BOSTON EDISON

PILGRIM NUCLEAR POWER STATION

Procedure No. 8.I.1.1

INSERVICE PUMP AND VALVE TESTING PROGRAM

Approved EXEMPT PER BERAM 5.2.5 CAK 13 DEC 89
QA Manager Date

Approved _____ 12-19-89
Plant Manager Date

Safety Review: ~~Required/Not~~ Required

REVISION LOG

Revision Level	Pages Affected	Description of Revision
0	All	Upgrade IST Program to increase component scope and to incorporate the requirements of Generic Letter 89-04. This revision uses information provided in PNPS 8.I.1 and SI-PG.4040.

TABLE OF CONTENTS

1.0 PURPOSE

This procedure emcompasses and controls the PNPS Inservice Test (IST) Program. It identifies the scope of components (pumps and valves) and testing requirements for compliance with 10CFR50.55a(g), Inservice Inspection Requirements, and Generic Letter 89-04, Guidance on Developing Acceptable Inservice Testing Program. This procedure will be utilized for the IST Program submittal to satisfy 10CFR50.55a(g)(4)(ii) and also identifies impractical code requirements per 10CFR50.55a(g)(5).

This procedure also provides post-maintenance guidelines to aid station personnel when determining test requirements for plant safety-related components.

2.0 DISCUSSION

This procedure applies to Class 1, 2, 3 and safety significant pumps and valves for conformance with ASME Boiler and Pressure Vessel Code, Section XI (1980 Edition through Winter 1980 Addenda). The procedure details the following items: compliance requirements, post-maintenance testing guidelines, pump hydraulic circuits, valve cold shutdown justifications, relief requests and components (pumps and valves) tested.

This procedure provides a cross-reference between a component test requirement and a station procedure implementing the test. Additional information is provided within the component tested listing: safety class, category, test frequency, pump test parameters, valve test requirements, relief requests, valve cold shutdown justifications and remarks. Newly incorporated component/test requirements will have implementing procedures identified for future incorporation. All newly identified component/test requirements shall be initially tested during the next scheduled frequency (i.e., quarterly, cold shutdown, refueling, and two year interval) following procedure approval date. These newly incorporated component/test requirements will be identified by an (*) asterisk next to the implementing procedure. When using (*), procedures for post-maintenance testing the current approved procedure should be reviewed for applicability (i.e., test requirement or component incorporated).

The inservice tests identified in this program will verify the operational readiness of pumps and valves whose functions are required to mitigate the consequences of an accident or to bring the reactor to a cold shutdown condition or maintain the reactor in a safe shutdown condition. Additional components considered to have a safety significant function may be incorporated. The ISI safety classification of each pump and valve was determined in accordance with Regulatory Guide 1.26. Safety related components not classified as Group A, B or C per Regulatory Guide 1.26 are included as non-classed (NC). Additionally, all containment penetrations shall be classifed as ISI Class 1 or Class 2.

2.0 DISCUSSION (Continued)

PNPS 8.I.1, Administration of Inservice Pump and Valve Testing, covers the administrative requirements for performance, compliance, evaluation and followup action for preservice and inservice testing in accordance with the ASME Code, Section XI, Subsections IWP and IWV. PNPS 8.I.1 also details the following items: Responsibilities, Definitions, Test Requirements, Compliance Requirements, Evaluation and Disposition, Post-Maintenance Testing, and Administration.

3.0 DEVELOPMENTAL REFERENCES

[1] 10CFR50.55a(g), Inservice Inspection Requirements

[2] 10CFR50.55a(b), Code and Standards, Reference Applicability

[3] 10CFR, Appendix J, Primary Reactor Containment Leakage Testing

[4] ASME Boiler and Pressure Vessel Code, Section XI (Rules for Inservice Inspection of Nuclear Power Plant Components) 1980 Edition through Winter 1980 Addenda, Subsections IWA, IWV and IWP

[5] Division 1 (Draft) Regulatory Guide and Value/Impact Statement, "Identification of Valves For Inclusion in Inservice Test Programs"

[6] NRC Staff Guidance for Preparing Pump and Valve Testing Programs and associated Relief Request, November 1981

[7] Standard Review Plan 3.9.6, "Inservice Testing of Pumps and Valves"

[8] PNPS Inservice Testing Program for Pumps and Valves Submittal Revision 1B

[9] NRC Generic Letter 87-06, "Periodic Verification of Leak Tight Integrity of Pressure Isolation Valves"

[10] NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"

[11] PNPS 8.I.1, "Administration of Inservice Pump and Valve Testing"

[12] PNPS Q-List

4.0 COMPLIANCE

The Pilgrim Nuclear Power Station Inservice Pump and Valve Testing Program will be in effect through the second 120-month inspection interval (December 7, 1992) and will be updated in accordance with the requirements of 10CFR50.55a(g).

