

#### **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 AND LIGHT COMPANY

## ST. LUCIE UNIT 1

DOCKET NO. 50-335

#### INTRODUCTION



This report provides a safety evaluation of the St. Lucie Unit 1 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 Unit 1 and its associated relief requests addressed in this report were submitted to the Commission with the licensee's letter dated May 1, 1980. The program was prepared to comply with ASME Section XI, 1974 edition with addenda through Summer 1975 (the Code), which is the applicable code required by 10 CFR 50.55a(q).

In its evaluation of the licensee's relief requests, described below, the staff determined that certain of the requests should be granted, others conditionally granted and one request was 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

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(2) Positions and interpretations described in the evaluations below.

The Final Safety Analysis Report for St. Lucie Unit 1 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 inspections conducted at the St. Lucie site May 31 - June 3, 1983 and September 10-14, 1984, (documented in NRC Inspection Reports 335/83-22 and 335/84-27) and by letter from the licensee dated July 18, 1984.

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## EVALUATION

#### A. <u>GENERAL</u>

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, valves and 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 staff notes that the licensee's program states that it is applicable for the period from April 21, 1980 to April 21, 1990. However, in accordance with 10 CFR 50.55a(g), the applicable period runs for 120 months from the start of commercial operation. Therefore, the applicable period is December 21, 1976 to December 21, 1986.

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## PUMP TESTING PROGRAM AND RELIEF REQUEST

## 1. <u>Program</u>

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. Our 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

All Pumps Subject to IST

Relief Request

The licensee has requested relief from the monthly pump testing frequency specified by IWP-3400 of the Code and proposes instead to test the following pumps on a quarterly frequency.

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Boric Acid Makeup Pump No. 1A Boric Acid Makeup Pump No. 1B



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Component Cooling Water Pump No. 1A Component Cooling Water Pump No. 1B Component Cooling Water Pump No. 1C

Containment Spray Pump No. 1A Containment Spray Pump No. 1B

Diesel Oil Transfer Pump No. 1A Diesel Oil Transfer Pump No. 1B

Charging Pump No. 1A Charging Pump No. 1B Charging Pump No. 1C

Intake Cooling Water Pump No. 1A Intake Cooling Water Pump No. 1B Intake Cooling Water Pump No. 1C

Auxiliary Feedwater Pump No. 1A Auxiliary Feedwater Pump No. 1B Auxiliary Feedwater Pump No. 1C

Low Pressure Safety Injection Pump No. 1A Low Pressure Safety Injection Pump No. 1B

High Pressure Safety Injection Pump No. 1A High Pressure Safety Injection Pump No. 1B High Pressure Safety Injection Pump No. 1C

#### Licensee's Basis for Requesting Relief

Section XI, ASME Boiler & Pressure Vessel Code requires testing safety-related components at least once every three (3) months. These pumps perform redundant safety-related functions.

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#### Evaluation

The staff approves the requested relief from the requirements of IWP-3400 of The Code. We conclude that the alternate testing frequency proposed by the licensee will give reasonable assurance of pump operability (later editions of Section XI of the ASME Code which endorse the three-month frequency have been accepted by the Commission). Where different frequencies are mandated by the St. Lucie Unit Technical Specifications (TS), the TS requirements must be met.



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## C. VALVE TESTING PROGRAM AND RELIEF REQUESTS

#### 1. <u>General Considerations</u>

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. <u>Valve Test Frequency Requirements</u>

Subsection IWV-3410(a) of the Code (which addresses full-stroke and part-stroke testing) requires that Code Category A and B valves be exercised once every three months, with the exceptions provided in IWV-3410(b)(1), IWV-3410(e), and (IWV-3410(f). It is the staff's position that if a test might cause the loss of an entire system, the test does not have to be performed while the plant is operating. However, if testing might cause the loss of only one of the redundant systems, and is not prohibited by Technical Specifications, then the test must be performed per Code requirements.

IWV-3410(c) 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-3520(a) requires that Code Category C check values be exercised once every three months, with the <u>exceptions</u> as defined in IWV-3520(b).

IWV-3700 requires no regular testing for Code Category E valves. Operational checks, with appropriate record entries, shall record the position of these valves before operations are performed and after operations are completed and shall verify that each valve is locked or sealed.

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

- It is not practical to exercise the valves to the position required to fulfill' their function, or to the partial position, <u>during power operation</u>.
- (2) It is not practical to observe the operation of the valves (with fail-safe actuators) upon loss of actuator power.

#### b. <u>Passive Power Operated Valves</u>

It is the staff's position that power operated valves which are not required to change position for any accident condition of the plant are exempted from the exercising requirement's of the Code.







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However, their positions must be verified quarterly and each time the valves are cycled.

## c. <u>Testing of Normally Open Check Valves</u>

Requirements for testing normally open check valves are stated in IWV-3520 as follows:

"Check valves shall be exercised to the position required to fulfill their function... Valves normally open during plant operation 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."

A test that verifies closure of normally open check valves through reversal of flow and measurement of leakage through the valve is acceptable to the staff.

Normally open check valves may have two functions important to safety - to close under certain conditions and to open under others. When this is the case, the exercising test must verify movement to the positions necessary to satisfy both of these functions. Verification of opening of such valves must be accomplished as if the valves were normally closed - by positive means, as noted in paragraph d. below.

## d. <u>Testing of Normally Closed Check Valves</u>

Requirements for testing normally closed check valves are stated in IWV-3520, in part, as follows:

"Check valves shall be exercised to the position required to fulfill their function... Valves normally closed during plant operation, 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."



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

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- (1) By demonstrating that the valve can pass the maximum accident design flow which has been taken credit for 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 which can be observed to move through a full stroke.
- (4) By partial disassembly of the value and manually moving the disk through a full stroke.

Normally closed check valves may have two functions important to safety - to open under certain conditions and to close under others. When this is the case, the exercising test must verify movement to the positions necessary to satisfy both of these functions. Verification of closure for such valves must be accomplished as if the valves were normally open - by positive means, as noted in paragraph c. above.

e. <u>Leak Rate Testing of Category A Valves By Means of Differential</u> <u>Pressure</u>

IWV-3420(c) requires that valve seat 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 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.

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

IWV-3410(c) requires the licensee to specify limiting values of full-stroke times for power operated values. These limiting values must be verified each time the values are full-stroke tested and they must be trended (as specified in IWV-3410(c)(3)). The limiting values of full-stroke time specified for these values must assure that any design safety analysis requirements are met.





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

g. <u>Deviations in Leak Test Mediums</u>

IWV-3420(e) 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-3420(c) 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. <u>Valve Testing at Cold Shutdowns</u>

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

- 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 Category A valve leak rate test requirements of IWV-3420(a-e) are met by 10 CFR 50 Appendix J requirements for CIVs. Relief from Paragraph IWV-3420(a-e) for CIVs presents no safety problem since the requirements of IWV-3420(a-e) are met by Appendix J testing. The requirements of IWV-3420(f) and (g) must still be met.

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It is the staff's position that when Appendix J Type C testing is used in meeting the IWV-3420 requirements for the subject valves, and the tests are made between two or more valves, the test values obtained must be considered to apply separately to each of the involved valves. As required by IWV-3420(f), a maximum permissible leakage rate must be specified for each valve and used to determine valve integrity. The permissible leakage rate for a valve shall be determined and specified on a basis that assures that the valve's sealing function has not excessively degraded. The intent of the requirement is not met by simply using the Appendix J Type C test limit of 60% La for each individual valve.

## 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 to 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

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During its review of the licensee's IST program, the staff identified certain valves which were considered important to safety but which were not in the IST program. By letter dated April 12, 1984 the staff requested that the licensee justify the omission of these valves or else submit a revision to the IST program that contained these valves. In its response of July 18, 1984, the licensee revised its IST program to add the referenced valves. The staff now considers that all valves important to safety are included in the St. Lucie Unit 1 IST program.

## 3. General Request for Relief

#### Relief Request

The licensee has requested general relief for all pumps and valves from requirements of IWV-3410(c)(3), IWV-3420(g), IWV-3520(c) and IWP-3230 if these requirements conflict with the St. Lucie Unit 1 Technical Specifications (TS).

## Licensee's Basis for Requesting Relief

Paragraph Nos. IWV 3410(c)(3), IWV-3420(g), and IWV-3520(c) prescribe actions to be taken, limiting time periods for actions to be completed, or limiting conditions of operability if certain conditions are not met. This could be in conflict with the Plant TS. In addition, certain Code definitions or terminology may be in conflict with the Plant TS.



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

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Nothing in Section XI of the Code shall be construed as superseding the requirements of the Plant TS.

#### Evaluation

It is the staff's position that the TS for St. Lucie Unit 1 supersede Code requirements, and the use of Plant TS to determine acceptable times and conditions for tests and startup is approved.

- 4. <u>Specific Requests for Relief</u>
  - a. <u>Reactor Coolant</u>
    - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves V-1402 and V-1404 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.

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## Licensee's Basis for Requesting Relief

These  $2\frac{1}{2}$ -inch power relief valves (PORVs) provide lowtemperature 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 a non-closed 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 non-closed 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.

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These valves will be tested during refueling shutdowns.



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## <u>Evaluation</u>

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-1403 or V-1405) 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, we agree that these valves should not be tested while the plant is operating.

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. However, the St. Lucie= Unit 1 Technical Specifications address this situation (TS 3.4.13.b) and require only that the PORV be made operable again prior to plant startup - while the redundant, operable, PORV is providing over-pressurization protection. Consequently, we believe that the PORVs should be tested during cold shutdown as well as during refueling outages, and so condition our approval of the licensee's request for relief.

