUCTION

This report provides a safety evaluation of the St. Lucie Plant, Unit No. 2 program for inservice testing of pumps and valves and, in particular, of the licensee's requests for relief from regulatory requirements applicable to the subject program. The Code of Federal Regulations [10 CFR 50.55a(g)] requires that inservice testing (IST) of ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda. 10 CFR 50 §50.55a(g)(6)(i) authorizes the Commission to grant relief from Code requirements for testing upon determining that the testing requirements are impractical. It also authorizes imposition of alternate or augmenting requirements upon making the necessary determination.

The IST program for St. Lucie 2 and its associated relief requests addressed in this report were submitted to the Commission with the licensee's letter dated October 6, 1983. The program was prepared to comply with ASME Section XI, 1980 edition with addenda through Winter 1980 (the Code), which is the applicable code required by 10 CFR 50.55a(g).

In its evaluation of the licensee's relief requests, described below, the staff determined that certain of the requests should be granted, conditionally granted or denied. A summary tabulation of these evaluations is provided in Attachment 1. Based on its evaluations, the staff concludes that the reliefs granted will not endanger life or property or the common defense and security of the public.

Requirements and interpretations considered applicable to the licensee's program and used in the staff's evaluation include the following:

- (1) Code requirements referred to above, and
- (2) Positions and interpretations described in the evaluations below.

The Final Safety Analysis Report for St. Lucie 2 and selected piping drawings (listed in Attachment 2) were the primary sources of plant-specific information utilized in this evaluation. Additional pertinent information was obtained during an inspection conducted at the St. Lucie site August 26-30, 1985, (documented in NRC Inspection Report 389/85-23).

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EVALUATION

A. GENERAL

It is the staff's position that the licensee's IST program must include all pumps and valves important to safety (i.e., pumps and valves required to shut down the plant to cold shutdown, maintain the plant in cold or hot shutdown condition, or mitigate the consequences of an accident) and that they must be tested in accordance with the appropriate Code requirements unless relief is granted. The licensee's program was evaluated for inclusion of all such pumps and valves and the associated testing.

It is the licensee's responsibility, where relief is requested, to provide an adequate basis for granting relief. The staff found that some of the licensee's relief requests were not adequately justified. In such cases, the staff has granted conditional relief. This action does not preclude the licensee from developing more satisfactory bases and submitting revised requests.

The licensee's program is applicable for the period from August 8, 1983 to August 8, 1993.

B. PUMP TESTING PROGRAM AND RELIEF REQUEST

1. Program

The pump portion of the IST program was reviewed to verify that all pumps important to safety are included in the program and are subjected to the testing required by the Code. The staff review indicates that the licensee has included all pumps important to safety in its program and all required testing is in compliance with the Code except where relief was requested.

2. Request for Relief

- a. The licensee has requested specific relief for the following pumps from the requirement of IWP-4600 to measure flow rate:

Boric Acid Makeup Pump No. 2A
Boric Acid Makeup Pump No. 2B

Containment Spray Pump No. 2A
Containment Spray Pump No. 2B

Auxiliary Feedwater Pump No. 2A
Auxiliary Feedwater Pump No. 2B
Auxiliary Feedwater Pump No. 2C

Low Pressure Safety Injection Pump No. 2A
Low Pressure Safety Injection Pump No. 2B

High Pressure Safety Injection Pump No. 2A
High Pressure Safety Injection Pump No. 2B

Diesel Oil Transfer Pump 2A
Diesel Oil Transfer Pump 2B

Licensee's Basis for Requesting Relief

Section XI, ASME Boiler and Pressure Vessel Code, requires measurement of flow rate using a rate or quantity meter installed in the pump test circuit. These pumps use a fixed hydraulic resistance system with an orifice installed in the pump recirculation line (IWP-1400).

Differential pressure will be measured across the pump during the quarterly pump test (IWP-4240) and shall then be compared to the established reference value. This provides for an indirect measure of flow rate and verifies the operational readiness of the pump (IWP-1500).

Evaluation

Given the present system configurations, pump flow rate cannot be measured in accordance with the requirements of Section XI for these pumps. However, the licensee may not be able to adequately monitor the hydraulic characteristics of these pumps without measurement of pump flow rate. The current NRC staff position is that the licensee should measure both flow rate and differential pressure in accordance with the requirements of current editions of Section XI. The 1974 edition of Section XI is considered to be incorrect in this regard and later editions properly require measurement of both parameters. Therefore, relief should not be granted from Section XI requirement of measuring flow rate for these pumps.

The licensee must measure pump flow rate in accordance with the requirements of Section XI for St. Lucie 2. The licensee is required to make these modifications for Unit 2 prior to startup at the end of the next refueling outage. For the balance of the period of the current fuel cycle, interim relief is granted to test the pumps as proposed by the licensee. The pumps will be monitored on a quarterly basis for vibration amplitude, inlet pressure and differential pressure. Requiring the licensee to make these modifications for Unit 2 prior to the next refueling outage would impose unnecessary hardship on the licensee without compensating increase in the level of safety. Taking into account the inservice tests that will be performed, as well as the relatively short operational time that the pumps have been in service to date, it is concluded that this interim relief will not endanger life or property or the common defense and security of the public.

- b. The licensee also requested relief from Code corrective action requirements (IWP 3230) when these requirements conflict with Technical Specifications. The staff approves this relief and

agrees that nothing in Section XI of the Code shall be construed as superseding the requirements of plant Technical Specifications. However, when there are no conflicts, the licensee is expected to take the action of the more conservative requirement.

C. VALVE TESTING PROGRAM AND RELIEF REQUESTS

1. General Considerations

The following Code requirements, staff positions and staff interpretations of requirements for IST valves are listed because of their particular applicability to the evaluation described herein.

a. Valve Test Frequency Requirements

Subsection IWV-3411 of the Code (which discusses full stroke and part stroke testing) requires that Code Category A and B valves be exercised once every 3 months, with the exceptions as defined in IWV-3412(a), IWV-3415, and IWV-3416. IWV-3413 requires the owner to specify the full-stroke time of each power operated Category A and B valve and to check the time whenever the valve is full stroke exercised.

IWV-3521 requires that Code Category C check valves be exercised once every 3 months, with the exceptions as defined in IWV-3522.

In the above exceptions for Category A, B and C valves, the Code permits the valves to be tested at cold shutdowns where:

- (1) It is not practical to exercise the valves to the position required to fulfill their function, or to the partial position, during power operation.
- (2) It is not practical to observe the operation of the valves (with fail-safe actuators) upon loss of actuator power.
- (3) These valves are specifically identified by the licensee.

In several safety evaluations (especially for valves in the Chemical and Volume Control System) the staff's approval of the licensee's request for relief was based on its belief that failure of the valve during the test might place the plant in an undesirable mode of operation, but not necessarily in an unsafe mode as given in the licensee's justification.

b. Passive Power Operated Valves

IWV-3700 states that passive valves need not be exercised; however, it is the staff's position that power operated valves that are not required to change position for any accident condition of the plant must have their positions verified quarterly and each time the valves are cycled.

c. Testing of Normally Open Check Valves

Requirements for testing normally open check valves are stated in IWV-3522 as follows:

Check valves shall be exercised to the position required to fulfill their function... Valves that are normally open during plant operation and whose function is to prevent reversed flow, shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow. Confirmation that the disk is on its seat shall be by visual observation, by an electrical signal initiated by a position-indicating device, by the observation of appropriate pressure indications in the system, or by other positive means.

d. Testing of Normally Closed Check Valves

Requirements for testing normally closed check valves are stated in IWV-3522, in part, as follows:

Check valves shall be exercised to the position required to fulfill their function.... Valves normally closed during plant operation and whose function is to open on reversal of pressure differential shall be tested by proving that the disk moves promptly away from the seat when the closing pressure differential is removed and flow through the valve is initiated, or a mechanical opening force is applied to the disk. Confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal initiated by a position indicating device, by observation of substantially free flow through the valve as indicated by appropriate pressure indications in the system, or by other positive means. This test may be made with or without flow through the valve.

The staff considers that these requirements may be met if any of the following four methods are used as confirmation:

- (1) By demonstrating that the valve can pass the maximum, accident-design flow for which credit has been taken in FSAR analyses.
- (2) By showing that, for the measured flow, the pressure loss through the valve is such that the valve could only be fully open.
- (3) By using a mechanical exerciser that can be observed to move through a full stroke.
- (4) By partial disassembly of the valve and manually moving the disk through a full stroke.

e. Leak Rate Testing of Category A Valves by Means of Differential Pressure

IWV-3423 requires that valve seal leakage tests shall be made with the pressure differential in the same direction as will be applied when the valve is performing its function, with certain specified exceptions. When a containment isolation valve cannot be tested in the required manner because of the configuration of the system, the staff considers that the intent of the Code is met if a redundant containment isolation valve is leak tested in the correct direction. When the system does not have redundant containment isolation valves (i.e., does not meet Criterion 56 of Appendix A of 10 CFR Part 50) the single isolation valve is required to be leak tested from the correct direction. For containment isolation valves, pressurization in the correct direction may be performed during integrated leak tests.

f. Stroke Times for Category A and B Power Operated Valves

IWV-3413 requires the licensee to specify limiting values of full stroke times for power operated valves. These limiting values must be verified each time the valves are full-stroke tested and they must be trended (as specified in IWV-3417). The limiting values of full-stroke time specified for these valves must assure that any design safety analysis requirements are met.

For fast acting valves, such as solenoid valves and air pilot operators, the staff considers 2 seconds to be a suitable maximum stroke time. The absence of indicator lights will not normally be considered an adequate basis for relief from stroke timing.

g. Deviations in Leak Test Mediums

IWV-3425 requires that the test medium be specified by the owner. Where leakage rate is to be determined using a different test medium than the service medium, IWV-3423 requires that the determination compensate for the test medium difference. Where the licensee proposes to leak test a valve with a different medium than the service medium as, for example, in proposing to test pressure isolation valves (PIVs) with air when their service medium is water, the licensee must use a proven correlation between the two mediums for the subject conditions.

h. Valve Testing at Cold Shutdowns

The staff considers the following conditions to apply to inservice testing valves at cold shutdown:

- (1) It is understood that the licensee is to commence testing as soon as the cold shutdown condition is achieved but not later than 48 hours after shutdown, and continue until complete or the plant is ready to return to power.

- (2) Completion of all valve testing is not a prerequisite to return to power.
- (3) 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 IST program for testing in the cold shutdown mode, the licensee need not begin testing within the specified 48 hours.

i. Leak Test Requirements for Containment Isolation Valves (CIVs)

All CIVs are required to be classified as Category A or AC. It is the staff's position that the leak rate test requirements for Category A valves (IWV-3420 through IWV-3425) are met by the requirements for CIVs in 10 CFR Part 50, Appendix J. Relief from the requirements of these paragraphs does not present safety problems since the requirements are met by Appendix J testing; however, the requirements of IWV-3426 and IWV-3427 must be implemented.

j. Application of Appendix J Review to the IST Program

The Appendix J review for this plant is a completely separate review from the IST program review. However, with regard to valves subjected by Type C tests, the determinations made by that review are directly applicable to the IST program. Should the Appendix J program be amended, the licensee is required to amend the IST program accordingly.

2. Program

The valve portion of the IST program was examined to verify that all valves important to safety are included in the program and are subjected to the testing required by the Code. As the result of discussions between the NRC staff and the licensee (August 26-30, 1985), valves were both added and taken out of the IST program. It is our opinion that the IST program now includes all valves required by the Code.