(2) <u>Relief Request</u>

The licensee requested specific relief for Category B valves V-1403 and V-1405 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 2.5-inch gate valves provide flow path from the pressurizer to the associated solenoid-operated valves (valves V-1402 and V-1404, 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-1403 or V-1405 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 4.4.12 requires that these block valves be full-stroked every 92 days; i.e., the Code frequency. 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 shutdown, per Technical Specification 3.4.12. Consequently, we do 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).

We do not agree with the licensee's second basis that both block valves are required to ensure low-temperature over pressure protection during cold shutdown (see Section C.1.a of this SER). Our reasoning is the same as presented for the PORVs (V-1402 and V-1404); i.e., Technical Specification 3.4.13.b. Consequently, we believe that relief from performing operability tests on these block valves during cold shutdown in not justified.

As long as Technical Specification 4.4.12 is effective these valves must be tested every 92 days. For the purpose of satisfying the intent of IWV-3410 we would permit the test to be performed during cold shutdowns.

#### (3) <u>Relief</u> Request

The licensee requested specific relief for Category B valves V-1441 and V-1442 from the quarterly testing frequency of IWV-3410 and proposes to test these valves during cold shutdowns when the Reactor Coolant System is depressurized and vented.

#### Licensee' Basis for Requesting Relief

These one-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 key locked to prevent inadvertent operation during normal plant operation.

The failure of either of these values in the non-closed position, coupled with the failure of either value V-1445, V-1446, or V-1449, while testing during  $plant_c$  operation could



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result in the loss of reactor coolant in excess of TS 3.4.6.2.d limits. This would result in a unit shutdown.

#### Evaluation

We agree with the licensee's basis and approve the requested relief. These two valves and valves V-1445, V-1446, and V-1449 provide paths for relief of gas or reactor coolant to Reactor Coolant Gas Vent System. 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, all of these stop valves should not be opened until the reactor has been vented at cold shutdown.

#### (4) Relief Request

The license has requested specific relief for Category  $B_{-\sim}$  valves V-1443 and V-1444 from the quarterly testing frequency of IWV-3410 and proposes to test these valves during cold shutdowns when the Reactor Coolant System is depressurized and vented.

#### Licensee's Basis For Requesting Relief

These one-inch globe valves provide redundant flow paths from the Pressurizer steam space to the Reactor Coolant Gas Vent System (RCGVS). These valves are required to be positioned closed and key locked to prevent inadvertent operation during normal plant operation.

The failure of either of these valves in the non-closed position, coupled with the failure of either V-1445, V-1446, or V-1449, while testing during plant operations, could result in the loss of reactor coolant in excess of TS 3.4.6.2.d limits. This would result in a unit shutdown.

#### Evaluation

We agree with the licensee's basis and approve the requested relief. Valves V-1444 and V-1443 provide redundant relief flow paths (through V-1445, V-1446, and V-1449) from the Pressurizer steam space as do valves V-1441 and V-1442 for the reactor vessel closure head. (See Section 4.a.(3) above).

(5) Relief Request

The licensee has requested specific relief for Category B valves V-1445 and V-1446 from the quarterly testing frequency of IWV-3410 and proposes to test these valves during cold

shutdowns when the Reactor Coolant System is depressurized and vented.

## Licensee's Basis for Requesting Relief

These one-inch globe valves provide redundant flow paths from either the Reactor Vessel closure head or the Pressurizer steam space to either the vent directed to the Containment or the Quench Tank. These valves are required to be positioned closed and key locked to prevent inadvertent operation during normal plant operation.

The failure of V-1445 in the non-closed position, while testing during plant operation would result in the inability to isolate the Quench Tank from the RCGVS.

Failure of V-1446 in the non-closed position while testing during plant operation would result in the inability to isolate the direct vent flow path to the Containment from the RCGVS.

#### Evaluation

We agree with the licensee's basis and approve the requested relief. Valves V-1445 and V-1446 are in series with valves V-1442, V-1443, and V-1444 (see Sections 4.a.(3) and 4.a.(4) above) and provide flow paths to the Reactor Coolant Gas Vent System. Failure of valve V-1445 or V-1446 in an open position would remove one of two valves that isolate the RCGVS from the Quench Tank (V-1445) or from Containment (V-1446). As was previously discussed (Sections 4.a.(3) and 4.a.(4)), subsequent failure in the open position, of valve V-1442, V-1443, or V-1444 would cause loss of reactor coolant.

(6) Relief Request

The licensee has requested specific relief for Category B valve V-1449 from the quarterly testing frequency of IWV-3410 and proposes to test this valve during cold shutdown when the Reactor Coolant System is depressurized and vented.

## Licensee's Basis For Requesting Relief

This one-inch globe valve provides flow path to either the Quench Tank of the containment sump to determine leakage rate past any of the RCGVS isolation valves. The failure of this valve in the non-closed position, by testing during plant operation, would result in the inability to isolate leakage detection from the RCGVS.



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### **Evaluation**

We agree with the licensee's basis and approve the requested relief. Failure of V-1449 in the open position would remove one of the two redundant valves that isolate the reactor vessel closure head from the accumulator. Subsequent failure of valve V-1441 while the reactor was pressurized would result in loss of coolant. (See Section 4.a.3)

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#### b. <u>Chemical and Volume Control System</u>

#### (1) <u>Relief Request</u>

The licensee has requested specific relief for Category A valves SE-01-01 and V-2505 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

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#### Licensee's Basis For Requesting Relief

These 3/4-inch globe valves provide controlled leakoff flow path for the seal system of the Reactor Coolant Pump. 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 pump. This could place the plant in an unsafe mode of operation.

#### **Evaluation**

We agree with the licensee's basis and approve the requested relief. Closure of either of these valves interrupts flow of cooling water to the reactor coolant pump seals, thereby placing the plant in an unsafe condition if these pumps are operating. The licensee's proposed schedule is acceptable for verifying the mechanical integrity and operability of these valves.

(2) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves SE-02-01 and SE-02-02 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 charging flow path to the Reactor Coolant System. Testing these valves during plant operation would isolate charging flow, thus causing an unbalanced flow condition in the Chemical and Volume Control 0

System when charging and letdown flow is required (Modes 1 thru 4).

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#### Evaluation

According to the licensee's drawing for the Chemical and Volume Control System (8770-94), each of these valves is associated with one of redundant charging flow paths. It is the staff's position (see Section C.1.a) that this design allows each valve to be tested separately while maintaining the required charging flow through the redundant line. Therefore, each valve can be stroked while the plant is operating. We, therefore, deny the licensee's request for relief.

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 4).

#### **Evaluation**

We agree with the licensee's basis and approve the requested relief. Technical Specification 3/4 6.3, Table 3.6-2 states that these valves are not testable during plant operation.

(4) <u>Relief Request</u>

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

<sup>(3)</sup> Relief Request

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 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. We agree 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. We approve the licensee's request for relief.

### (5) <u>Relief Request</u>

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 shut-downs.

#### Licensee's Basis For Requesting Relief

Valve V-2514 is a 3-inch gate valve that provides flow path from 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 ('18000 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 ('800 ppm) boric acid solution in the Volume Control Tank. We agree that accidental injection of concentrated boric acid would be undesirable. V-2514 can be tested without undue difficulty at cold shutdowns. Therefore, we approve the requested relief.

## (6) <u>Relief Request</u>

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 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

We agree with the licensee's basis and the request is approved.

#### (7) <u>Relief Request</u>

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 would 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. We do not consider this partstroke procedure to be practical. Therefore, we approve the request to exercise valve V-2191 during refueling.



The licensee has requested specific relief for Category C valves V-2177 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, would result in the loss of one of the emergency boration flow paths required during cold shutdowns.

#### <u>Evaluation</u>

We agree with the licensee that it is impractical to test these valves during plant operation or cold shutdown and approve the requested relief.

## (9) <u>Relief Request</u>

The licensee has requested specific relief for Category C valve V-2430 from the testing requirements of IWV-3520 and proposes to use an alternate method for verifying the operability of this valve.

## Licensee's Basis for Requesting Relief

This 2-inch charging line check valve prevents reverse flow from the Reactor Coolant System into the Chemical Volume and Control System, if a component downstream of this valve malfunctions or fails to perform its function.

There is no provision for testing this valve to ensure verification that the disk has seated properly upon cessation or reversal of flow.

This valve will be disassembled during a refueling shutdown over the ten year Inservice Inspection Interval to inspect the valves' freedom of motion to the open and closed positions.

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## <u>Evaluation</u>

We agree that valve V-2430 cannot be verified to shut completely with present piping configurations. The valve can be verified to be fully open during power operation by observing full charging flow. We agree with the proposed 10-year interval for disassembly of the value to verify its full-stroke freedom of motion. The requested relief is approved.

#### (10) <u>Relief Request</u>

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

## Licensees Basis for Requesting Relief

These two-inch globe valves provide auxilary spray flow path from the CVCS to the pressurizer during RCS heatup and cooldown operations. Testing these valves during plant operations would result in RCS pressure transients. This could place the plant in an unsafe mode of operation.

#### <u>Evaluation</u>

These two normally closed valves are in a flow path from the Chemical and Volume Control System to the Pressurizer spray line. This system provides spray to the Pressurizer if the Reactor Coolant Pumps are not operating and the Main Spray System is not available. We agree with the licensee that this system should not be actuated when the Pressurizer (and Reactor Coolant System) are operating normally. Consequently, we approve the licensee's request and proposal for testing these two valves during cold shutdowns.