3. General

- a. The licensee's IST program includes the following interpretations of code requirements for testing valves:
 - (1) Cold Shutdown - ISI tests scheduled for Test Period 2 (Cold Shutdown) shall commence no later than 48 hours after reaching MODE 5 (Cold Shutdown) conditions, or no later than 64 hours if MODE 5 (Cold Shutdown) conditions are reached between Friday 1600 hours and Monday 0800 hours. In the case of frequent Cold Shutdowns, valve testing will not be

performed more often than once every three (3) months. Valves that are not tested during a specific Cold Shutdown, due to plant startup, will be identified to assure their testing in the event of untimely Cold Shutdowns within the time periods (i.e., 3 months). However, in the event that Cold Shutdowns extend beyond these time periods, all the valves shall be re-scheduled for testing commencing with those that were not tested during the previous Cold Shutdown period. In any event, plant startup shall not be delayed to complete valve testing.

- (2) Test Period - Column: Where test frequency is denoted as 1 or 2, tests may be performed during either period dependent upon plant conditions.

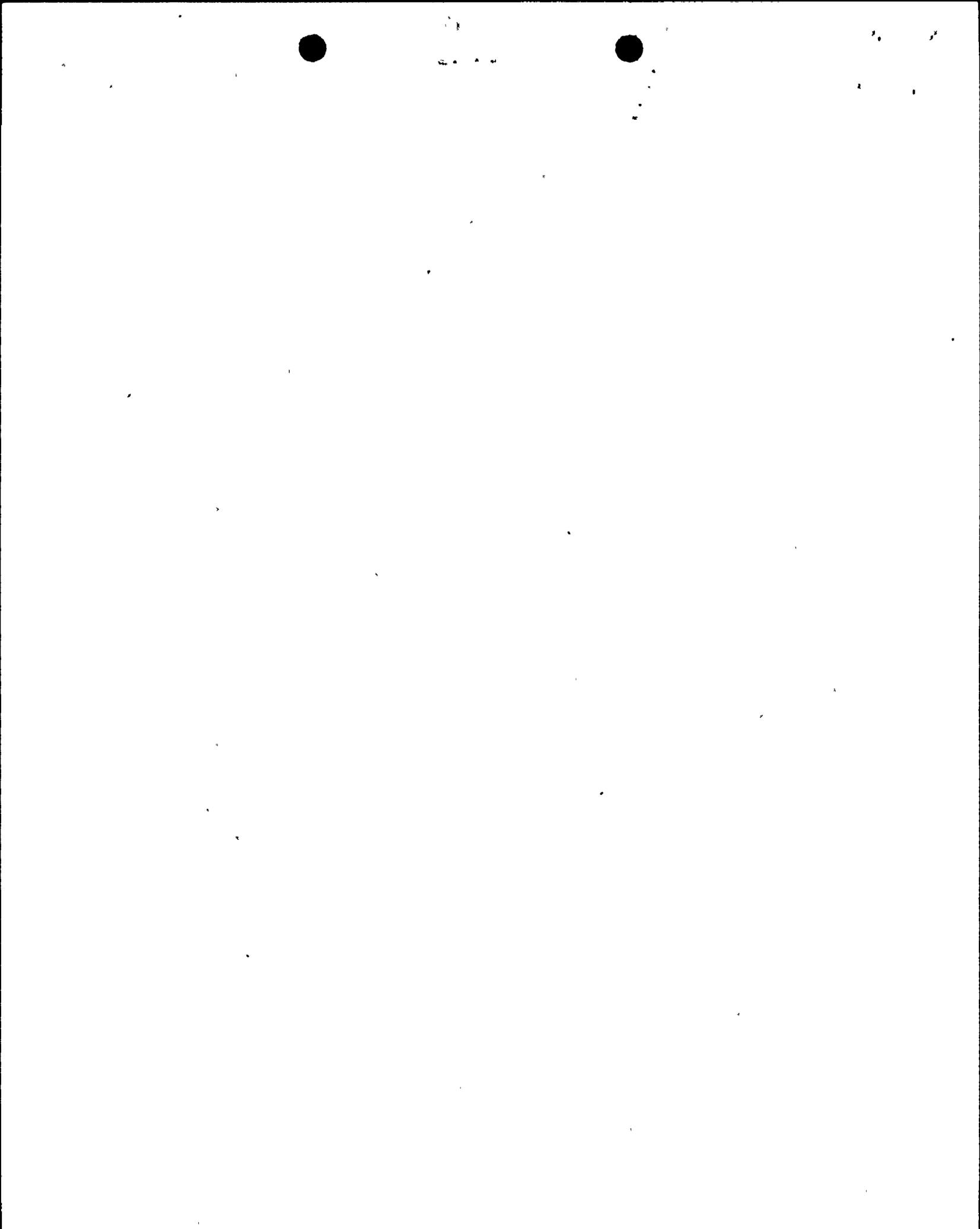
b. Staff Positions on the Licensee's Interpretations of Code Requirements

- (1) In general, the licensee's interpretation of the Code relative to testing during cold shutdown and refueling outages is consistent with the NRC staff's position as described in Section C.1.h of this report. However, it is the staff's position that the tests should always commence no later than 48 hours after reaching Cold Shutdown, even when this occurs on weekends. Where permission has been given in this safety evaluation to test check valves during cold shutdowns rather than on a quarterly frequency, it is our position that these tests should be performed as frequently as the operational schedule of the plant will permit - but not necessarily more frequently than once per 3 months.
- (2) The NRC differentiates, for valve testing purposes, between the cold shutdown mode and the refueling mode. That is, for valves identified for testing during cold shutdowns, it is expected that the tests will be performed both during cold shutdowns as well as during each refueling outage. However, when relief is granted so that tests may be performed on a refueling outage frequency, testing is expected only during each refueling outage. For extended refueling outages, test schedules are expected to be maintained as closely as practical to the Code-specified frequencies.

c. Generic Relief Requests

(1) Relief Request

The licensee requests relief from the requirements of IWV-3417, IWV-3427 and IWV-3523 relative to actions to be taken, limiting time periods for actions to be completed, or limiting conditions for operation if certain conditions are not met where these actions or terminology are in conflict with the Plant Technical Specifications.



Corrective Action - Where a valve or pump fails to meet the requirements of the Program and/or the reference Code, the condition(s) shall be reviewed by the Facility Review Group (FRG) for disposition and determination of whether it involves an unreviewed safety question prior to commencing with plant startup or continuing with plant operation.

Nothing in Section XI of the ASME Boiler and Pressure Vessel Code shall be construed as superseding the requirements of the Plant Technical Specifications.

Evaluation

The corrective action policy stated above is acceptable to the staff; however, corrective action must also fulfill the requirements of IWV-3417, IVW-3427, IWV-3514, and IWV-3523. The staff agrees that Plant Technical Specifications supersede Code requirements (e.g., see C.3.c(2) below). However, absent any conflict between the Code and Technical Specifications, the licensee is expected to fulfill the more conservative requirement.

(2) Relief Request

The licensee has identified the following check valves and motor operated valves as being those that are listed in Table 3.4-1 of the Plant Technical Specifications as Reactor Coolant System Pressure Isolation Valves:

V-3217	V-3259	V-3215	V-3524	V-3480
V-3227	V-3258	V-3225	V-3525	V-3651
V-3237	V-3260	V-3235	V-3526	V-3481
V-3247	V-3261	V-3245	V-3527	V-3652

These valves are required to be leak-rate-tested as specified in Technical Specification 4.4.6.2.2. as well as by the Code.

Evaluation

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 that exceed their design limit. In this role, the valves perform a pressure isolation function. The NRC considers the redundant isolation provided by these valves to be important because it has been demonstrated that the failure of the boundary created by these valves is a dominant accident scenario if the valves are not tested. The NRC considers it necessary to assure that the condition of each of these valves is adequate to maintain this redundant isolation and system integrity.

Consequently, these pressure isolation valves are identified in the Plant Technical Specifications along with specific requirements to monitor their leakage rates periodically. Each of the check valves has a maximum allowable leak rate of 1.0 gpm while the leakage rates for motor operated valves may be as high as 5.0 gpm.

Each of the above listed valves is addressed in response to specific requests for relief from IWV-3420. The requested relief is approved because the staff considers the Technical Specification requirements to supersede, as well as to be more stringent than, those in IWV-3420.

4. Specific Requests for Relief

a. Reactor Coolant

(1) Relief Request

The licensee has requested specific relief for Category B valves V-1474 and V-1475 from the quarterly exercising frequency required by IWV-3410. The licensee proposes to exercise these power-operated relief valves at refueling outages rather than quarterly.

Licensee's Basis for Requesting Relief

These 3-inch power operated relief valves (PORVs) provide low-temperature overpressure protection function during cold shutdown to protect against exceeding pressure temperature limits. No credit is taken in the Safety Analysis for any pressure reducing devices except the Pressurizer safety valves (V-1200, V-1201, and V-1202) and the Main Steam safety valves (V-8201 through V-8216).

The failure of either of these valves in open position, by testing during plant operation, would require a unit outage to perform maintenance on the failed valve.

The failure of either of these valves in the open position, by testing during cold shutdown, would result in a loss of system function. Both valves are required to ensure low-temperature overpressure protection during cold shutdown.

These valves will be tested during refueling shutdowns.

Evaluation

Although the licensee does not take credit for these PORVs as pressure reducing devices when the plant is operating, this relief path is preferred over the use of the Code Safety Valves. Since the associated block valve (V-1476 or V-1477) would have to be closed before the PORV is exercised (to

prevent depressurization of the pressurizer), failure of the PORV in either the open or closed position would make one of the redundant relief paths inoperable. Consequently, the staff agrees that these valves should not be tested while the plant is operating (Branch Technical Position RSB 5-1).

These PORVs also provide overpressurization protection to the RCS when the reactor is at low temperature, i.e., cold shutdown. Failure of the PORV in the open position would not degrade this overpressure protection function. Failure of a PORV in the closed position would isolate one of the redundant pressure relief paths. The St. Lucie 1 Technical Specifications address this situation (TS 3.4.9.3) and require only that the PORV be made operable again within 7 days while the redundant, operable, PORV is providing over-pressurization protection. Consequently, the PORVs should be tested during cold shutdown as well as during refueling outages (Branch Technical Position RSB 5-2), and the staff's approval of the licensee's request for relief is so conditioned.

(2) Relief Request

The licensee requested specific relief for Category B valves V-1476 and V-1477 from the quarterly exercising frequency of IWV-3410. The licensee proposes to test these valves during refueling outages.

Licensee's Basis For Requesting Relief

These 3-inch gate valves provide flow path from the pressurizer to the associated solenoid-operated valves (valves V-1474 and V-1475, see Section 4.a.(1)) that provides for low-temperature overpressure protection during cold shutdown to protect against exceeding pressure-temperature limits. No credit is taken in the Safety Analysis for any pressure reducing devices except for the Pressurizer Safety valves (V-1200, V-1201, and V-1202) and the Main Stream safety valves (V-8201 through V-8216).

The failure of either V-1476 or V-1477 in the open position, by testing during plant operation, would require a unit outage to perform maintenance on the failed valve. The failure of either of these valves in the closed position, by testing during cold shutdown, would result in a loss of system safety function because both valves are required to ensure low-temperature overpressure protection during cold shutdowns.

Evaluation

Technical Specification 4.4.4 requires that these block valves be full-stroked every 92 days (i.e., the Code frequency) unless the unit is in an action statement that requires the valves to be closed, with power removed. If one of the valves should fail open or close during the test, while the plant is operating, the valve must be made operable within one hour or the plant shut down, per Technical Specification 3.4.4. Consequently, the staff does not believe these valves should be tested during plant operation for the sole purpose of fulfilling the requirement of IWV-3410, and relief may be granted per IWV-3410(b)(1).

The staff does not agree with the licensee's second basis that both block valves are required to ensure low-temperature overpressure protection during cold shutdown. The staff's reasoning is the same as presented for the PORVs (V-1474 and V-1475), i.e., Technical Specification 3.4.9.3. Consequently, relief from performing operability tests on these block valves during cold shutdown is not justified.

For the purpose of satisfying the intent of IWV-3410, the staff would permit the test to be performed during cold shutdowns. However, as long as Technical Specification 4.4.4 is effective these valves must be tested every 92 days. Consequently, the licensee's relief request is denied.