#### (11) <u>Relief Request</u>

The licensee have requested specific relief for Category C valve V-2435 from the quarterly testing frequency of IWV-3520 and proposes to test this valve during cold shutdowns.

## Licensee's Basis for Requesting Relief

This two-inch check valve provides flow path to the RCS should hot letdown continue even though the charging flow has been stopped due to closure of the control valves to the RCS. Testing this spring loaded check valve during plant operation would require isolation of the normal charging flow path to the RCS. This would place the plant in an unsafe condition.

#### Evaluation

We agree with the licensee's basis and grant the requested relief. In order for this value to be tested, value SE-02-02 would have to be closed so that flow would be bypassed. Such action would isolate the normal charging path.

#### (12) Relief Request

The licensee has requested specific relief for Category C valve V-2118 from the quarterly testing frequency of IWV-3520 and proposes to test this valve during refueling shutdowns.

#### Licensee's Basis for Requesting Relief

This four-inch check valve provides flow path from the Volume Control Tank (VCT) to the charging pump suction header during normal operation. This valve also prevents reverse flow\_to the VCT if valve V-2501 should fail to close and emergency\_ boration is required (see Section 4.b.(3)).

Testing this valve during plant operation would result in the loss of normal VCT flow path to the charging pump suction header. This would place the plant in an unsafe mode of operation.

Failure of this valve in the closed position by testing during cold shutdown would isolate one of the emergency boration flow paths required during cold shutdowns.

#### Evaluation

We agree with the licensee's bases and approve the requested relief. When the plant is in Cold Shutdown or Refueling modes of operation, Technical Specification  $\overline{3.1.2.1}$  requires that there must be at least one operable boron injection flow path or all operations involving core alterations or positive reactivity changes must be suspended. If valve V-2118 failed closed during testing, one of the two flow paths into the charging pumps suction header would be isolated. Loss of the second flowpath would prevent the plant from starting up, per Techncial Specification 3.1.2.2. If both flowpaths are lost during a refueling outage, the licensee must restore one flow path before moving fuel into or out of the core.



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- c. <u>Safety Injection (SI)</u>
  - (1) Relief Request

The licensee has requested specific relief for Category C valves V-3405, 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

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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 would 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.

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### **Evaluation**

These check valves provide flow from the two LPSI pumps upstream of the common LPSI header. We agree that these valves cannot be exercised (opened) by pumping water to the reactor through the LPSI header. There is also a flow path from the LPSI header to the Refueling Water Tank that affords the possibility of recirculating LPSI flow. However, the licensee does not desire to use this recirculation flowpath during plant operation because both LPSI pumps would be valved out of the ECCS flowpath during the test since there is no means of isolating only one pump. We, therefore, approve the licensee's request.

#### (3) Relief Request

The licensee has requested specific relief for Category C valves V-3401 and V3410 from the quarterly full-stroke \_\_\_\_\_ exercise, 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 nonoperating HPSI Pump to the Refueling Water Tank (RWT) Supply Header and must open to provide RWT water to the pumps. 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**

We agree with the licensee's basis and approve the requested relief. The licensee has demonstrated that the valves cannot be full-stroked during operation or at cold shutdown. However, they are partially opened to provide flow to the HPSI pumps during the montly 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 shutdowns and to part-stroke them during the quarterly performance of associated pump tests.

#### Licensee's Basis for Requesting Relief

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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.

#### <u>Evaluation</u>

We agree with the licensee's basis and approve the requested relief. The licensee has also justified that the valves cannot be exercised by cycling water to the RWT (See  $4.C_{-2}$ ). These valves are partially opened during the monthly tests of the LPSI pumps and are fully tested when the LPSI system is used to fill the reactor cavity during refueling.

#### (5.1) Relief Requested

The licensee has requested specific relief for Category C valves V-3113, V-3123, V-3133, and V-3143 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 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 condition exceeding pressure-temperature limits.

#### <u>Evaluation</u>

We agree with the licensee's basis and approve the requested relief. 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.





## (5.2) Relief Request

The licensee has also requested specific relief for Category AC valves V-3113, V-3123, V-3133, and V-3143 from the valve leak rate testing requirements of IWV-3420 and proposes to continue testing these valves in accordance with St. Lucie Unit 1 TS 4.4.6.2.e.

#### Licensee's Basis For Requesting Relief

These two-inch check valves provide from pressure isolation between the Reactor Coolant System and the High Pressure Safety Injection System. These valves are required to be leak tested pursuant to an NRC Order dated April 20, 1981 which modified St. Lucie Unit 1 TS 3.4.6.2 and 4.4.6.2.

## Evaluation

These four values are identified in TS 3.4.6.2 (Table 3.4.6-1) as Primary Coolant System Pressure Isolation values. In the associated Technical Specification surveillance requirements (TS 4.4.6.2) specific time periods are identified for verifying that leakage rate of each of these values is less that the rates stated in the TS. We agree that these requirements are equivalent to (or exceed) the requirements of the Code, and thereby, we approve the requested relief from the Code requirements.

## (6.1) 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

We agree with the licensee's basis and approve the requested relief. The licensee has demonstrated that these values cannot be practically exercised during operation. They are fully exercised when they provide flow for shutdown cooling.

## (6.2) Relief Request

The licensee has also requested specific relief for Category AC valves V-3114, V-3124, V-3134, and V-3144 from the valve leak rate testing requirements of IWV-3420 and proposes to continue testing these valves in accordance with St. Lucie Unit 1 TS 4.4.6.2.e.

#### Licensee's Basis For Requesting Relief

These six-inch check valves provide for pressure isolation between the Reactor Coolant System and the Low-Pressure Safety Injection System. These valves are required to be leak tested pursuant to an NRC Order dated April 20, 1981 which modified St. Lucie Unit 1, TS 3.4.6.2 and 4.4.6.2.

#### Evaluation

These valves are also Reactor Coolant Systém Pressure Isolation Valves and are identified in TS 3.4.6.2. The requested relief is approved. (See previous Section 4.c.(5.2)).

## (7.1) Relief Request

The licensee has requested specific relief for Category C 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**

We agree with the licensee's basis and approve 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.



### (7.2) Relief Request

The licensee has also requested specific relief for Category AC valves V-3217, V-3227, V-3237, and V-3247 from the valve leak rate testing requirements of IWV-3420 and proposes to continue testing these valves in accordance with St. Lucie Unit 1 TS 4.4.6.2.e.

#### Licensee's Basis For Requesting Relief

These 12-inch check valves provide for pressure isolation between the Reactor Coolant System and the High Pressure and the Low-Pressure Safety Injection Systems. These valves are required to be leak tested pursuant to an NRC Order dated April 20, 1981 which modified St. Lucie Unit 1 TS 3.4.6.2 and 4.4.6.2.

#### Evaluation

These valves are also listed in TS as Primary Coolant System Pressure Isolation Valves. The licensee's request is approved. (See previous Section 4.c.(5.2)).

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#### (8) Relief Requested

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

#### Licensee's Basis for Requesting Relief

These 3-inch gate valves 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**

We agree with the licensee's basis and approve 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.

### (9.1) Relief Request

The licensee has requested specific relief for Category C Safety Injection Tank (SIT) discharge 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

We agree with the licensee's basis for not exercising these valves during plant operation or cold shutdowns. However, based on discussions with the licensee, we understand that the test proposed for refueling outages will involve only part-stroke exercising. We do not consider part-stroke tests to be adequate to verify that analyzed flow will be available during the life of the plant. The licensee also informed the staff that methods for full-stroking these valves are under study and will be implemented if deemed practical. Consequently, we approve 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 five-year intervals.

# (9.2) Relief Request

The licensee also requested specific relief for Category C valves V-3215, V-3225, V-3235, and V-3245 from the valve leak rate testing requirement of IWV-3420.



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# Licensee's Basis For Requesting Relief

Any leakage of reactor coolant through the SIS isolation check valves (V-3217, V-3227, V-3237, and V-3247) would be detected by an associated pressure increase on the lowpressure side of the check valves. Pressure indicator/alarm instruments (PIA-3319, PIA-3329, PIA-3339, and PIA-3349) monitor SIS header pressure. On high-pressure, these instruments would annunciate alarms in the Control Room.

If the Safety Injection Tank (SIT) outlet check valve disk is not seated properly, any leakage of reactor coolant through the SIT check valves would be detected by:

(1.) SIT Water Level - Any in-leakage of reactor coolant into the SIT would produce an increase in level in the SIT. This would be detected by the SIT level indicator/alarm instruments (LIA-3311, LIA-3321, LIA-3331 and LIA-3341) which indicate SIT level in the Control Room. On high SIT level, these instruments would annunciate alarms in the Control Room. In addition, level switches (LS-3313, LS-3323, LS-3333, and LS-3343), which are located on the SIT, would actuate on high level and alarm in the Control Room. This provides for redundant and diverse SIT level indication and alarm in the Control Room.

Further, high water level in the SIT can be corrected by using the SIT recirculation line to drain excess water to the Radioactive Waste Management (RMS) System. This provides for maintaining proper SIT water level during power operation.

(2) SIT Pressure - Any in-leakage of reactor coolant into the SIT would produce an increase in level in the SIT. This would cause an increase in SIT pressure because the SIT is a relatively small closed volume with a nitrogen cover gas. This increase in pressure would be detected by SIT pressure indicator/alarms (PIA-3311, PIA-3321, PIA-3331, and PIA-3341) which indicate SIT pressure in the Control Room. On high pressure in the SIT, these instruments would annunciate alarms in the Control Room. In addition, pressure switches (PS-3311, PS-3321, PS-3331, and PS-3341), which are located on the SIT, would actuate on high pressure and alarm in the Control Room. This provides for redundant and diverse SIT pressure indication and alarm in the Control Room.

Further, high SIT pressure resulting from in-leakage and an associated increase in SIT water level can be corrected by using the SIT recirculation line to drain excess water from the SIT to the Radioactive Waste



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Management (RMS) System. This provides for maintaining proper SIT water level and pressure, during power operation.

Periodic review of SIT level and pressure will demonstrate that the SIT outlet check valves are not leaking.

#### Evaluation

We agree with the licensee's basis and approve the requested relief. Leakage of high pressure water from the Safety Injection Header (subsequent to inleakage through the pressure isolation valves V-3217, V-3227, V-3237, and V-3247) into the closed and pressurized SIT will be monitored and alarmed by an increase in water volume and pressure within " the SIT.

#### (10) Relief Request

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The licensee has requested specific relief for Category A valves V-3463 V-07009 and Category B valve V-03920 from the exercising requirements of IWV-3410.

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#### Licensee's Basis For Requesting Relief

These 2-inch gate valves provide a flow path to the Refueling Water Tank from the Safety Injection Tanks, when the associated drain valve is opened. These valves are positioned closed and locked closed during plant operation. These "passive valves" are not required to change position to either safety shut down the reactor or mitigate the consequences of an accident. Therefore, exercising these valves is not required.

### Evaluation

Valves which are normally locked closed to fulfill their function are exempted from the exercising requirements of the Code. Therefore, we agree with the licensee's basis and approve the requested relief. These valves should be Category AE rather than A and shall be given the operational checks required by paragraph IWV-3700 of the Code.

# (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.



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# Licensee's Basis for Requesting Relief

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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.

### <u>Evaluation</u>

We agree with the licensee's basis and grant 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.

# (12.1) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves V-3480, V-3481, V-3651, and V-3652 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. 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

We agree with the licensee's basis and grant the requested relief. The licensee has demonstrated that it is impractical to test the valves during operation. Failure of one of the valves in the open position during operation would necessitate plant shutdown. The staff considers these valves to be containment isolation valves and, therefore, should be classified as Category A. (See Section C.1.i).

# (12.2) Relief Request

The licensee has also requested specific relief for Category B valves V-3480, V-3481, V-3651, and V-3652 from the valve leak rate testing requirements of IWV-3420.

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# Licensee's Basis For Requesting Relief

These motor operated valves (MOV) are provided with remote valve position indicators located in the Control Room. When the SDC System is isolated, during RCS heatup operations, these valves are positioned closed and key-locked closed to prevent inadvertent operation during power operation.

In addition, these valves are interlocked with two RCS pressure measurement channels to prevent opening these valves unless the RCS pressure is 268 psia or less.

Any leakage from the RCS through these valves would result in an associated pressure increase on the low pressure side of these valves. This increase in pressure would actuate the ... relief valve located downstream of the valve.

Thus, the associated pressure increase would be limited by the operation of the relief valve.

Any leakage past these valves would be detected because any discharge from the relief valve is collected in the Quench Tank (QT), for those relief valves located inside containment, or the Radioactive Waste Management System Holdup Tank (HT), for those relief valves located outside containment.

The Quench Tank is provided with QT level, pressure, and temperature measurement channels. On high QT level, pressure, or temperature, these instruments annunciate alarms in the Control Room.

Similarly, the Holdup Tank is provided with level measurement channels. On high level, these instruments would annunciate alarms to alert operating personnel.

Thus, any leakage past these valves would be detected by an increase in level in the associated collection tank.

Any pressure increase in the piping downstream of these valves associated with leakage past the valve would be limited by the relief valve located on the lower pressure side of the valve.

Any leakage past these valves would be detected by an increase in the level of the associated collection tank.

#### Evaluation

These four valves isolate the Reactor Coolant System (RCS) from the Low Pressure Safety Injection Systemeduring plant operation and supply flow path for shutdown cooling. Since





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these valves provide pressure isolation functions when the RCS pressure is >268 psia, we consider that the valves should be leak rate tested per Technical Specification 4.4.6.2 and also have Category A classifications. It is the staff's position that the allowable leak rate of a valve should not be based on the setting of an associated relief valve, but should be limited to a value that ensures the integrity of the valve. Leakage through these four valves is also limited by the 10 gpm identified leakage from the RCS as required by Technical Specification 3.4.6.2.

We have discussed this relief request wth the licensee and we recognize the difficulties involved in testing these valves in their designed locations and in the absence of leak test taps. We also understand that the levels of the QT and HT<sup>...</sup> are inspected biweekly and that Technical Specification (3.4.6.2) sets a limit of 1 gpm on unidentified leakage from the RCS. It is our position, however, that a more direct means of verifying the integrity of these valves must be developed. We, therefore, deny the licensee's request.

# (13) Relief Request

The licensee has requested specific relief for Category B valves V-3206 and V-3207 from the quarterly exercising frequency of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licenseee's Basis For Requesting Relief

These two ten-inch gate valves provide for remote isolation of Low-Pressure Safety Injection System (LPSI) Pump discharge headers. Failure of either of these valves in the closed position, by testing during plant operation, would result in the loss of function of one of the LPSI Pumps, if required.

# <u>Evaluation</u>

The licensee currently is full-stroke testing these valves once every thirty one days per Technical Specification 4.5.2.b.4. We also consider that these valves are testable during plant operation because only one LPSI pump is isolated (See Section C.1.a). Therefore, we deny the licensee's request.

# (14) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves V-3432 and V-3444 from the quarterly exercising frequency of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis For Requesting Relief

These 14-inch gate valves provide for remote isolation of Low-Pressure Safety Injection System (LPSI) Pump suction headers. Failure of either of these valves in the closed position, by testing during operation, would result in the loss of function of one of the LPSI Pumps if required.

# Evaluation

The licensee is currently full-stroke testing these valves once every thirty one days per Technical Specification 4.5.2.b.4. We also consider that these valves are testable during plant operation because only one LPSI pump is isolated. (See Section C.1.a). Therefore, we deny the licensee's request.

# (15) Relief Request

The licensee has requested specific relief for Category B valves V-3452, V-3453, V-3456, and V-3457 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 for remote isolation of the Shutdown Cooling (SDC) heat exchangers. Failure of either valve in the open position, by testing during plant operation, would result in the diminished function of one of the containment spray headers, if required.

# **Evaluation**

These four valves provide redundant isolation in crossover lines (inlet, V-3452 and V-3453 and outlet, V-3456 and V-3457) to the inlet and outlet piping for the Shutdown Cooling Heat Exchangers. Normally these valves are locked shut so that two independent flow paths are maintained between the Containment Spray Pumps and the Containment Spray headers. We agree that failure of either valves V-3452 or V-3453 in the open position would divert part of the flow for one of the redundant Shutdown Cooling heat exchangers to the discharge header of the LPSI pump <u>if</u> valve V-3658 remained open. Valve V-3658 is normally open with the valve motor disconnected so that the plant can always automatically go on shutdown cooling. If this valve were closed, this capability would be defeated; therefore, we approve the licensee's request for relief for these two valves. However, failure of either valve V-3456 or V-3457 in the open position would not divert water to the LPSI discharge header because flow would



be isolated by vavle HCV 3657 which is normally locked closed. Therefore, we deny the licensee's request for relief for valves V-3456 and V-3457.

(16) Relief Request

The licensee has requested specific relief for Category B valve MV-03-2 from the quarterly exercising requirement of IWV-3410 and proposes to test this valve during cold shutdowns.

### Licensee's Basis For Requesting Relief

This ten-inch globe valve provides for a redundant Low-Pressure Safety Injection System (LPSI) Pump discharge header flow path by bypassing valve FCV-3306. Failure of valve MV-03-2 in the closed position, by testing during plant operation, would result in the loss of the redundant LPSI pump discharge header flowpath, if required.

### **Evaluation**

We agree with the licensee's basis and approve the requested relief. This 12-inch bypass line is normally open and is used during LPSI Pump operation because flow control valve FCV-3306 (in the main discharge header) will not pass design LPSI Pump flow.

(17) Relief Request

The licensee has requested specific relief for Category B valves MV-03-1A and MV-03-1B from the quarterly exercising frequency of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis For Requesting Relief

These two-inch globe valves provide for remote operation of valves that provide for controlled warmup of Shutdown Cooling (SDC) System pumps, heat exchangers, and associated piping. Failure of either of these valves in the open position by testing during plant operation, would result in diminished flow (due to recirculation) from the Low-Pressure Safety Injection System to the reactor, if required.



### <u>Evaluation</u>

Each LPSI pump has a recirculation loop that can cycle water from the Low-Pressure header back to the suction of the pump. We agree that if this loop remained open, due to the failure of valves MV-031A and MV-03-1B during testing, the flow capacity of the LPSI pump, during an emergency, would be reduced. However, each loop also contains a manual valve (valves V-3400 and V-3484) that are normally open, but which could be readily closed to provide the necessary isolation. Therefore, we deny the licensee's request for relief.

### d. <u>Component Cooling Water</u>

# (1) <u>Relief Request</u>

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

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These 8-inch butterfly valves provide supply and return flow path for component coolant water to the Reactor Coolant Pump 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 Seal Coolers. This would result in damage to the Reactor Coolant Pumps which could place the plant in an unsafe mode of operation.