(3) Relief Request

The licensee requested specific relief for Category B valves V-1460 and V-1461 from the quarterly testing frequency of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee' Basis for Requesting Relief

These 1-inch globe valves provide for redundant flow paths from the pressurizer to the Reactor Coolant Gas Vent System (RCGVS). These valves are required to be positioned closed and the power supply to the valves removed and locked out to prevent inadvertent operation of the valves during unit operation. Failure of either of these valves, while testing during unit operation, would result in a unit outage to perform maintenance on the failed valve.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. These two valves and valves V-1462, V-1463, V-1464, V-1465, and V-1466, provide paths for relief of gas or reactor coolant to the Reactor Coolant Gas Vent System or Quench Tank. Consequently, all of

these valves are locked closed when the reactor is pressurized so that reactor coolant is not lost. Loss of coolant remains a consideration unless the reactor has been depressurized; therefore, none of these stop valves should be opened until the reactor has been vented at cold shutdown.

(4) Relief Request

The license has requested specific relief for Category B valves V-1462, V-1463, V-1464, V-1465, and V-1466 from the quarterly testing frequency of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 1-inch globe valves provide for redundant flow paths from the reactor vessel closure head to the Reactor Coolant Gas Vent System (RCGVS). These valves are required to be positioned closed and the power supply to the valves removed and locked out to prevent inadvertent operation of these valves during normal operation. Failure of any of these valves, while testing during unit operation, would result in a unit outage to perform maintenance on the failed valve.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. See Section 4.a(3) above.

b. Chemical and Volume Control System

(1) Relief Request

The licensee has requested specific relief for Category B valve FCV-2210Y from the quarterly testing requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This 1-inch valve provides flow control for the Boric Acid Makeup Pumps. Failure of this valve in the open position, by testing during plant operation, could result in the injection of concentrated boric acid solution into the Reactor Coolant System. This could place the plant in an unsafe mode of operation.

Evaluation

Normal boric acid makeup is achieved by pumping concentrated boric acid (²18000 ppm) through this heat-traced line from the Boric Acid Makeup Tanks to the Volume Control Tank. Therefore, testing valve FCV-2210Y will involve transferring

boric acid as well as increasing the concentration of boric acid in the Volume Control Tank. The staff agrees with the licensee that this action should not be taken while the plant is operating. Consequently, the staff approves the licensee's request as allowed by IWV-3412.

(2) Relief Request

The licensee has requested specific relief for Category A valves V-2505 and V-2524 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

Testing these valves during plant operation will interrupt flow of the controlled leakoff from the reactor coolant pump seals, which could result in damage to the reactor coolant pumps. This could place the plant in an unsafe mode of operation.

Evaluation

These 1-inch globe valves provide controlled leakoff flow path to the Volume Control Tank for the reactor coolant pump-seal system. This coolant flow must be maintained whenever the reactor coolant pumps are operating. The staff agrees with the licensee's basis that interruption of flow could cause damage to the reactor pump seals. Consequently, the staff approves the licensee's request to defer these tests until the plant is in cold shutdown and the reactor coolant pumps are not operating.

(3) Relief Request

The licensee has requested specific relief for Category A valves V-2515 and V-2516 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 2-inch globe valves provide the letdown flow path from the Reactor Coolant System to the Chemical and Volume Control System. Testing either of these valves during plant operation would isolate letdown flow, thus causing an unbalanced flow condition in the Chemical and Volume Control System when charging and letdown flow is required (Modes 1 thru 5).

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. (See C.1.a.) The St. Lucie 2 Technical Specifications (Table 3.C-2) identify valve V-2516 as being a containment isolation valve but not testable during plant operations.

(4) Relief Request

The licensee has requested specific relief for Category B valve V-2501 from the quarterly testing requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis For Requesting Relief

This 4-inch gate valve provides a flow path from the Volume Control Tank to the Charging Pump suction header. Failure of this valve in the closed position, by testing during plant operation, would isolate the Charging Pump suction header from the Volume Control Tank. This could result in damage to the pumps and place the plant in an unsafe mode of operation.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The principal source of water for the Chemical and Volume Control System is the Volume Control Tank. This source should not be isolated during plant operation or when the volume of the Reactor Coolant System (RCS) must be adjusted to maintain plant stability. Valve V-2501 is normally open and would fail in the open position; however, the safety function of this valve is to close upon receiving a safety injection signal so that highly borated water can be injected into the reactor by the charging pumps. The staff agrees with the licensee that failure of this valve in the closed position, while the plant is operating, would result in an undesirable mode of operation. (See C.1.a.)

(5) Relief Request

The licensee has requested specific relief for Category B valve V-2514 from the quarterly testing requirements of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis For Requesting Relief

Valve V-2514 is a 3-inch gate valve that provides a flow path from the normal boric acid makeup flow path to the emergency boration flow path. Testing this valve during

normal plant operation could result in the injection of concentrated boric acid solution into the Reactor Coolant System. This could place the plant in an unsafe mode of operation.

Evaluation

Valve V-2514 provides flow of concentrated (²18000 ppm) boric acid solution to the suction of the normally operating Charging Pump and is normally closed. This valve lineup is not used during normal plant operation when the Charging Pump takes suction from the dilute (²800 ppm) boric acid solution in the Volume Control Tank. The staff agrees that accidental injection of concentrated boric acid would be undesirable. V-2514 can be tested without undue difficulty at cold shutdowns because a redundant (gravity fed) emergency flow path remains if valve V-2514 were to fail in the closed position.

The staff approves the licensee's request for relief from the quarterly test requirement. (See C.1.a.) Per Technical Specification 4.1.2.2.C either V-2514, V-2508, or V-2509 (see C.4.b.(14)) must be actuated at least once per 18 months.

(6) Relief Request

The license has requested specific relief for Category B valve V-2504 from the quarterly testing frequency of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis For Requesting Relief

This 3-inch gate valve provides a flow path from the Refueling Water Tank to the Charging Pump suction header. Testing this valve during normal plant operation could result in the injection of concentrated boric acid solution into the Reactor Coolant System. This could result in placing the plant in an unsafe mode of operation.

Evaluation

Drawing 2998-G-078, Sheet 121, shows that valve V-2504 can provide flowpath from the Refueling Water Tank as well as from the Primary Makeup Water Tank and the Boric Acid Makeup Pumps. The latter flow path is normally isolated by locked-closed valve V-2526 which also isolates the heat-traced sections of this boration flow path from the unheated portion that contains valve V-2504.

The staff agrees with the licensee's basis that testing valve V-2504 during plant operation is not desirable. The staff, therefore, approves the licensee's relief request. (See C.1.a.)

(7) Relief Request

The licensee has requested specific relief for Category C valve V-2191 from the quarterly testing requirement of IWV-3520 and proposes to exercise this valve during refueling shutdowns.

Licensee's Basis for Requesting Relief

This 3-inch check valve prevents reverse flow from the Charging Pump suction header to the Refueling Water Tank when valve V-2504 is open. Testing this valve during normal plant operation could result in the injection of concentrated boric acid solution into the Reactor Coolant System. This could result in placing the plant in an unsafe mode of operation.

Further, failure of this valve in the open position by testing during cold shutdowns would result in the loss of one of the emergency boration flow paths required during cold shutdowns.

Evaluation

In response to the staff's request for clarification of this basis, the licensee explained that this check valve cannot be opened by the pressure head of the RWST without operating at least one charging pump. Part-stroking of this valve can be achieved by discharging the RWST water through a drain line downstream of valve V-2191. The staff does not consider this part-stroke procedure to be practical. Therefore, the request to exercise valve V-2191 during refueling is approved.

(8) Relief Request

The licensee has requested specific relief for Category C valves V-2177, V-2526, and V-2190 from the testing requirements of IWV-3520 and proposes to test these valves during refueling shutdowns.

Licensee's Basis For Requesting Relief

These 3-inch check valves prevent reverse flow from the Charging Pump suction header to the emergency boration flow path. Testing these valves during normal plant operation could result in the injection of concentrated boric acid solution into the Reactor Coolant System. This could place the plant in an unsafe mode of operation.

Failure of either of these valves in the closed position, by testing during cold shutdowns, could result in the loss of one of the emergency boration flow paths required during cold shutdowns.

These valves will be flow tested during refueling shutdowns when concentrated boric acid can be injected into the reactor coolant system and the emergency boration flow paths can be flushed out.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief.

(9) Relief Request

The licensee has requested specific relief for Category C valve V-2431 from the quarterly test requirement of IWV-3520 and proposes to test this valve during cold shutdown.

Licensee's Basis for Requesting Relief

Administrative controls require the Auxiliary Spray System isolation valves to be positioned closed and locked closed during normal plant operation, to prevent thermal shock to pressurizer spray lines.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). If the auxiliary spray line is not isolated from the pressurizer when the plant is operating, the CVCS system would be subjected to the high temperature and pressure of the reactor coolant and the auxiliary spray line would be thermally stressed.

(10) Relief Request

The licensee has requested specific relief for Category B valves SE-02-03 and SE-02-04 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

The 2-inch globe valves provide flow path from the charging system header to the auxiliary spray system. Technical Specifications require these valves to be locked closed during plant operation.

Evaluation

These valves provide auxiliary spray flow path from the CVCS to the pressurizer during Reactor Coolant System (RCS) heatup and cooldown operations. The staff agrees that these valves should not be tested except when the plant is in cold shutdown. The relief request is, therefore, approved.

(11) Relief Request

The licensee has requested specific relief for Category B valve V-2523 from the quarterly testing requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This 2-inch globe valve provides flow path from the charging pump discharge header to the reactor coolant system. Failure of this valve in the closed position, by testing during plant operation, would result in the loss of system function.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. Valve-2523 is locked open during plant operation to prevent the RCS from being isolated from the charging pumps and should not be tested in this mode of operation.

(12) Relief Request

The licensee has requested specific relief for Category A valve V-2522 from the quarterly testing requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This 2-inch globe valve provides letdown flow path from the reactor coolant system. Failure of this valve in the open position, by testing during plant operation, would result in the loss of containment integrity.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. This valve is designed to close, or fail close, on a containment isolation signal. Failure in the open position while the failure actuator is being tested would be a loss of containment integrity. This valve is listed in Technical Specification 3/4 6.3, Table 3.6-2, as not being testable during plant operation.

(13) Relief Request

The licensee has requested specific relief for Category C valve V-2440 from the quarterly testing requirement of IWV-3520 and proposes to test this valve during cold shutdown.

Licensee's Basis for Requesting Relief

This 2-inch check valve provides flow path from the charging pump discharge header to the High Pressure and Low Pressure Safety Injection System headers. This valve cannot be tested during plant operation because Administrative Procedures require operation of the High Pressure and Low Pressure Safety Injection System isolation valves be minimized during plant operation.

Further, injection of cold water into the Reactor Coolant System during plant operation could result in thermal shock to the system piping.

Evaluation

The staff agrees with the licensee's bases and approves the requested relief. (See C.1.a.)

(14) Relief Request

The licensee has requested specific relief for Category B valves V-2508 and V-2509 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during refueling shutdowns.

Licensee's Basis for Requesting Relief

These 3-inch gate valves provide emergency flow path from the associated boric acid makeup tanks to the charging pump suction header. Testing these valves during normal plant operation could result in the injection of concentrated boric acid solution into the reactor coolant system. This could place the plant in an unsafe mode of operation.

Failure of either of these valves in the closed position, by testing during cold shutdowns, would result in the loss of the emergency boration flow paths required during cold shutdown.