# **Evaluation**

We agree with the licensee's basis and grant 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 3.6.3.1 (Table 3.6-2) states that these valves are not testable during plant operation.

# (2) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves I-SB-14167 and I-SB-14178 from the quarterly testing requirement of IWV-3410 and proposes to exercise these valves during cold shutdowns.



# Licensee's Basis for Requesting Relief

These 24-inch butterfly valves provide Component Cooling Water flow path from heat exchanger outlet to associated supply leader. These valves cannot be tested during plant operation because closing either of these valves would result in loss of cooling capability to the equipment supplied with Component Cooling Water. This could cause overheating of equipment which could place the plant in an unsafe mode of operation.

### <u>Evaluation</u>

We agree with the licensee's basis and grant the requested relief. The licensee had demonstrated that exercising these valves during plant operation would result in loss of cooling capability to certain equipment, and the plant could be placed in an unsafe condition.

# (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 shutdown 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

We agree with the licensee's basis and grant 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.

# (4) Relief Requested

The licensee has requested specific relief for Category B valves MV-14-5, MV-14-6, MV-14-7, and MV-14-8 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.



# Licensee's Basis For Requesting Relief

These 10-inch butterfly valves provide supply and return flow paths for Component Cooling Water to the Containment Cooling Units.

These valves cannot be tested during plant operation because closing any of these valves would result in a loss of cooling capability to the associated Containment Cooling Units. This could cause overheating of equipment which could place the plant in an unsafe mode of operation.

### Evaluation

We agree with the licensee's basis and grant the requested " relief. Each valve regulates flow of cooling water to two of four containment cooling units. The licensee has demonstrated that exercising these valves during plant operation would result in a loss of cooling capability to the """ associated Containment Cooling Units, such that the plant could be placed in an unsafe condition per Technical Specifications 4.6.1.5 and 3.6.2.3.

# (5) <u>Relief Request</u>

The licensee has requested specific relief for Category B valve LCV-14-1 from the quarterly testing required by IWV-3410 and proposes to exercise this valve automatically during plant operation and during shutdowns.

# Licensee's Basis for Requesting Relief

This 3-inch globe valve provides flow path from the Demineralized Water System to the Component Cooling Water Surge Tank. This valve is in service and operates during plant operation and during shutdowns. Any malfunction or abnormal operation of this valve would be detected at this time. (In subsequent discussions the licensee informed the staff that this valve did not serve a function important to safety and stated it might be removed from the program.)

# Evaluation

The staff agrees with the licensee's basis and grants the requested relief. This valve should be taken out of the ISI program or the type of ISI test to be performed should be identified in the program.

- e. <u>Sampling</u>
  - (1) Relief Request

The licensee has requested specific relief for Category A valves V-5200 and V-5203 from the quarterly testing required by IWV-3410 and proposes to test these valves during cold shutdown.

# Licensee's Basis for Requesting Relief

These 3/8-inch globe valves provide flow path from the Reactor Coolant System to the Sample System. The failure of either of these valves in the open position, by testing during plant operation, could result in a loss of containment integrity.

These values are exercised during plant operation. Any  $\underline{:}$  , and malfunctions or abnormal operation of these values would be detected at this time.

### **Evaluation**

These small containment isolation valves are being tested at least once per 92 days per Technical Specification 4.6.3.1.1 Table 3.6.2. Therefore, the licensee's relief request is denied.

### (2) Relief Requested

The licensee has requested specific relief for Category A valves V-5201 and V-5204 from the quarterly testing required by IWV-3410 and proposes to test these valves during cold shutdowns.

### Licensee's Basis for Requesting Relief

These 3/8-inch globe valves provide flow path from the Pressurizer Surge Line to the Sample System. The failure of either of these valves in the open position, by testing during plant operation, could result in a loss of containment integrity.

These valves are exercised during plant operation. Any malfunctions or abnormal operation of these valves would be detected at this time.

# Evaluation

The requested relief is denied. Same as C.4.e.(1) above.

(3) <u>Relief Requested</u>

The licensee has requested specific relief for Category A valves V-5202 and V-5205 from the quarterly testing requirements of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis for Requesting Relief

These 3/8-inch globe valves provide a flow path from the Pressurizer steam space to the sample system. The failure of either of these valve in the open position, by testing during plant operation, could result in a loss of containment integrity.

These values are exercised during plant operation. Any malfunctions or abnormal operation of these values would be detected at this time.  $\frac{2}{2}$ 

### **Evaluation**

The requested relief is denied. Same as C.4.e.(1) above.

- f. Waste Management
  - (1) Relief Request

The licensee has requested specific relief for Category A valves V-6301 and V-6302 from the quarterly testing requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis for Requesting Relief

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These 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 valves are currently being tested at least once per 92 days per Technical Specification 4.6.3.1 Table 3.6.2. Therefore, the licensee's relief request is denied.

(2) <u>Relief Request</u>

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

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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

We agree 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.

(3) <u>Relief Request</u>

The licensee has requested specific relief for Category A valves V-6554 and V-6555 from the quarterly testing required by IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis for Requesting Relief

These 1-inch diaphragm 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**

The requested relief is approved. Same as C.4.f.(1).

- g. Main Steam
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category BC 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 power-assisted check 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 unit trip.

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# 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.

# (2) Relief Request

The licensee has requested specific relief for Category C valves V-8117 and V-8148 from the valve testing required by IWV-3520 and proposes to use an alternative method for verifying the operability of these valves.

# Licensee's Basis for Requesting Relief

These 34-inch check valves prevent reverse flow from the Main Steam Header System to the steam generator, if the associated Main Steam isolation valve is open.

These valves will be disassembled, on an alternating basis (staggered test basis) during refueling shutdowns over the ten year Inservice Inspection Interval to inspect the valves' freedom of motion to the open and closed position. Any problems found during the inspection of one valve would be cause for inspection of the other valve.

#### Evaluation

We agree with the licensee's basis and approve the requested relief. These valves can be exercised, to verify closure, only during cold shutdowns or refueling outages. Because this test requires disassembly of these large valves, such a test is impractical during brief periods of cold shutdown. The licensee's proposal will verify the capability of this valve to perform its design function on a frequency that provides adequate certainty of its operability.

### h. Feedwater and Condensate

(1) <u>Relief Request</u>

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

We agree with the licensee's basis and approve the requested relief. 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) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves MV-09-7 and MV-09-8 from the requirements of IWV-3410 and proposes to test these valves during cold shutdown.

### Licensee's Basis For Relief Request

These motor-operated gate valves are normally open and provide flow path from the Main Feedwater System to the associated Steam Generator. They cannot be tested during plant operation because closing either valve would result in loss of feedwater flow to the associated Steam Generator and cause a unit trip.

### Evaluation

We agree with the licensee's basis and approve the requested relief. These valves should not be tested in such a manner as to cause an operational transient and plant trip.

#### (3) <u>Relief Request</u>

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

### Licensee's Basis for Requesting Relief

These normally open check valves prevent reverse flow from the associated Steam Generator into the Feedwater System. The licensee proposes to disassemble these valves, on an alternating basis, during refueling shutdowns to inspect the valves' freedom of motion to open and closed positions. Any problem found on one valve during this inspection would be cause for inspection of the other check valve.

# **Evaluation**

The staff agrees with the licensee's proposal and approves the requested relief. These valves cannot be tested during operation or during short periods of cold shutdowns because of their proximity to the Steam Generators. During refueling outages there is no method for checking the closure mechanism by reversing flow. The proposed visual inspection of one valve during each refueling outage is considered adequate to assure the integrity of these valves.

(4) <u>Relief Request</u>

The licensee has requested specific relief for Category  $\underline{B}$ ; ... valve V-12487 from the valve exercising requirement of IWV-3410.

# Licensee's Basis For Requested Relief

This manual gate valve is in the flow path from the Condensate Storage Tank to the Condensate Transfer Pump suction and to the Main Steam Condenser Makeup System. It is normally open and need not change position to either safely shutdown the plant or mitigate the consequences of an accident. Therefore, exercising of this passive valve is not required.

### Evaluation

Valve V-12487 is cycled only to isolate the Main Condenser Makeup System for maintenance or other similar purposes. It is the staff's position that gate valves which are not required to change position for any operating condition of the plant are exempted from the testing requirements of the Code. However, their positions must be verified quarterly and each time the valves are cycled. The licensee's request is approved.

# (5) Relief Request

The licensee has requested specific relief for Category B valves LCV-12-9 from the requirements of IWV-3410 and proposes to test the operability of this valves by an alternative method.

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# Licensee's Basis for Requesting Relief

This normally closed, diaphragm-operated valve provides flow path from the Demineralized Water System to the Condensate Storage Tank. The valve is in service and operates during plant operation and during hot shutdown. Any malfunction or abnormal operation of this valve would be detected at this time. The licensee considers that the Code's requirement is met by exercising this valve during plant operation and hot shutdowns.

### Evaluation

The flow path from the Demineralized Water System to the Condensate Storage Tank is described in the St. Lucie-1 FSAR as not serving a safety function but only serving as a makeup water system. The Condensate Water Storage Tank holds sufficient water to permit the reactor to achieve  $325^{\circ}F$ . following a trip or to remain in hot standby for 8 hours: The staff agrees that this valve's operability is adequately tested during its use daily to provide makeup water to the Condensate Storage Tank. We approve the licensee's request for relief.