Evaluation

The staff agrees with the licensee's bases and approves the requested relief. These valves are in heat-traced lines that provide flow for concentrated boric acid. All lines that are not heated must be flushed with demineralized water, immediately after these valves are tested, to prevent deposition of boric acid crystals. Therefore, these valves should be tested only during refueling outages. Per Technical Specification 4.1.2.2.C, either valve V-2514 (see C.4.b.(5)), V-2508 or V-2509 must be actuated at least once per 18 months.

c. Safety Injection (SI)

(1) Relief Request

The licensee has requested specific relief for Category C valves V-3414 and V-3427 from the testing frequency required by IWV-3520 and proposes to exercise these valves during refueling shutdowns.

Licensee's Basis For Requesting Relief

These 3-inch stop check valves prevent reverse flow from the High Pressure Safety Injection (HPSI) System Supply Header to a non-operating HPSI pump. These valves cannot be tested during plant operation because the High Pressure Safety Injection System Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System (RCS).

Further, testing these valves during cold shutdowns is impractical since it could subject the Reactor Coolant System to conditions exceeding pressure-temperature limits.

Evaluation

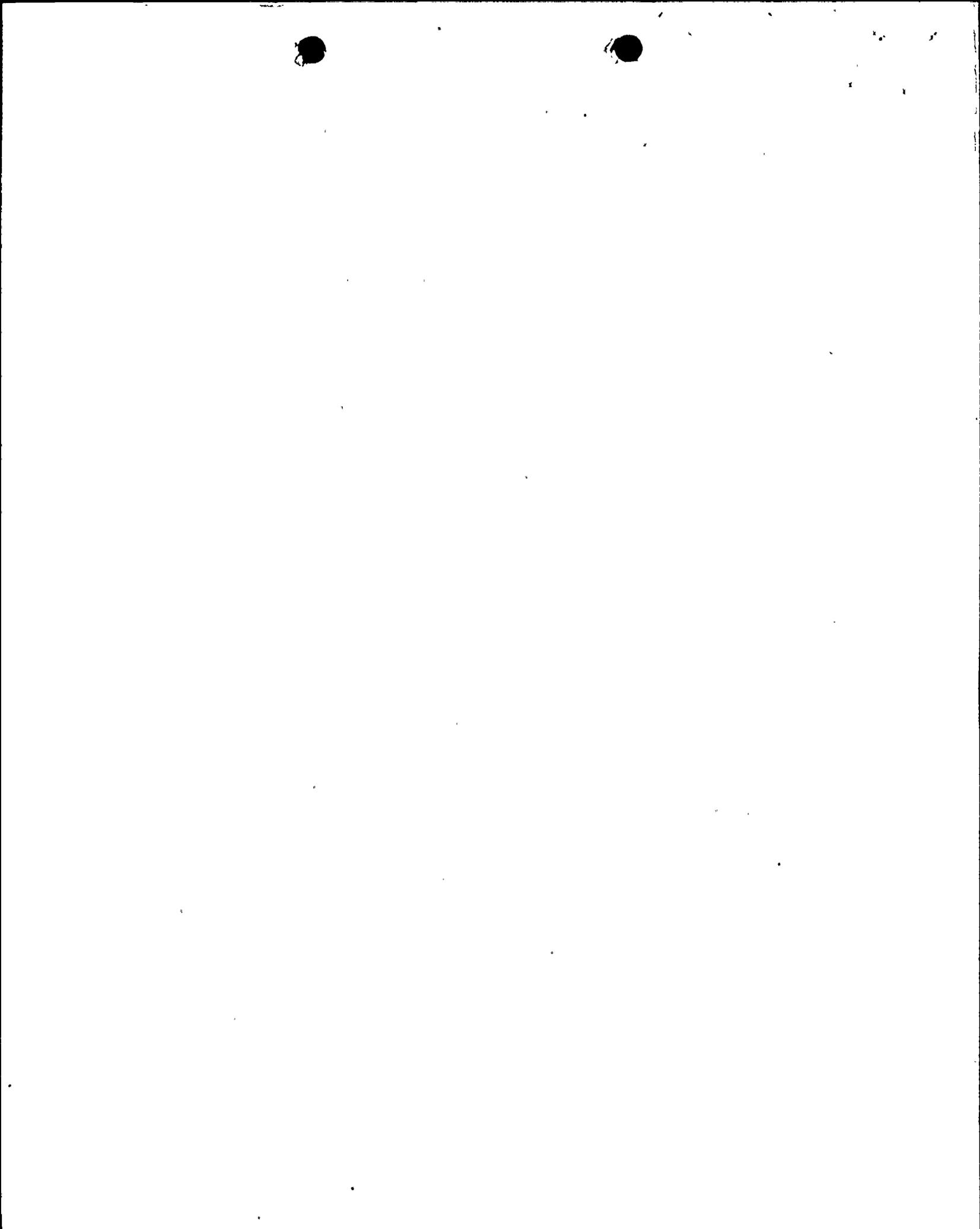
The staff agrees with the licensee's basis and concludes that the requested relief should be granted. Although the HPSI pumps are tested monthly, flow is through recirculation lines upstream from these valves. The licensee has demonstrated that the test cannot be performed during operation with the available head and that performance during cold shutdown could cause RCS pressure-temperature limits to be exceeded.

(2) Relief Request

The licensee has requested specific relief for Category C valves V-3106 and V-3107 from the quarterly testing requirements of IWV-3520 and proposes to test these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 10-inch check valves prevent reverse flow from the Low Pressure Safety Injection (LPSI) System Supply Header to a non-operating LPSI pump. These valves cannot be tested during plant operation because the Low Pressure Safety Injection System Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant Systems.



Evaluation

These check valves provide flow from the two LPSI pumps upstream of the common LPSI header. The staff agrees that these valves cannot be exercised (opened) by pumping water to the reactor through the LPSI header while the plant is operating. Therefore, the licensee's request is approved. (See C.1.a).

(3) Relief Request

The licensee has requested specific relief for Category C valves V-3401 and V3410 from the quarterly full-stroke exercise required by IWV-3520 and proposes to full-stroke exercise these valves during refueling shutdowns and also to partstroke them quarterly, during the performance of associated pump tests.

Licensee's Basis For Requesting Relief

These 6-inch check valves prevent reverse flow from a non-operating HPSI Pump to the Refueling Water Tank (RWT) Supply Header. These valves cannot be full-stroke exercised during plant operation because the High Pressure Safety Injection System Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Further, full-stroke exercising these valves during cold shutdowns is impractical since it could subject the Reactor Coolant System to conditions exceeding pressure-temperature limits.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The licensee has demonstrated that the valves cannot be full-stroke exercised during operation or at cold shutdown. However, they are partially opened to provide flow from the Refueling Water Tank to the HPSI pumps during the quarterly tests of the pumps.

(4) Relief Request

The licensee has requested specific relief for Category C valves I-V07000 and I-V07001 from the quarterly full-stroke exercising requirements of IWV-3520. The licensee proposes to full-stroke exercise these valves during cold shutdown and to part-stroke them during the quarterly performance of associated pump tests.

Licensee's Basis for Requesting Relief

These 14-inch check valves prevent reverse flow from a non-operating LPSI pump to the RWT Supply Header, and must open to provide water to the pumps. These valves cannot be tested during plant operation because the Low Pressure Safety Injection Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. These valves are partially opened during the quarterly tests of the LPSI pumps and are fully tested during cold shutdown. (See C.1.a.)

(5) Relief Requested

The licensee has requested specific relief for Category C valves V-3113, V-3766, V-3133, V-3143, V-3258, V-3259, V-3260, and V-3261 from the quarterly test requirement of IWV-3520 and proposes to exercise these valves during refueling shutdowns.

Licensee's Basis for Requesting Relief

These 2-inch and 6-inch check valves prevent reverse flow from the LPSI System and the Safety Injection Tank System to the HPSI System. They must open to permit high pressure injection to the RCS. These valves cannot be tested during plant operation because the High Pressure Safety Injection Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Further, testing these valves during cold shutdowns is impractical since it could subject the Reactor Coolant System to conditions exceeding pressure-temperature limits.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. (See C.1.a) The licensee has demonstrated that these valves cannot be practically exercised during operation or cold shutdowns and, therefore, they should only be tested at refueling outages when the HPSI system is used to refill the reactor coolant system. Valves V-3258, V-3259, V-3260, and V-3261 are listed in Table 3.4-1 of the St. Lucie 2 Technical Specifications as being Reactor Coolant System Pressure Isolation Valves and must be leak-rate tested per Technical Specification 4.4.6.2.2.

Therefore, these valves should be categorized AC rather than C. Inasmuch as the Technical Specification requirements are more stringent than those of the Code, the licensee is granted relief from the leak-rate test requirements of IWV-3420. (See C.3.c(2).)

(6) Relief Requested

The licensee has requested specific relief for Category C valves V-3114, V-3124, V-3134, and V-3144 from the quarterly testing requirement of IWV-3520 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 6-inch check valves prevent reverse flow from the HPSI System to the LPSI System. They open to provide cooling flow to the RCS from the LPSI Pumps. These check valves cannot be tested during plant operation because the Low Pressure Safety Injection Pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The licensee has demonstrated that these valves cannot be practically exercised during plant operation. They are fully exercised, however, when they provide flow for shutdown cooling. (See C.1.a.)

(7.a.) Relief Request

The licensee has requested specific relief for Category AC valves V-3217, V3227, V-3237, and V-3247 from the quarterly testing requirement of IWV-3520 and proposes to exercise the valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 12-inch check valves prevent reverse flow from the Reactor Coolant System (RCS) to the HPSI System, the Safety Injection Tank System, or the LPSI System. They open to provide safety injection flow to the RCS. These check valves cannot be tested during plant operation because neither the High Pressure Safety Injection Pumps, the Safety Injection Tanks, nor the Low Pressure Safety Injection Pumps develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The licensee has demonstrated that these valves cannot be practically exercised during operation and has proposed to exercise them at cold shutdowns. (See C.1.a.)

(7.b.) Relief Request

The licensee requests relief for valves V-3217, V-3227, V-3237, and V-3247 from the leak-rate test requirements of IWV-3420.

Licensee's Basis for Requesting Relief

These valves are required to be tested as Reactor Coolant Pressure Isolation Valves in accordance with Technical Specification 4.4.6.2.2.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The leak-rate test requirements of this Technical Specification will provide equivalent or greater demonstration that these valves have adequate seat tightness than the requirements of IWV-3420. (See C.4.c.(5) above and C.3.c.(2).)

(8) Relief Request

The licensee has requested specific relief for Category B valves V-3659, V-3660, V-3495 and V-3496 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

The 3-inch gate valves and 6-inch globe valve provide a minimum-flow (recirculation-flow) path from the HPSI pumps, the LPSI pumps, and the Containment Spray Pumps to the Refueling Water Tank. These valves cannot be tested during plant operation because the Technical Specifications require these valves to be positioned open with the power supply to the valve operator removed during operation in Modes 1, 2, and 3 (with Pressurizer pressure greater than 1750 psia).

Further, the failure of either of these valves in the closed position by testing during plant operation could result in pump damage, if any of the pumps started and operated without sufficient flow through the operating pump.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The licensee has demonstrated that these valves cannot be practically exercised during plant operation and has proposed to exercise them at cold shutdowns. (See C.1.a.)

(9.a.) Relief Request

The licensee has requested specific relief for Category C check valves V-3215, V-3225, V-3235, and V-3245 from the quarterly testing requirement of IWV-3520 and proposes to exercise these valves during refueling shutdowns.

Licensee's Basis for Requesting Relief

These 12-inch check valves prevent reverse flow from the HPSI System and the LPSI System into the Safety Injection Tanks. They open, when required, to permit injection of borated water into the RCS. These valves cannot be tested during plant operation because the Safety Injection Tank pressure is insufficient to establish a flow path to the Reactor Coolant System.

These valves cannot be tested during cold shutdowns because one of the shutdown cooling system flow paths to the reactor would be isolated during the performance of the test.

Evaluation

The staff agrees with the licensee's basis for not exercising these valves during plant operation or cold shutdowns. Based on discussions with the licensee, the staff understands that the test proposed for refueling outages will provide full-stroke exercising. Consequently, the licensee's request for relief on the condition that, if a full-stroke test cannot be developed, these valves will be disassembled and manually full-stroked on 5-year intervals is approved.

(9.b.) Relief Request

The licensee has also requested relief for valves V-3215, V-3225, V-3235, and V-3245 from the leak-rate test requirements of IWV-3420.

Licensee's Basis for Requesting Relief

These valves are required to be tested as Reactor Coolant Pressure Isolation Valves in accordance with Plant Technical Specification 4.4.6.2.2.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. (See C.4.c.(5) above and C.3.c.(2).)

(10) Relief Request

The licensee has requested specific relief for Category A valves V-3463, SE-03-2A, and SE-03-2B from the quarterly exercising requirements of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

Valve V-3463 is a 2-inch gate valve and valves SE-03-2A and B are 2-inch globe valves that provide flow path to the Refueling Water Tank from the Safety Injection Tanks, when the associated drain valve is opened. These valves are normally closed. The failure of either of these valves in the open position, by testing during plant operation, would require a unit shutdown to perform maintenance on the failed valve.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. (See C.1.a.)

(11) Relief Request

The licensee has requested specific relief for Category B valves HCV-3618, HCV-3628, HCV-3638, HCV-3648 from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 1-inch globe valves provide flow path from the Safety Injection System header to the Waste Management System. These drain valves are normally closed during plant operation. Failure of any of these valves in the open position, by testing during plant operation, would result in draining the Safety Injection Tank associated with the valve. This would place the plant in an unsafe mode of operation.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. The licensee has demonstrated that it is impractical to exercise these valves during operation, as this could result in draining the SIT. (See C.1.a.)

(12.a.) Relief Request

The licensee has requested specific relief for Category B valves V-3480, V-3481, V-3651, V-3652, V-3545, V-3664, and V-3665 from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 10-inch gate valves provide flow path from the Reactor Coolant System to the Shutdown Coolant System. These valves are normally locked closed. The failure of either of these valves in the open position, by testing during plant operation, would require a unit shutdown to perform maintenance on the failed valve.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. The licensee has demonstrated that it is impractical to test the valves during operation. (See C.1.a.) Failure of one of the valves in the open position during operation would necessitate plant shutdown.

(12.b.) Relief Request

The licensee has requested relief for valves V-3480, V-3481, V-3652, and V-3651 from the leak-rate list requirements of IWV-3420.

Licensee's Basis for Requesting Relief

These valves are required to be tested as Reactor Coolant Pressure Isolation Valves in accordance with Plant Technical Specification 4.4.6.2.2.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. (See C.4.c.(5) above and C.3.c.(2).)

(13) Relief Request

The licensee has requested specific relief for Category C valves V-3525 and V-3527 from the quarterly exercising requirement of IWV-3520 and proposes to exercise these valves during refueling shutdowns.

Licensee's Basis for Requesting Relief

These 3-inch check valves prevent reverse flow from the Reactor Coolant System (RCS) to the High Pressure Safety Injection System (HPSI). These valves cannot be tested

during plant operation because the HPSI pumps do not develop sufficient discharge head to establish a flow path to the RCS. These valves cannot be tested during cold shutdown since it could subject the RCS to conditions exceeding pressure-temperature limits.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. The licensee has shown that it is not feasible or advisable to actuate the HPSI pumps unless the reactor is in a refueling mode. These valves are listed in Table 3.4-1 of the St. Lucie 2 Technical Specifications as being reactor coolant system pressure isolation valves. These valves should be leak-rate tested per Technical Specification 4.4.6.2.2 rather than per IWV-3420 and should be categorized as being Category AC valves. (See C.4.c.(5) above and C.3.c.(2).)

(14) Relief Request

The licensee has requested specific relief for Category C valves V-3524, V-3526, V-3522, and V-3547 from the quarterly exercising requirement of IWV-3520 and proposes to exercise these valves during refueling shutdowns.

Licensee's Basis for Requesting Relief

These 3-inch check valves are on the shutdown cooling lines and prevent reverse flow from the RCS to the HPSI system. These valves cannot be tested during plant operation because the HPSI pumps do not develop sufficient discharge head to establish a flow path to the RCS. Additionally, these valves cannot be tested during cold shutdown since it could subject the RCS to conditions exceeding pressure-temperature limits.

Evaluation

These valves are in series with valves V-3525 and V-3527 above (see Request C.4.c(1)). The licensee has shown that water from the Refueling Water Tank (RWT) could not and should not be pumped through the HPSI system and these valves when the unit is operating or in cold shutdown. The staff agrees with the licensee's basis and approves the requested relief.

Valves V-3524 and V-3526 are listed in Table 3.4-1 of the St. Lucie 2 Technical Specifications as being reactor coolant system pressure isolation valves. These valves should be categorized as AC and should be leak-rate tested per Technical Specification 4.4.6.2.2 rather than per IWV-3420 (See C.4.c.(5) above and C.3.c(2).)

(15) Relief Request

The licensee has requested specific relief for Category B valves V-3539 and V-3556 from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 4-inch globe valves are normally locked closed but must open to provide flow path from the Shutdown Cooling System (SCS) to the Low Pressure Safety Injection (LPSI) System to minimize thermal effects during cold shutdowns. Failure of either of these valves in the closed position during plant operation would result in the loss of system function. Technical Specification 3.4.5.2 requires two independent Emergency Core Cooling Subsystems to be operable. With one ECCS inoperable, a Limiting Condition of Operation (LCO) action statement is applicable.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a.). If these valves failed closed during plant operation, the plant could not be shut down without thermal stress being placed on the low-pressure safety injection lines.

(16) Relief Request

The licensee has requested specific relief for Category B valves V-3523, V-3540, V-3550, and V-3551 from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 3-inch globe valves provide flow path from the High Pressure Safety Injection (HPSI) System to the hot leg 2-A1 and 2-B1. Failure of these valves in the closed position by testing during plant operation would result in the loss of system function.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a.). This flow path is required for long-term post-accident cooling.

(17) Relief Request

The licensee has requested specific relief for the following Category B valves from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns:

HCV-3615, HCV-3625, HCV-3635, HCV-3645
HCV-3616, HCV-3626, HCV-3636, HCV-3646
HCV-3617, HCV-3627, HCV-3637, HCV-3647

Licensee's Basis for Requesting Relief

These 2-inch and 6-inch globe valves provide flow path from the High Pressure Safety Injection System, headers A and B, and the Low Pressure Safety Injection System, headers A and B respectively. Administrative Controls require that exercising of these valves during plant operation be minimized.

Evaluation

These valves are in High Pressure Safety Injection Headers A and B and in Low Pressure Safety Injection Headers A and B. These headers should not be tested while the plant is operating. Therefore, the requested relief is approved (See C.1.a).

(18) Relief Request

The licensee has requested specific relief for the following Category B valves from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns:

V-3517, V-3658, FCV-3301, FCV-3306
V-3457, HCV-3657, HCV-3512, V-3456

Licensee's Basis for Requesting Relief

These 10-inch butterfly valves and 10-inch and 12-inch gate valves provide flow path from the Shutdown Cooling Pumps to the Shutdown Cooling Heat Exchangers to provide for residual heat removal during cold shutdowns. These valves are required by Administrative Controls to be positioned and locked in position during plant operation to provide for the use of the Shutdown Cooling Heat Exchangers for the Containment Spray System.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). The valve lineup required to mitigate a loss of coolant accident should not be changed while the plant is operating.

(19) Relief Request

The licensee has requested specific relief for Category B valves V-3432 and V-3434 from the quarterly exercising requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 14-inch gate valves provide for isolation for shutdown cooling pump suction header when the system is aligned for shutdown cooling operation. Administrative Controls require these valves to be positioned open and locked open during normal plant operation. Failure of either of these valves in the closed position, when testing during plant operation, would result in loss of one of the two required independent ECCS subsystems.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a and C.1.c.(18)).

d. Component Cooling Water

(1) Relief Request

The licensee has requested specific relief for Category A valves HCV-14-1, HCV-14-7, HCV-14-2, and HCV-14-6 from the quarterly testing requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 8-inch butterfly valves provide supply and return flow path for component coolant water to the Reactor Coolant Pump and Motor Seal Coolers. These valves cannot be tested during plant operation because closing any of these valves would result in the loss of cooling capability to the Reactor Coolant Pump and Motor Seal Coolers. This could result in damage to the Reactor Coolant Pumps which could place the plant in an unsafe mode of operation.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. The licensee has demonstrated that these valves cannot be exercised during operation without possible damage to the Reactor Coolant Pumps, which could place the plant in an unsafe condition. Technical Specification 3/4 6.3 (Table 3.6-2) states that these valves are not testable during plant operation.

(2) Relief Requested

The licensee has requested specific relief for Category B valves MV-14-17, MV-14-18, MV-14-19, and MV-14-20 from the quarterly exercising requirement of IWV-3410 and propose to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally open 12-inch butterfly valves provide Component Cooling Water supply and return flow path between the Fuel Pool Heat Exchanger and the Component Cooling Water Headers. Failure of either of these valves in the closed position, by testing during plant operation, would result in a unit shutdown to perform maintenance on the failed valve since Plant Technical Specification 3.7.3 requires at least two independent component cooling water loops to be operable during normal plant operations.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). Although one of each supply and discharge lines is isolated, these systems are not redundant because they are associated with different Component Cooling Water lines and heat exchangers.

(3) Relief Request

The licensee has requested specific relief for Category B valves HCV-14-3A and HCV-14-3B from the quarterly exercising requirements of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis For Requesting Relief

These 14-inch butterfly valves provide flow path from the Component Cooling Water System to the Shutdown Cooling System heat exchangers. Testing these valves during plant operation would cause an unbalanced flow condition in the Component Cooling Water System resulting in decreased flow to essential equipment. This could cause overheating of equipment which could place the plant in an unsafe mode of operation.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. The licensee has demonstrated that exercising these valves during plant operation would result in decreased flow to essential equipment, and the plant could be placed in an unsafe condition.

e. Waste Management

(1) Relief Request

The licensee has requested specific relief for Category A valves V-6341 and V-6342 from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally open, 3-inch diaphragm valves provide flow path from the reactor drain tank to the suction header of the reactor drain pumps. The failure of either of these valves in the closed position, by testing during plant operation, would result in a loss of system function.

Evaluation

These containment isolation valves are listed in Table 3.6-2 of Technical Specification 3/4 6.3 as being testable during plant operation. However, the staff agrees with the licensee's basis that failure of either valve in the closed position would prevent transfer of liquid from the Reactor Drain Tank and the Reactor Cavity Drain. Valve V-6341 could be repaired only by entering containment. The staff, therefore, approves the requested relief (See C.1.a).

(2) Relief Request

The licensee has requested specific relief for Category A valve V-6741 from the quarterly testing required by IWV-3410 and proposes to exercise this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This 1-inch globe valve provides flow path for nitrogen supply to components located inside Containment. The failure of this valve in the open position, by testing during plant operation, could result in a loss of containment integrity.

Evaluation

The staff agrees with the licensee's basis and grants relief to test this valve during cold shutdowns. The licensee has demonstrated that testing this valve during operation would be undesirable (See C.1.a).

(3) Relief Request

The licensee has requested specific relief for Category A valves V-6718 and V-6750 from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally open, 1-inch globe valves provide flow path from components located inside containment to the gas surge tank (containment vent header) located outside containment. The failure of either of these valves in the closed position, by testing during plant operation, would cause a loss of system function.