- i. <u>Steam Generator Blowdown</u>
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves FCV-23-3, 4, 5, 6, 7, and 9 from the testing frequency requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

### Licensee's Basis for Requesting Relief

These normally open, diaphragm-operated valves provide flow path from the associated Steam Generator to the Closed Blowdown System. Testing these valves during plant operation could result in an unbalanced flow condition and possibly cause a loss of chemistry control.

### **Evaluation**

We agree with the licensee's basis and approve the requested relief. Blowdown is continuous through these valves when the plant is operating; thereby, verifying the valves are open. We consider the licensee's proposed test frequency to provide adequate assurance of the integrity of these valves and their capability to fail closed as designed.





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- j. <u>Containment Spray</u>
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category C valves V-07192, V-07193, V-07129, and V-07143 from the exercising requirements of IWV-3520 and proposes to disassembly these valves to verify operability.

# Licensee's Basis for Requesting Relief

# Evaluation

We agree with the licensee's basis, and grant relief for Category C valves V-07192, V-07193, V-07129, and V-07143 from the exercising requirements of Section XI. The licensee has demonstrated that exercising these valves by establishing flow through the system would result in spraying down the containment, resulting in possible equipment damage. Also, we conclude that the only other available methods of testing are by disassembling the valve and exercising the disk manually or by using air to move the disk. These tests require containment entry and partial system draining which is not possible during power operation and could result in an delay of reactor startup during cold shutdown. We conclude that the proposed alternate test method and frequency to disassembly these valves and manually full stroke exercise during refueling should demonstrate proper valve operability.

# (2) Relief Requested

The licensee has requested specific relief for Category A valves LCV-07-11A and LCV-07-11B from the test frequency requirements of IWV-3410 and proposes to test these valves during cold shutdowns.

# Licensee's Basis for Requesting Relief

These normally closed 3-inch gate valves provide a flow path from the reactor cavity and Containment Sump to the equipment drain tank. Failure of either of these valves in the closed position, by testing during plant operation, would result in a loss of one of the systems required for leak detection inside containment.

#### Evaluation

These two valves are currently being tested at least once every 92 days per Technical Specification 4.6.3.1.1 Table 3.6.2. Therefore, the licensee's relief request is denied.

# (3) <u>Relief Request</u>

The licensee has requested specific relief for Category  $C^*$  values V-07120 and V-07119 from the exercising test frequency requirements of IWV-3520 and proposes to exercise these values 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 three months during the performance of Safety Injection System Pump tests.

### **Evaluation**

We agree with the licensee's basis and approve the requested relief for valves V-07120 and V-07119. The licensee has demonstrated that these valves cannot be exercised during power operation because neither system (LPSI or HPSI) that takes suction from the RWST can overcome RCS operating pressure.

(4) <u>Relief Request</u>

The licensee has requested specific relief for Category AE valves V-07206, V-07189, V-07170, and V-07188 from the exercising test requirements of IWV-3410.





# Licensee's Basis For Requesting Relief

These 3-inch manual gate valves provide supply and return flow path from the refueling cavity to the Fuel Pool System ion exchangers. These valves provide containment isolation and are normally locked closed and do not have to change position to either safety shutdown the reactor or mitigate the consequences of an accident. Exercising of passive valves is not required.

### <u>Evaluation</u>

We agree with the licensee's basis and approve the requested relief. Gate valves which are not required to change position for any operating condition or to mitigate an accident are exempted from the testing requirements of Section XI. However, their positions should be verified and recorded quarterly and each time the valve is cycled.

# (5) <u>Relief Request</u>

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 over the 10-year Inservice Inspection Interval and inspect the valves' freedom of motion to the open and closed positions. Any problems found on one valve during this inspection would be cause for inspection of the other valves.

### <u>Evaluation</u>

We agree with the licensee's basis and approve 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. Inasmuch as 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.

(6) Relief Request

The licensee has requested specific relief for Category C valves V-07256, V-07258, V-07269, and V-07270 from the requirements of IWV-3520 for quarterly exercising tests and proposes to test these valves in accordance with Technical Specification 4.6.2.2.d.

#### Licensee's Basis For Requesting Relief

These 2-inch check valves provide redundant flow paths from the Spray Additive System to Containment Spray Pump suction header. The licensee does not want to test these valves by placing the Containment Spray System in operation because sodium hydroxide solution would be introduced into the Containment Spray System piping. If these valves were tested during plant operation by connecting an external water source, the plant would lose the ability to supply sodium hydroxide to the Containment Spray System, if required.

### Evaluation

We agree with the licensee's basis and approve the requested relief. The licensee has demonstrated that exercising these valves during power operation would contaminate the RWST/ECCS water supply with sodium hydroxide and result in corrosion of the ECCS system. Draining of the system during plant operation to manually exercise these valves would render the system inoperable.

(7) Relief Request

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

### Licensee's Basis For Requesting Relief

These 12-inch gate valves provide redundant, diverse, and remote Containment Spray supply header isolation capability. Failure of either of these valves in the closed position, by testing during plant operation, would result in the loss of one of the containment spray system flow paths.

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# Evaluation

These containment isolation valves are being tested at least once every 92 days per Technical Specification 4.6.3.1. We also believe that these valves are testable during plant operation. (See Section C.1.a). Therefore, we deny the licensee's relief request.

# k. 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

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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. We agree with the licensee that this interruption might place the plant in an unsafe condition. Consequently, we approve the licensee's proposal to exercise these valves during cold shutdowns.

# (2) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves I-FCV-21-3A and I-FCV-21-3B from the quarterly exercising requirement of IWV-3410 and proposes to test these valves during cold shutdowns.

Valves FCV-21-3A and FCV-21-3B are 2-inch cylinder-operated valves that provide flow path from the Intake Cooling Water System to the Circulating Water Pump shaft bearings. The licensee states that 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 possibly result in 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). Therefore, we deny the licensee's request for relief.

# (3) <u>Relief Request</u>

elief for Category C

The licensee has requested specific relief for Category C valves I-V-21-015 and I-V-21-017 from the exercising test frequency required by IWV-3520 and proposes to exercise these valves during cold shutdown.

# Licensee's Basis for Requesting Relief

Valves I-V-21-015 and I-V-21-017 are 2-inch check valves that prevent reverse flow from the Intake Cooling Water System to the Domestic Water Supply System. These valves cannot be tested during plant operation because the Domestic Water System (City Water Storage Tanks) does not develop sufficient discharge head to overcome the discharge head of the Intake Cooling Water Pumps.

### **Evaluation**

Valves I-V-21-015 and I-V-21-017 are 2-inch check valves that provide flow from the Domestic Water Supply to the Intake Cooling Water Pumps. These lines provide a secondary source of lubricant to the Intake Cooling Water Pumps and are used only during startup of these pumps. Once the pumps are running they provide their own continuous lubricant flow and the Domestic Water Supply is isolated by the differential pressure of the pumps discharge head versus the discharge head of the 500,000 gallon City Water Storage System. Therefore, we agree with the licensee's basis that-these two valves cannot be exercised except at cold shutdown when the Intake Cooling Water Pumps may be stopped. (4) <u>Relief Request</u>

The licensee has requested specific relief for Category B valves TCV-14-4A and TCV-14-14B from the exercising requirements of IWV-3410.

# Licensee's Basis for Requesting Relief

These 30-inch butterfly values function as temperature control values for the associated Intake Cooling Water System heat exchanger. They do not perform a safety-related function to either safely shutdown the reactor or mitigate the consequences of an accident. The values are in continuous service during plant operation and during unit . shutdowns. Any malfunctions would be noted by abnormal operating conditions.

# <u>Evaluation</u>

These large butterfly valves are being continually used and modulated to maintain the desired temperature range for the Component Cooling Water System. Any degradation in the operability of these valves will be reflected in the cooling capacity of the Component Cooling Water Heat Exchanger. We therefore approve the licensee's request. However, the ability of these valves to open and to fail open is a safety related function in case of an accident. Therefore, we condition our approval with the requirement to verify the capability of these valves to open and to fail-safe in the open position whenever these valves are not in service.

- 1. <u>Hydrogen Sampling</u>
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category A valves FSE-27-1 through FSE-27-11 from the quarterly exercise testing required by IWV-3410 and proposes to verify the operability of these valves by establishing a flow path as shown by the Hydrogen Analyzer Flow Indicator.

# Licensee's Basis for Requesting Relief

These self-contained, completely enclosed 3/8-inch solenoid valves have remote valve position indicators located in the Control Room. However, due to the sequential arrangement of the sample valve selector switch, accurate stroke time measurement is impractical.

Establishing a flow path, as shown by the valve position indicator lights in the control room, within 5 seconds or less will demonstrate that the solenoid valves function satisfactorily.

Further, during refueling shutdowns, the valve disk position will be determined while performing the Appendix J, Type C, local leak rate tests.

### **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, we condition our approval of the requested relief by requiring the licensee to verify that the stroke time of these valves is less than 2 seconds.

- m. Service and Instrument Air
  - (1) Relief Request

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

### 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

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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. We also agree 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. We approve the request relief.

(2) <u>Relief Request</u>

The licensee has requested specific relief for Category AC valves 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.

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### 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, we agree with the licensee's basis. Also, it is impractical to test this valve without exercising the outboard isolation valve I-MV 18-1 (See above C.3.m(1)). We, therefore, approve the requested relief.

- n. ILRT Instrument and Test
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category A valves I-V-00139 and I-V-00144 from the exercising requirements of IWV-3410.