Evaluation

These valves provide containment isolation in case of an accident. According to Technical Specification 3/4.6.3, Table 3.6.2, these valves are testable during plant operation. However, the staff agrees with the licensee's basis. Since gaseous waste could not be transferred to the gas surge tank if these valves failed closed during testing and since entry into containment would be required to repair valve V-6718, the staff approves the requested relief (See C.1.a).

f. Main Steam

(1) Relief Request

The licensee has requested specific relief for Category B valves HCV-08-1A and HCV-08-1B from the quarterly testing requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 34-inch globe valves provide flow path from the Steam Generator to the Main Steam Header System. These valves cannot be tested during plant operation because closing these valves would cause a reactor trip.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. Closure of these valves isolates the associated steam generator from an energy release sink and would trip the reactor. It is the staff's position that performance of IST tests should not cause plant transients or trips (See C.1.a).

(2) Relief Request

The licensee has requested specific relief for Category B valves MV-08-1A and MV-08-1B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally closed 3-inch globe valves provide bypass flow path around the associated main steam isolation valve (MSIV). Failure of either of these valves, by testing during plant operation, would result in the loss of capability to fully isolate the associated steam generator from the main steam header.

Evaluation

The staff agrees with the licensee's basis and grants the requested relief. The licensee has shown that failure of these small valves in the open position would partially negate the purpose of the MSIVs (See C.1.a).

(3) Relief Request

The licensee has requested specific relief for Category B valves MV-08-18A, MV-08-18B, MV-08-19A, MV-08-19B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdown.

Licensee's Basis for Requesting Relief

These normally closed 10-inch angle valves provide for control of steam pressure on the associated main steam line. Testing these valves during plant operation could result in an unbalanced pressure condition between the associated steam line and the main steam header. This could actuate protective systems and trip the reactor.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). These operator-controlled steam-dump valves should not be tested while the secondary system is at pressure.

g. Feedwater and Condensate

(1) Relief Request

The licensee has requested specific relief for Category C valves V-9107, V-9119, V-9123, V-9135, V-9139, V-9151, and V-9157 from the requirements of IWV-3520 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally closed check valves prevent reverse flow from the Main Feedwater System into the Auxiliary Feedwater System. They cannot be tested during plant operation because establishing a flow path to the steam generators with auxiliary feedwater at ambient conditions would result in thermal shock to the Main Feedwater System piping.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). The licensee will test these check valves at design flow when the plant is returning to operation (in the Hot Standby Mode) while the steam generators are being fed by the Auxiliary Feedwater pumps.

(2) Relief Request

The licensee has requested specific relief for Category B valves HCV-09-1A, HCV-09-1B, HCV-09-2A, HCV-09-2B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdown.

Licensee's Basis for Relief Request

These normally open 20-inch gate valves provide flow path from the main feedwater system to the associated steam generator. These valves cannot be tested during plant operation because closing either of these valves would result in loss of feedwater flow to the associated steam generator and cause a reactor trip.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). Feedwater flow to the steam generators cannot be maintained when these valves are closed.

(3) Relief Request

The licensee has requested specific relief for Category C valves V-9252 and V-9294 from the quarterly exercising requirements of IWV-3520 and proposes to test these valves by an alternative method.

Licensee's Basis for Relief Request

These normally open 18-inch check valves provide flow of feedwater to the associated steam generator and prevent reverse flow back into the feedwater system. These valves will be disassembled, on an alternating basis (staggered test basis), during refueling shutdowns over the 10-year inspection interval to inspect the valve's freedom of motion to open and close positions. Any problem found during this inspection would be cause for inspection of the other check valve.

Evaluation

These check valves are demonstrated to open whenever feedwater flow into the steam generators is achieved. There is no method for verifying that these valves will move to the closed position to perform their safety function. The staff agrees that the proposed alternative method of testing will verify the operability of the valve to open and close. Therefore, the staff approves the licensee's request for relief.

h. Containment Spray

(1) Relief Request

The licensee has requested specific relief for Category B valves MV-07-1A and MV-07-1B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally open 24-inch butterfly valves provide flow path from the Refueling Water Tank (RWT) to the Containment Spray (CS), High Pressure Safety Injection System (HPSI), and Low Pressure Safety Injection System (LPSI). These valves are positioned open and locked during plant operation as required by Administrative Controls.

Evaluation

The staff agrees with the licensee's bases and approves the requested relief (See C.1.a). It is infeasible to test these large butterfly valves without pumping water from the RWT through either the LPSI, HPSI, or CS system.

(2) Relief Request

The licensee has requested specific relief for Category B valves MV-07-2A and MV-07-2B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally closed 24-inch butterfly valves provide flow path from the reactor cavity and containment sump to the Containment Spray (CS), High Pressure Safety Injection System (HPSI) and Low Pressure Safety Injection System (LPSI) when these systems are required to perform during the recirculation mode. Failure of either of these valves in the open position, while testing during plant operation, would result in loss of containment integrity.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). If these valves failed open, there would be no containment isolation valves between the containment sump and the Auxiliary Building.

(3) Relief Request

The licensee has requested specific relief for Category C valves V-07120 and V-07119 from the exercising test frequency requirements of IWV-3520 and proposes to exercise these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 24-inch check valves prevent reverse flow to the Refueling Water Tank. They cannot be tested during plant operation because neither the Refueling Water Tank, the High Pressure Safety Injection Pumps, nor the Low Pressure Safety Injection Pumps develop sufficient discharge head to establish a flow path to the Reactor Coolant System. These valves will be exercised during cold shutdowns and also every 3 months during the performance of Safety Injection System Pump tests.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). The licensee has shown that RWT water cannot be pumped through these valves during plant operation because there is no way to discharge the HPSI or LPSI pump flow.

(4) Relief Request

The licensee has requested specific relief for Category C valves V-07174 and V-07172 from the exercising tests required by IWV-3520 and proposes to verify their operability using an alternative method.

Licensee's Basis for Requesting Relief

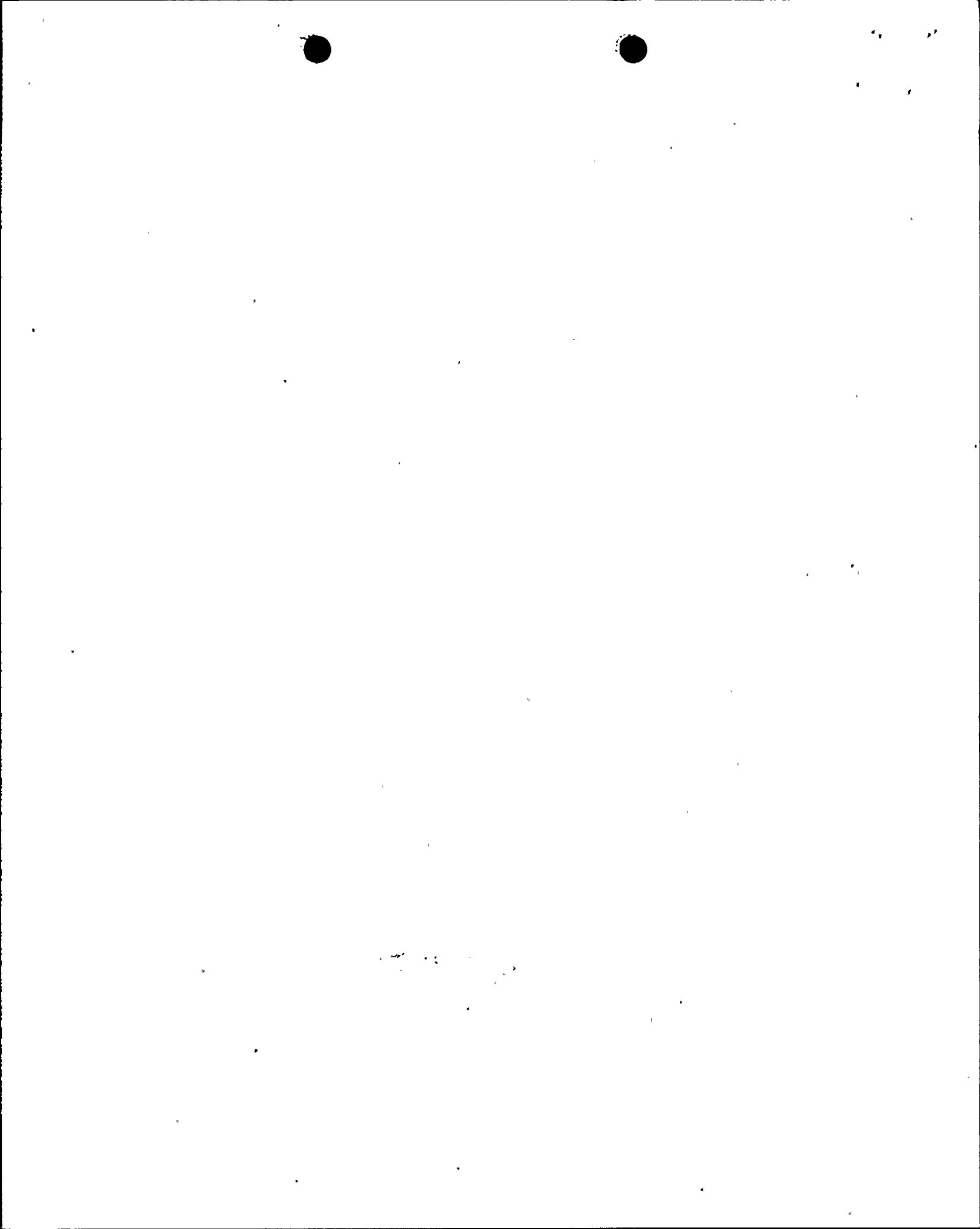
These 24-inch check valves prevent reverse flow from the Refueling Water Tank to the Containment Recirculation Sump. There are no provisions for testing these check valves to Code requirements. The licensee proposes to disassemble these valves during refueling shutdowns, on an alternating basis (staggered test basis), at least once each 10-year inspection interval and inspect the valves' freedom of motion to the open and close positions. Any problems found on one valve during this inspection would be cause for inspection of the other valve.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. Inasmuch as there is no means of testing these valves by flow from the containment sump, the licensee has opted to visually inspect and manually test these valves during refueling outage when the valves can be isolated from the Refueling Water Tank. Since these valves are never exercised during normal operation of the plant, there is minimal probability that they will degrade. Consequently, the licensee's plan to verify both the integrity and operability of these valves during refueling outages will provide an acceptable level of assurance of these valves' operability.

(5) Relief Request

The licensee has requested specific relief for Category C valves V-7143 and V-7129 from the quarterly exercising requirement of IWV-3520 and proposes to exercise these valves during cold shutdowns.



Licensee's Basis for Requesting Relief

These 12-inch check valves provide flow path from Containment Spray Pumps to the containment spray headers. Administrative control requires that these valves be able to provide dilute hydrazine to the spray headers for emergency core cooling. Failure of these valves in the closed position, as the result of testing during plant operation, would result in loss of this capability.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a). These valves will be exercised during quarterly tests of the Containment Spray Pumps when water is cycled back to the RWT.

(6) Relief Request

The licensee has requested specific relief for Category C valves V-7192 and V-7193 from the quarterly exercising requirement of IWV-3520 and proposes to verify the operability of these valves by an alternative method.

Licensee's Basis for Requesting Relief

These 10-inch check valves prevent reverse flow in the Containment Spray System, if a Containment Spray Pump is not operating. Testing these valves, by placing the Containment Spray System in operation or connecting an external water source, would result in spraying the structures and components located inside the containment building. These valves will be tested using an air supply to move the valve disk to the open position. Verification will be made with acoustical methods.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. This proposed alternative procedure replaces the licensee's original intent to disassemble these valves on a staggered test basis. Although the staff prefers the verification of the valve's freedom of motion by the acoustical technique, it also would approve disassembly of these two valves as a means of verifying their operability.

(7) Relief Request

The licensee has requested specific relief for Category B valves MV-07-3A and MV-07-3B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 12-inch gate valves provide flow path from the Containment Spray Pumps to the Containment Spray headers. These valves are positioned open when the plant is operating. Failure of the valves in the closed position during testing while the plant is operating would prevent operation of this ECCS component.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a).

i. Circulating and Intake Cooling Water

(1) Relief Request

The licensee has requested specific relief for Category B valves MV-21-2 and MV-21-3 from the quarterly exercise testing required by IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These 24-inch butterfly valves provide flowpath from the Intake Cooling Water System to the Turbine Cooling Water System. These valves cannot be tested during plant operation because closing either of these valves would result in loss of cooling capacity to the associated Turbine Cooling Water System heat exchanger. This would cause overheating of secondary plant equipment which could place the plant in an unsafe mode of operation.

Evaluation

The plant's Intake Cooling Water system provides cooling capacity to the two Turbine Cooling Water heat exchangers and, thus, to the Turbine Cooling Water. Closure of valves MV-21-2 and MV-21-3 would result in loss of cooling water flow and subsequent heat up of the Turbine Cooling Water. The staff agrees with the licensee that this interruption might place the plant in an unsafe condition. Consequently, the licensee's proposal to exercise these valves during cold shutdowns is approved.

(2) Relief Request

The licensee has requested specific relief for Category B valves MV-21-4A and MV-21-4B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.



Licensee's Basis for Requesting Relief

These normally open 3-inch butterfly valves provide flow path from the Intake Cooling Water System to the Circulating Water Pump shaft bearings. These valves cannot be tested during plant operation because closure of these valves would result in loss of cooling water to the Circulating Water Pump shaft bearings and cause damage to these pumps.

Evaluation

These valves provide redundant flow paths to the Circulating Water Pump shaft bearings. Failure of one flow path would not degrade the cooling of these bearings (See Section C.1.a). These valves can be tested separately during plant operation. Therefore, the staff denies the licensee's request for relief.

j. Hydrogen Sampling

(1) Relief Request

The licensee has requested specific relief for Category A valves FSE-27-8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18 from the quarterly exercising requirement of IWV-3410 and proposes to test these valves by an alternate method.

Licensee's Basis for Requesting Relief

These normally-open 3/8-inch globe valves provide flow path for each of seven separate sample point locations inside containment to the hydrogen sample analyzer outside containment and the return flow path to containment. These valves are self-contained, completely enclosed solenoid valves with no external valve position indicators. Therefore, stroke time measurements and valve position verification is impractical. The moving parts of these valves will be demonstrated to function satisfactorily by establishing a flow path as shown by the Hydrogen Analyzer Flow indicator.

Evaluation

It is the staff's position that there are two limiting values of stroke time; i.e., (1) the maximum permissible time for a system to go open for injection or closed for isolation and (2) the criteria by which an increase in stroke time from the previous test exceeds the increment allowed by the Code. Stroke time is a valuable tool for determining unacceptable valve degradation or other detrimental conditions such as overtight packing. For fast acting valves, such as these solenoid-actuated valves, a stroke time less than 2 seconds is acceptable to the staff. Although the staff agrees that the licensee's proposed alternate testing will verify flow

through these valves, the staff conditions its approval of the requested relief by requiring the licensee to verify that the stroke time of these valves is less than 2 seconds.

k. Service and Instrument Air

(1) Relief Request

The licensee has requested specific relief for Category A valve HCV-18-1 from the frequency of testing required by IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This 2-inch globe valve provides flow path for instrument air supply to components located inside containment. Failure of this valve in the open position, by testing during plant operation, would result in a loss of containment integrity.

Evaluation

This valve provides outboard containment isolation for the instrument air line. This air system must be operable when the plant is operating; therefore, valve MV 18-1 must be open and should not be exercised. The staff also agrees with the licensee that failure of this valve in the open position during a test (however unlikely) would result in the loss of containment integrity. Technical Specification 3.6.3.1, Table 3.6-2 identifies this valve as not being testable at power. The requested relief is approved.

(2) Relief Request

The licensee has requested specific relief for Category AC valve I-V-18195 from the testing frequency required by IWV-3520 and proposes to exercise this valve during cold shutdowns.

Licensee's Basis Requesting Relief

This 2-inch check valve prevents reverse flow from the Instrument Air System inside containment to the Instrument Air Supply System located outside containment. Failure of this valve in the open position, by testing during plant operation, would result in a loss of containment integrity.

Evaluation

Check valve I-V-18195 is the inboard isolation valve for the instrument air line. The instrument air system must be operable during the operation of the plant; therefore, the staff agrees with the licensee's basis. Also, it is

impractical to test this valve without exercising the outboard isolation valve I-HCV 18-1 (See above C.3.k(1)). Therefore, the requested relief is approved.

1. Heating, Ventilation, and Air Conditioning (HVAC)

(1) Relief Request

The licensee has requested specific relief for Category AC valves V-25-20 and V-25-21 from the test frequency required by IWV-3520 and proposes to exercise these valves during cold shutdown.

Licensee's Basis For Requesting Relief

These normally closed 24-inch check valves and the associated air operated butterfly valves provide the vacuum relief function to protect the containment vessel against excess external pressure. The function of these valves is to prevent (1) the differential pressure between the containment and the Shield Building atmosphere from exceeding limits and (2) reverse flow in the Containment Relief System.

These valves are located inside the containment building at approximately elevation 80.0'. Testing these valves requires containment entry.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. Testing these valves during plant operation would require exposure of personnel to high neutron radiation exposure.

(2) Relief Request

The licensee has requested specific relief for Category A valves FCV-25-7 and FCV-25-8 from the test frequency required by IWV-3410 and proposes to test these valves during cold shutdowns.

Licensee's Basis for Requesting Relief

These normally closed 24-inch air-operated butterfly valves and the associated check valves provide the vacuum relief function to protect the containment Vessel against excessive external pressure and to prevent the differential pressure between the containment and the Shield Building atmosphere from exceeding limits. Also these valves provide a flow path from outside containment into the Containment Vessel.

Both valves are located in the annular space between the Containment Vessel steel shell and the concrete Shield Building at approximately elevation 80'.0. Testing these valves requires containment entry.

Evaluation

The staff agrees with the licensee's basis and approve the requested relief. Testing of these valves during plant operation would require exposure of personnel to high neutron radiation levels (See C.1.a).

(3) Relief Request

The licensee has requested specific relief for Category A valves FCV-25-2, FDC-25-3, FCV-25-4, and FCV-25-5 from the test requirements of IWV-3410.

Licensee's Basis for Requesting Relief

These valves provide supply and exhaust flow path for outside air supply to the Reactor Containment and Reactor Containment Building exhaust to the Plant Vent System.

These "passive valves" are not required to change position to either safely shut down the reactor or mitigate the consequences of an accident. Therefore, exercising these valves is not required.

These normally closed valves will be exercised during the performance of the local leak rate tests during refueling shutdowns.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief. Power-operated valves that are not required to change position for any operating or emergency condition of the plant are exempted from the testing requirements of Section XI of the Code. However, their positions should be verified quarterly and each time the valve is cycled.

m. Firewater, Domestic, and Makeup Systems

(1) Relief Request

The licensee has requested specific relief for Category A valve HCV-15-1 from the quarterly exercising requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This normally closed 2-inch globe valve provides a primary water flow path to the Quench Tank. Failure of this valve in the open position, by testing during plant operation, would cause a loss of containment integrity.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a).

(2) Relief Request

The licensee has requested specific relief for Category AC valve V-15328 from the quarterly exercising requirement of IWV-3520 and proposes to test this valve during cold shutdowns.

Licensee's Basis for Requesting Relief

This normally closed 2-inch check valve prevents reverse flow from the Quench Tank to the Primary Water System. Failure of this valve in the open position, by testing during plant operation, would cause a loss of containment integrity.

Evaluation

The staff agrees with the licensee's basis and approves the requested relief (See C.1.a).

CONCLUSION

Based upon the above evaluation, pursuant to 10 CFR 50.55a(g)(6)(i), the staff has determined, for the reliefs that have been granted or approved, that the code requirements are impractical and that the relief requests are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the code requirements were imposed on the facility.

Principal Contributors:

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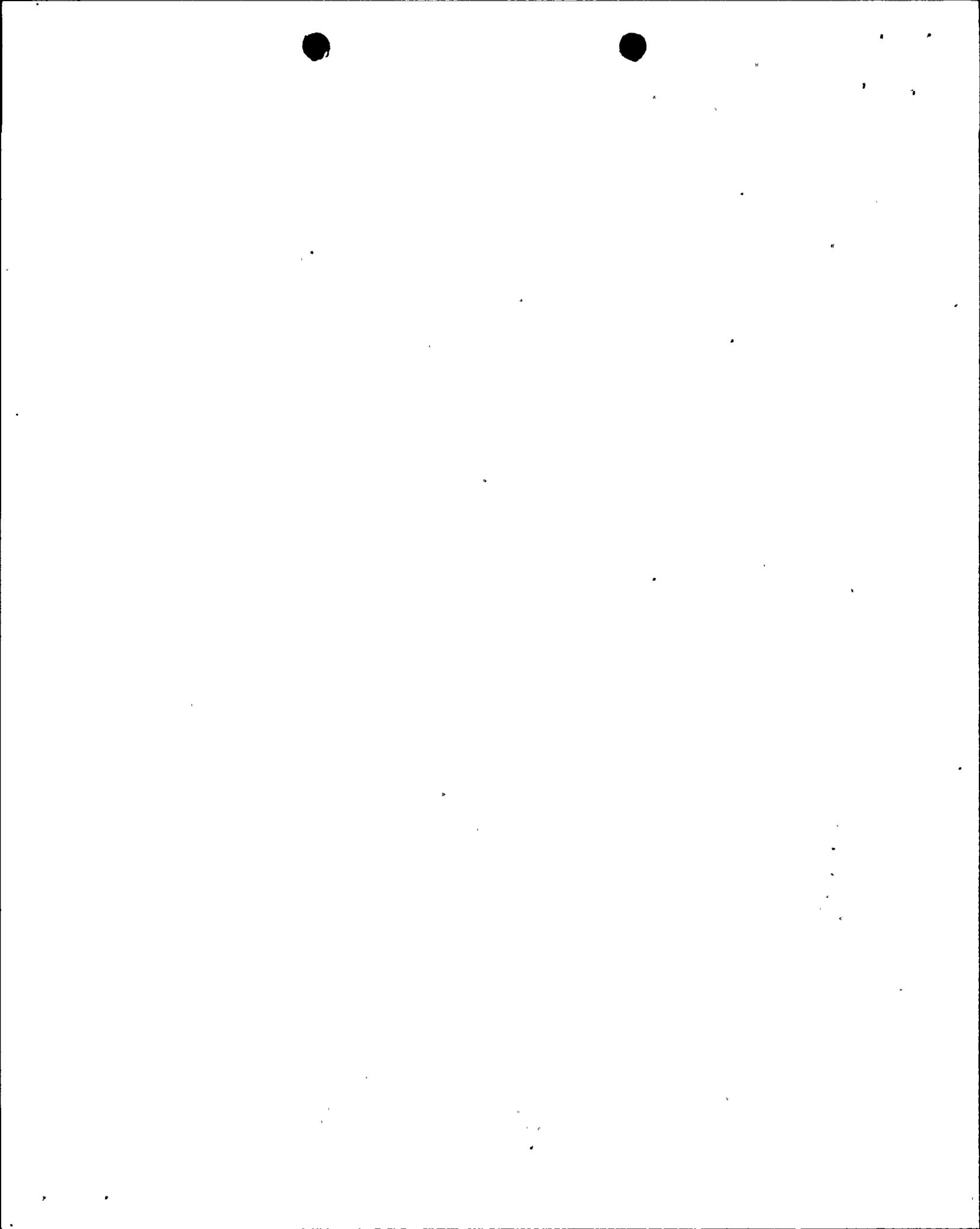
Date: January 13, 1986