# Licensee's Basis Requesting Relief

These 3/8-inch manual globe valves provide pressure sensing flow path for the Containment Integrated Leak Rate Test (ILRT). These "passive" valves are not required to change position to either safely shutdown the reactor or mitigate the consequences of an accident. Therefore, exercising these valves is not required.

#### Evaluation

These valves are used only during the performance of the Containment ILRT and are normally closed during plant operation. We agree that "passive" valves are exempted from the





requirements of Section XI of the Code. However, the position of these valves should be verified quarterly and each time the valve is cycled.

(2) Relief Request

The licensee has requested specific relief for Category A valves I-V-00140 and I-V-00143 from the exercising requirements of IWV-3410.

### Licensee's Basis for Requesting Relief

These 1-inch manual globe valves provide controlled leakage rate function for the Containment Integrated Leak Rate Test. These "passive" valves are not required to change position to either safety shutdown the reactor or mitigate the consequences of an accident. Therefore, exercising these valves is not required.

# Evaluation

We agree with the licensee's basis and approve the requested relief. (See previous request C.4.n.(1))

(3) Relief Request

The licensee has requested specific relief for Category A valve V-00101 from the exercising requirement of IWV-3410.

### Licensee's Basis for Requesting Relief

This 8-inch manual gate valve provides pressurization flow path for the Containment Integrated Leak Rate Test. This "passive" valve is not required to change position to either safely shutdown the reactor or mitigate the consequences of an accident. Therefore, exercising of this valve is not required.

Evaluation

We agree with the licensee's basis and approve the requested relief. (See previous request C.4.n.(1))

- o. Primary Water
  - (1) <u>Relief Request</u>

The licensee has requested specific relief for Category A valve MV-15-1 from the quarterly exercising requirements of IWV-3410 and proposes to exercise this valve during cold shutdown.

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### Licensee's Basis For Requesting Relief

This 2-inch motor operated gate 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 loss of Containment integrity.

### Evaluation

Valve MV-15-1 (and check valve I-V-15328) provide flow of Primary Water from the Primary Water Pumps outside Containment to three safety-related systems (Pressurizer Quench Tank, Reactor Drain Tank, and Reactor Vessel Head Decontamination Area) inside Containment. We agree with the licensee's basis that this Containment isolation valve should not be exercised while the plant is operating to fulfill a Code requirement. Therefore, we approve the requested relief. However, Technical Specification 3.6.3.1, Table 3.6-2 describes this valve as being testable during plant operation and requires it to be cycled every 92 days, per TS 4.6.3.1.1.

### (2) Relief Request

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

### Licensee's Basis for Requesting Relief

This 2-inch check valve is in line with valve MV-15-1 and prevents reverse flow from the Quench Tank to the Primary Water System. The basis for requesting relief is the same as for valve MV-15-1; i.e., failure in the open position during testing would cause loss of containment.

### Evaluation

(See Section C.4.0.(1) above for valve MV-15-1) We agree with the licensee's basis and approve the requested relief.

### p. Miscellaneous Systems (Diesel Oil)

### Relief Request

The license has requested specific relief for Category B<sup>-</sup>valves I-SE-17-1A and I-SE-17-1B from measurement of stroke time as required by IWV-3410. The licensee proposes to use an alternate test to verify that the moving parts of these valves function satisfactorily.





### Licensee's Basis for Requesting Relief

These 2-inch solenoid valves function as level control valves for the associated Emergency Diesel-Generator Diesel Oil Day Tank. These self-contained, completely enclosed, solenoid valves have neither external nor remote valve position indicators.

Further, these values are controlled by level in the Diesel Oil Day Tank and they are interlocked with the Diesel Oil Transfer Pumps.

Therefore, stroke-time measurements and valve position verification is impractical.

Establishing a flow path as shown by an increase in level in the Diesel Oil Day Tank while exercising these valves quarterly, will demonstrate that the moving parts of the solenoid valve function satisfactorily.

### Evaluation

The staff agrees with the licensee's basis for relief to the extent that the proposed alternate test will verify that these two valves perform their designed function and, thereby, prove the valves are operable. It is the staff's position, however, that the Code requirement for stroke-testing power-operated valves should also demonstrate that (1) a valve operates within a time limit required to fulfill its function and (2) that the valve is not experiencing degradation from use or from maintenance (e.g., overtight packing). By exercising these valves quarterly, the licensee establishes the capability of the valves to meet their designed function of maintaining oil in the Day Tanks. The second criterion for stroke timing could be established by a coarse measurement (such as a fail-safe test of the actuating system) of the stroke time. For fast acting valves, such as soleniod valves, any stroke time less than 2 seconds is acceptable to the staff. We, therefore approve the licensee's request with the condition that methods for measuring a coarse stroke time be studied and implemented if feasible.

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

(1) <u>Relief Request</u>

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 d0ring cold shutdown.

### Licensee's Basis For Requesting Relief

These 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. Personnel performing the tests would be exposed to radiation of approximately.5,000 millirems per hour (predominantly neutron). One man-hour will be required for testing these valves. Therefore, testing these valves during normal plant operation would result in a commitment of 5,000 millirems each test or a total of 20,000 millirems. . annually (20 man-rems exposure each year).

### **Evaluation**

We agree with the licensee's basis and approve the requested relief.

### (2) Relief Request

The licensee has requested specific relief for Category A valves FCV-25-2, FCV-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

We agree with the licensee's basis and approve the requested relief. Power-operated valves which 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.

(3) Relief Request

The licensee has requested specific relief for Category A valves V-25-11, V-25-12, V-25-13, V-25-14, V-25-15, and V-25-16 from the test requirements of IWV-3410.

### Licensee's Basis For Requesting Relief

These valves provide outside air supply (V-25-11 and V-25-12)and reactor Containment Building exhaust flow path (V-25-13)thru 16) for the Containment Hydrogen Purge System.

The valves are positioned closed and locked closed during plant operation and during shutdowns. The licensee proposes to exercise these valves during the performance of the local leak test tests during refueling shutdowns.

### Evaluation

These valves are Category A because they provide containment isolation. The licensee proposes to perform both Category A tests and leak rate tests during refueling outages. For practical purposes these valves are also Category E valves since they are locked closed during all other times. The Code does not prescribe regular testing requirements for such valves. We agree with the licensee's basis and approve the requested relief.

(4) <u>Relief Request</u>

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 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.

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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. Personnel performing the tests would be exposed to radiation of approximately 5,000 millirems (predominately neutron). We estimate approximately one man-hour will be required for testing these valves. Therefore, testing these valves during normal plant operation would result in a commitment of 5,000 millirems each test or a total of 20,000 millirems annually (20 man-rems exposure each year).

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### <u>Evaluation</u>

We agree with the licensee's basis and approve the requested relief.

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Date:

Principal Contributor:

W. Ross, Region II





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### ATTACHMENT 1

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

## TABLE A - SUMMARY TABULATION OF PUMP RELIEF REQUEST EVALUATIONS

		Evaluation			
Pumps	Licensee's <u>Program</u>	SER	Denied	Approved	Conditionally Approved
ALL	Attachment A-2	Section B.2		x	



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### ATTACHMENT 1

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

### TABLE B - SUMMARY TABULATION OF VALVE RELIEF REQUEST EVALUATIONS

	Evaluation			_		
	<u>Valves</u>	Licensee's Relief Request (Number)	<u>SER (Section)</u>	Denied	Approved	Conditionally Approved
	A11	-	C.3		x	
Read	tor Coolant					
	V-1402 V-1404	1	C.4.a.(1) C.4.a.(1)			× ×
	V-1403 V-1405	2	C.4.a.(2) C.4.a.(2)	x x		
	V-1441 V-1442	3 3	C.4.a.(3) C.4.a.(3)		x x	
	V-1443 V-1444	14 15	C.4.a.(4) C.4.a.(4)		x x	
	V-1445 V-1446	5 5	C.4.a.(5) C.4.a.(5)		x x	
	V-1449	6	C.4.a.(6)		x	
<u>Che</u>	nical and Volum	<u>Control</u>				•
.•	SE-01-01 V-2505	2	C.4.b.(1) C.4.b.(1)		X X	
	SE-02-01 SE-02-02	3 3	C.4.b.(2) C.4.b.(2)	x x		
2	V-2515 V-2516	11 14	C.4.b.(3) C.4.b.(3)		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)		ki X	
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Valves	Licensec's Relief Request (Number)	SER (Section)	Denied	Approved	Conditionally Approved
Chemical and <u>Control (cont</u>	Volume inued)			•	*
V-2191	8	C.4.b.(7)		x	
V-2177 V-2190	. 9	С.4.b.(8) С.4.b.(8)		× ×	
V-2430	12	C.4.b.(9)		x	
SE-02-03 SE-02-04	13 13	C.4.b.(10) C.4.b.(10)		×.	
V-2435	<b>→</b> 14	C.4.b.(11)		×	
V-2118	15 <sup>°</sup>	C.4.b.(12)			
<u>Safety_Inject</u>	ion				
V-3405 V-3414 V-3427	' 1 1 1	C.4.c.(1) C.4.c.(1) C.4.c.(1)		x x x	
V-3106 V-3107	• <del>2</del> 2	C.4.c.(2) C.4.c.(2)		x x	
V-3401 V-3410	3 3	C.4.c.(3) C.4.c.(3)		x x	
1-V07000 1-V07001	14 15	C.4.c.(4) C.4.c.(4)		x x	
V-3113 V-3123 V-3133 V-3144	5 & 17 5 & 17 5 & 17 5 & 17 5 & 17	C.4.c.(5.1) & (5 C.4.c.(5.1) & (5 C.4.c.(5.1) & (5 C.4.c.(5.1) & (5 C.4.c.(5.1) & (5	.2) .2) .2) .2)	X X X X	
V-3114 V-3124 V-3134 V-3144	6 & 17 6 & 17 6 & 17 6 & 17 6 & 17	C.4.c.(6.1) & (6 C.4.c.(6.1) & (6 C.4.c.(6.1) & (6 C.4.c.(6.1) & (6	.2) .2) .2) .2)	X X X X	
V-3217 V-3227 V-3237 V-3247	7 & 17 7 & 17 7 & 17 7 & 17 7 & 17	C.4.c.(7.1) & (7 C.4.c.(7.1) & (7 C.4.c.(7.1) & (7 C.4.c.(7.1) & (7 C.4.c.(7.1) & (7	.2) .2) .2) .2)	× × ×	
V-3659 V-3660 '	8 8	C.4.c.(8) C.4.c.(8)		x x	
V-3215 V-3225	9 & 18 9 & 18	C.4.c.(9.1) & (9 C.4.c.(9.1) & (9	.2) .2)	Ìt∓ X .••	× ×

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Valves	ticensee's Refict Reques (Number)	t <u>SER (Section)</u>	Denied	Approved :	Conditionally 
<u>Safety Injec</u>	tion (continued)				
V-3235 V-3245	9 & 18 9 & 18	C.4.c.(9.1) & ( C.4.c.(9.1) & (	9.2) 9.2)	x x	× ×
V-3463 1-V07009	10 10	C.4.c.(10) C.4.c.(10)			x x
HCV-3618 HCV-3628 HCV-3638 HCV-3648	1 1 1 1 1 1 1 1 1 1	C.4.c.(11) C.4.c.(11) C.4.c.(11) C.4.c.(11) C.4.c.(11)		X X X X	
V-3480 V-3481 V-3651 V-3652	12 & 19 12 & 19 12 & 19 12 & 19 12 & 19	C.4.c.(12.1) & C.4.c.(12.1) & C.4.c.(12.1) & C.4.c.(12.1) & C.4.c.(12.1) &	(12.2) X (12.2) X (12.2) X (12.2) X (12.2) X	x x x x	
V-3206 V-3207	13 13	C.4.c.(13) C.4.c.(13)	x x		
V-3432 V-3444	8 ); 1 41	C.4.c.(14) C.4.c.(14)	x x		
V-3452 V-3453 V-3456 V-3457	15 15 15 15	C.4.c.(15) C.4.c.(15) C.4.c.(15) C.4.c.(15) C.4.c.(15)	X X	X X	
MV-03-2	16	C.4.c.(16)		×	
MV-03-1A MV-03-18	20 20	C.4.c.(17) C.4.c.(17)	x x		
<u>Component_Co</u>	oling Water				
HCV-14-1 HCV-14-2 HCV-14-6 HCV-14-7	1 1 1 1	C.4.d.(1) C.4.d.(1) C.4.d.(1) C.4.d.(1) C.4.d.(1)		× . × . ×	
I-SB-14167 I-SB-14178	2 2	C.4.d.(2) C.4.d.(2)		× ×	
исv-14-3А нсv-14-3В	3 3	C.4.d.(3) C.4.d.(3)		x x	
MV-14-5, MV-14-6 MV-14-7 MV-14-8	∽ IL IL IL IL IL	C.4.d.(4) C.4.d.(4) C.4.d.(4) C.4.d.(4)		۴ : × ×	
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Valves	Licensee's Relief Request (Number)	SER (Section)	<u>Den i ed</u>	ا ج <u>Approvo</u> ti	Conditionally Approved
Component Cooling <u>Water (continued)</u>	*			•	
I.CV-14-1	5	C.4.d.(5)		x	
Sampling					
V-5200 V-5203	1 1	C.4.e.(1) C.4.e.(1)	x x		
V-5201 V-5204	2	C.4.e.(2) C.4.e.(2)	× ×	,	-
V-5202 V-5205	33	C.4.e.(3) C.4.e.(3)	× ×		
<u>Waste Management</u>					
V-6301 V-6302	1 · · · · · · · · · · · · · · · · · · ·	C.4.f.(1) C.4.f.(1)	x x		
V-6741	2	C.4.f.(2)		×	
V-6554 V-6555	- <sup>3</sup> - <sup>3</sup>	C.4.f.(3) C.4.f.(3)		x x	
<u>Main Steam</u>					
HCV-08-1A HCV-08-1B	1 1	C.4.g.(1) C.4.g.(1)	·	x x	
V-8117 V-8148	2 2	C.4.g.(2) C.4.g.(2)		X X	

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Valves	licensee's Relief Request (Number)	SER (Section)	Denied
Feedwater and Conden	<u>sat</u> ç		
V-9107 V-9119 V-9123 V-9135		C.4.h.(1) C.4.h.(1) C.4.h.(1) C.4.h.(1) C.4.h.(1)	
· V-9151 V-9157	1	C.4.h.(1) C.4.h.(1) C.4.h.(1)	
MV-09-7 MV-09-8	22	C.4.h.(2) C.4.h.(2)	
V-9252	3	C.4.h.(3)	
V-9294	3	C.4.h.(3)	
V-12487	4	C.4.h.(4)	
LCV-12-9	5	C.4.h.(5)	
Steam Generator Blow	down		
FCV-23-3,4,5,6. 7, and 9	1	C.4.1	
<u>Containment_Spray</u>			
V-07192	1	C.4.j.(1)	
V-07193	1	C.4.j.(1)	
V-07129	1	C.4.j.(1)	
V-07143	1	C.4.j.(1)	
LCV-07-11A	2	C.4.j.(2)	××
LCV-07-11B	2	C.4.j.(2)	
V-07119	3	C.4.J.(3)	
V-07120	3	C.4.J.(3)	
V-07206	14	C.4.j.(4)	
V-07189	14	C.4.j.(4)	
V-07170	11	C.4.j.(4)	
V-07188	11	C.4.j.(4)	
V-07174	5	C.4.j.(5)	
V-07172	5	C.4.j.(5)	
V-07256	6	C.4.j.(6)	
V-07258	6	C.4.j.(6)	
V-07269	6	C.3.j.(6)	
V-07270	6	C.3.j.(6)	
I-MV-07-3A	7	C.3.j.(7)	X
I-MV-07-3B	7	C.3.j.(7)	X

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Valves	Licensee's Relief Request	SER (Section)	<u>Denied</u>	App roved	Conditionally Approved
Circulating and in <u>Cooling Water</u>	ntake			<b>K</b>	
MV-21-2 MV-21-3	1 1	C.3.k.(1) C.3.k.(1)		x x	
(MV-21-4) 1-FCV-21-3A 1-FCV-21-3B	2 2	C,3.k.(2) C.3.k.(2)	x x		
1-V-21-015 1-V-21-017	3 3	C.3.k.(3) C.3.k.(3)		X	
. ТСV-14-4А ТСV-14-4В	14 14	C.3.k.(4) C.3.k.(4)		X	
<u>Hydrogen Sampling</u>					
FSE-27-1 thru FSE-27-11	1	C.3.1			x
Service and Instru	ment Air				
MV-18-1	1	C.3.m.(1)		x	
I-V-18195	2	C.3.m.(2)		x	
ILRT Instrument an	<u>d Test</u>				
I-V-00139 I-V-00144	1 1	C.3.n.(1) C.3.n.(1)		x x	
-V-00140  -V-00143	2 2	C.3.n.(2) C.3.n.(2)		x x	-
I-V-00101	3	C.3.n.(3)		x	
<u>Primary Water</u>					
MV-15-1	1	C.3.0.(1)		x	•
I-V-15328	2	C.3.0.(2)		x	
<u> Miscellaneous (Dic</u>	<u>sel 0il)</u>				
I-SE-17-1A I-SE-17-1B	1 1	C.3.p. C.3.p.			X X

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	Valves	Licensee's Relief Request (Number)	<u>SER_(Section)</u>	Den i	ed <u>Approved</u>	Conditionally Approved
	Heating, Ventilation	n, and .			•	
	V-25-20 V-25-21	1	C.3.q.(1) C.3.q.(1)	y	x x	
- <b>*</b>	FCV-25-2 thru FCV-25-5	2	C.3.q.(2)		x	
	V-25-11 thru V-25-16	3	C.3.q.(3)		х	
	FCV-25-7 FCV-25-8	14 15	C.3.q.(4) C.3.q.(4)		x x	

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# ATTACHMENT 2

# P&IDS USED IN THE STAFF'S REVIEW

System	<u>Drawing Number</u>	<u>Sheet Number(s)</u>
Reactor Coolant	8770-G-078	110
Chemical and Volume Control	8770-93, 8770-94	, ,
Safety Injection	8770-G-Ó78	130. 131
Component Cooling Water	8770-G-083	,
Sampling	8770-G-078	150
Waste Management	8770-G-078	160, 163
Main Steam	8770-G-079	,
Feedwater and Condensate	8770-G-080	
Steam Generator Blowdown	3509-G-115	1
Containment Spray	8770-G-088	-
Intake Cooling Water	8770-G-082	
Hydrogen Sampling	8770-G-092	
Service and Instrument Air	8770-G-085	
ILRT Instrument and Test	8770-G-093	
Primary Water	8770-G-084	
Miscellaneous (Diesel Oil)	8770-G-086 .	
Heating, Ventilation, and Air		
Conditioning	8770-G-878	

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