ATTACHMENT 1

SUMMARY OF PUMPS AND VALVES FOR WHICH RELIEF REQUESTS
ARE APPROVED, CONDITIONALLY APPROVED, OR DENIED

TABLE A - SUMMARY TABULATION OF PUMP RELIEF REQUEST EVALUATIONS

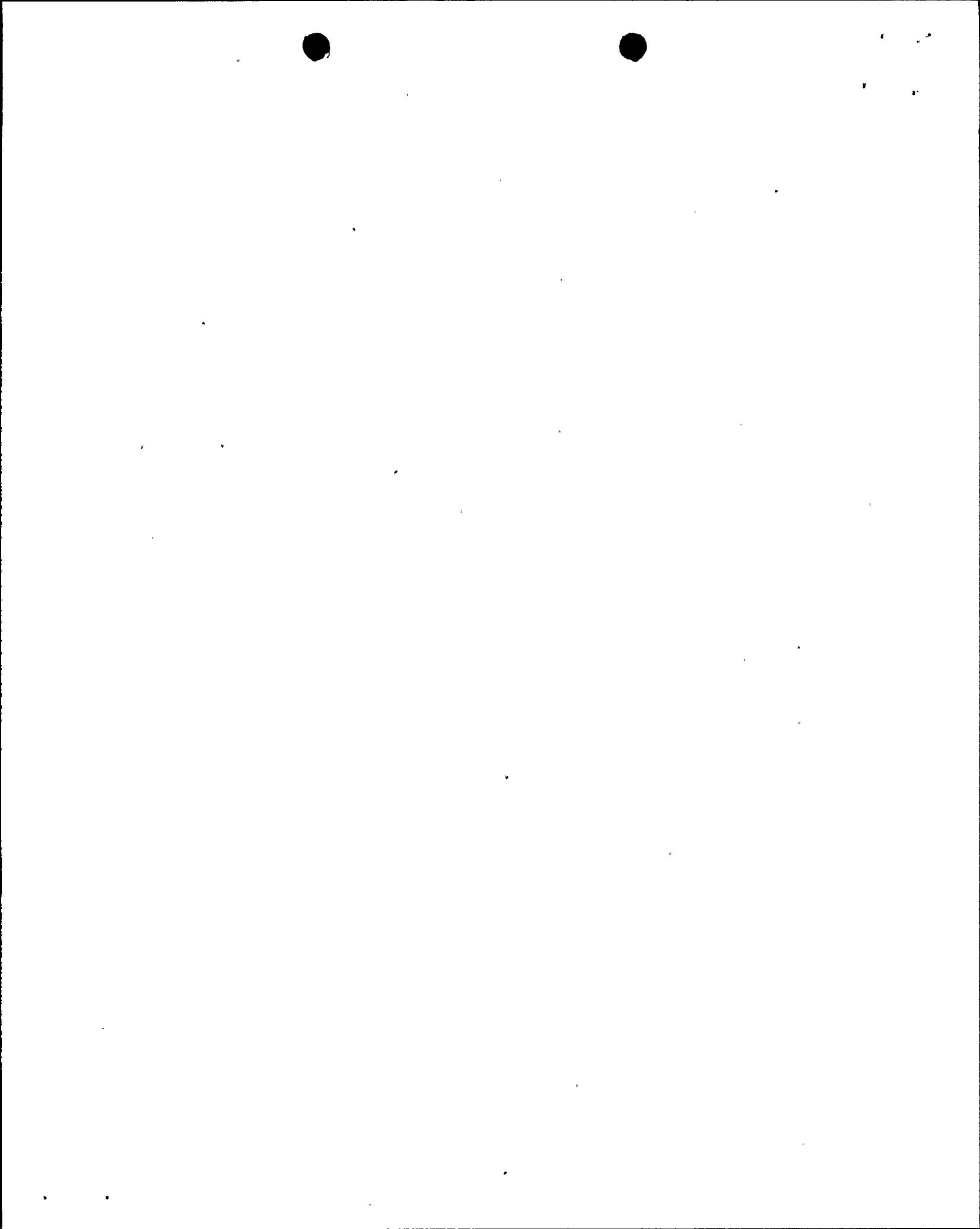
<u>Pumps</u>	<u>Licensee's Relief Request</u>	<u>SER Section</u>	<u>Denied</u>	<u>Approved</u>	<u>Conditionally Approved</u>
Boric Acid Makeup 2A&B	(1)	B.2	x		
Containment Spray 2A&B	(1)	B.2	x		
Auxiliary Feedwater 2A,B,&C	(1)	B.2	x		
Low Pressure Safety Injection 2A&B	(1)	B.2	x		
High Pressure Safety Injection 2A&B	(1)	B.2	x		
Diesel Oil Transfer Pump 2A&B	(1)	B.2	x		



SUMMARY OF PUMPS AND VALVES FOR WHICH RELIEF REQUESTS
ARE APPROVED, CONDITIONALLY APPROVED, OR DENIED

TABLE B - SUMMARY TABULATION OF PUMP RELIEF REQUEST EVALUATIONS

<u>Valves</u>	<u>Licensee's Relief Request (Number)</u>	<u>SER Section</u>	<u>Denied</u>	<u>Approved</u>	<u>Conditionally Approved</u>
<u>Reactor Coolant</u>					
V-1474	1	C.4.a.(1)			
V-1475	1				x
					x
V-1476	2	C.4.a.(2)			
V-1477	2		x		
			x		
V-1460	3	C.4.a.(3)			
V-1461	3			x	
				x	
V-1462	4	C.4.a.(4)			
V-1463	4			x	
V-1464	4			x	
V-1465	4			x	
V-1466	4			x	
				x	
<u>Chemical and Volume Control</u>					
FCV-2210	1	C.4.b.(1)			
				x	
V-2505	2	C.4.b.(2)			
V-2524	2			x	
				x	
V-2515	4	C.4.b.(3)			
V-2516	4			x	
				x	
V-2501	5	C.4.b.(4)			
				x	



V-2514	6	C.4.b.(5)		x
V-2504	7	C.4.b.(6)	x	
V-2191	8	C.4.b.(7)		x
V-2177	9	C.4.b.(8)		x
V-2190	9			x
V-2526	9			x
V-2431	10	C.4.b.(9)		x
SE-02-03	11	C.4.b.(10)		x
SE-02-04	11			x
V-2523	12	C.4.b.(11)		x
V-2522	13	C.4.b.(12)		x
V-2440	14	C.4.b.(13)		x
V-2508	15	C.4.b.(14)		x
V-2509				
<u>Safety Injection</u>				
V-3414	1	C.4.c.(1)		x
V-3427	1			x
V-3106	2	C.4.c.(2)		x
V-3107				x
V-3401	3	C.4.c.(3)		x
V-3410				x
I-V07000	4	C.4.c.(4)		x
I-V07001				x

V-3113	5.	C.4.c.(5)	X	
V-3766			X	
V-3133			X	
V-3143			X	
V-3258			X	
V-3259			X	
V-3260			X	
V-3261			X	
V-3114	6	C.4.c.(6)	X	
V-3124			X	
V-3134			X	
V-3144			X	
V-3217			7	C.4.c.(7)
V-3227	X			
V-3237	X			
V-3247	X			
V-3659	8	C.4.c.(8)	X	
V-3660			X	
V-3495			X	
V-3496			X	
V-3215	9	C.4.c.(9)	X	X
V-3225			X	X
V-3235			X	X
V-3245			X	X
V-3463	10	C.4.c.(10)	X	
SE-03-2A			X	
SE-03-2B			X	
HCV-3618	11	C.4.c.(11)	X	
HCV-3628			X	
HCV-3638			X	
HCV-3648			X	

V-3480	12	C.4.c.(12)	X
V-3481			X
V-3651			X
V-3652			X
V-3545			X
V-3664			X
V-3665			X
V-3525	13	C.4.c.(13)	X
V-3527			X
V-3524	14	C.4.c.(14)	X
V-3526			X
V-3522			X
V-3547			X
V-3539	15	C.4.c.(15)	X
V-3556			X
V-3523	16	C.4.c.(16)	X
V-3540			X
V-3550			X
V-3551			X
HCV-3615	17	C.4.c.(17)	X
HCV-3616			X
HCV-3617			X
HCV-3625			X
HCV-3626			X
HCV-3627			X
HCV-3635			X
HCV-3636			X
HCV-3637			X
HCV-3645			X
HCV-3646			X
HCV-3647			X

V-3517	18	C.4.c.(18)	x
V-3457			x
V-3658			x
HCV-3657			x
FCV-3301			x
HCV-3512			x
FCV-3306			x
V-3456			x

V-3432	19	C.4.c.(19)	x
V-3434			x

Component Cooling Water

HCV-14-1	1	C.4.d.(1)	x
HCV-14-7			x
HCV-14-2			x
HCV-14-6			x

MV-14-17	2	C.4.d.(2)	x
MV-14-18			x
MV-14-19			x
MV-14-20			x

HCV-14-3A	3	C.4.d.(3)	x
HCV-14-3B			x

Waste Management

V-6341	1	C.4.e.(1)	x
V-6342			x
V-6741	2	C.4.e.(2)	x
V-6718	3	C.4.e.(3)	x
V-6750			x

Main Steam

HCV-08-1A	1	C.4.f.(1)	x
HCV-08-1B			x
MV-08-1A	2	C.4.f.(2)	x
MV-08-1B			x
MV-08-18A	3	C.4.f.(3)	x
MV-08-18B			x
MV-08-19A			x
MV-08-19B			x

Feedwater and Condensate

V-9107	1	C.4.g.(1)	x
V-9119			x
V-9123			x
V-9135			x
V-9139			x
V-9151			x
V-9157			x
HCV-09-1A	2	C.4.g.(2)	x
HCV-09-1B			x
HCV-09-2A			x
HCV-09-2B			x
V-9252	3	C.4.g.(3)	x
V-9294			x

Containment Spray

MV-07-1A	1	C.4.h.(1)	x
MV-07-1B			x

MV-07-2A	2	C.4.h.(2)		x
MV-07-2B				x
V-07120	3	C.4.h.(3)		x
V-07119				x
V-07174	4	C.4.h.(4)		x
V-07172				x
V-7129	5	C.4.h.(5)		x
V-7143				x
V-7192	6	C.4.h.(6)		x
V-7193				x
MV-07-3A	8	C.4.h.(7)		x
MV-07-3B				x

Circulatory and Intake Cooling Water

MV-21-2	1	C.4.i.(1)		x
MV-21-3				x
MV-21-4A	2	C.4.i.(2)	x	
MV-21-4B			x	

Hydrogen Sampling

FSE-27-8 through FSE-27-18	1	C.4.j.(3)			x
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Service and Instrument Air

MV-18-1	1	C.4.k.(1)		x
V-18195	2	C.4.k.(2)		x

Heating, Ventilation, and Air Conditioning (HVAC)

V-25-20	1	C.4.1.(1)	x
V-25-21			x
FCV-25-7	2	C.4.1.(2)	x
FCV-25-8			x
FCV-25-2	3	C.4.1.(3)	x
FCV-25-3			x
FCV-25-4			x
FCV-25-5			x

Firewater, Domestic, and Makeup

HCV-15-1	1	C.4.m.(1)	x
V-15328	2	C.4.m.(2)	x

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ATTACHMENT 2

P&IDS USED IN THE STAFF'S REVIEW

<u>System</u>	<u>Drawing Number</u>	<u>Sheet Number(s)</u>
Reactor Coolant	2998-G-078	107 & 108
Chemical and Volume Control	2998-G-078	120,121 & 122
Safety Injection	2998-G-078	130,131 & 132
Component Cooling Water	2998-G-083	
Sampling	2998-G-078	153
Waste Management	2998-G-078	163
Main Steam	2998-G-079	1 of 2
Feedwater and Condensate	2998-G-080	2 of 2
Steam Generator Blowdown	2998-G-086	
Containment Spray	2998-G-088	
Circulating and Intake Cooling Water	2998-G-082	
Hydrogen Sampling		
Service and Instrument Air	2998-G-085	2 of 2
Heating, Ventilation, and Air Conditioning	2998-G-862	
Firewater, Domestic, and Makeup Systems	2998-G-084	

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