This procedure outlines the Inservice Testing Program based on the requirements of Section XI of ASME Boiler and Pressure Vessel Code, 1980 Edition through Winter 1980 Addenda.

If this procedure (revised Inservice Testing Program for the site) conflicts with PNPS Tech Specs, a Tech Spec amendment shall be submitted to conform the Tech Spec to this procedure in accordance with [10CFR50.55a(g)(5)(ii)]. Until approval of the Tech Spec amendment, the most limiting requirement shall be met.

5.0 INSERVICE PUMP TESTING

5.1 GENERAL INFORMATION

[1] Applicable Code

This Inservice Testing Program for ISI Class 1, 2, 3 and NC Pumps meets the requirements of Subsection IWP of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through the Winter 1980 Addenda. Where these requirements are determined to be impractical, specific requests for relief have been written and included in Section 5.4.

[2] Pump Program Table Description

The table in Section 5.5 lists all pumps included in the Pilgrim Nuclear Power Station IST Program. This program defines pumps as mechanical devices used to move liquid and addresses centrifigal and positive displacement pumps per IWP-1100. The data contained in the table identifies all pumps subject to inservice testing, the inservice test quantities, the inservice testing interval and any applicable remarks. The column headings of the table are listed and explained below:

(a) SYSTEM: System Title

(b) PUMP NUMBER: Pump Identification Number

(c) CLASS: ISI Classification (Class 1, 2, 3 or NC)

(d) P&ID: PNPS drawing number

(e) COOR: Coordinate location on the P&ID

(f) SPEED, INLET PRES, DIFF PRES, FLOWRATE, VIBRATION, BEARING LUBRICANT and BEARING TEMP: Inservice Test Quantities to be measured in accordance with Table IWP-3100-1

(g) TEST INTERVAL: The frequency of IST as prescribed in IWP-3400

5.1 GENERAL INFORMATION (Continued)

[3] "Inservice Test Quantities" Columns

PUMP SPEED, INLET (SUCTION) PRESSURE, DIFFERENTIAL PRESSURE (dP), FLOWRATE, VIBRATION, BEARING TEMPERATURE AND LUBRICANT LEVEL OR PRESSURE: When the symbol "Y" appears in a particular measured parameter column, that quantity will be measured during inservice testing in accordance with Subsection IWP. Requests for relief are identified with the letters "RP" under the measured parameter column in the test table. The requests for relief are included in Section 5.4.

[4] Measurement of Inservice Test Quantities

(a) Speed: Per IWP-4400, shaft measurements are not applicable (NA) for pumps coupled to synchronous or induction type drivers. For variable speed pumps, the pump speed shall be set at the reference speed per IWP-3100.

(b) Inlet Pressure: For submerged pumps, inlet pressure will be calculated (using appropriate correction factors) from a measured tank or basin level. Since this method does not comply with the requirements of IWP-4200, relief requests RP-3 and RP-4 have been prepared. All other inlet pressure measurements will be taken using pressure instruments at or near the pump inlet.

(c) Differential Pressure: Differential pressure measurements will be calculated from inlet and discharge pressure measurements or by direct differential pressure measurement.

(d) Flowrate: Pump discharge flowrate shall be measured.

(e) Vibration: Pump vibration will be measured as close as possible to the inboard bearing in a plane approximately perpendicular to the rotating shaft, in a horizontal or vertical direction that has the largest deflection for that particular pump. At least one displacement and one velocity measurement will be taken with one of the instruments referenced in IWP-4520 with exception if a reading is not applicable for a pump.

(f) Bearing Temperature: Pump bearing temperature(s) will not be measured (See RP-2).

(g) Bearing Lubricant: As specified in Table IWP-3100-1, the pump bearing lubricant level or pressure will be observed during inservice testing.

[5] Allowable Ranges of Test Quantities

The allowable ranges specified in table IWP-3100-2 will be used for differential pressure, flow and vibration measurements except as discussed. Should a measured test quantity fall outside the allowable range, the possibility of defining an expanded allowable range, per ASME Code Interpretation XI-1-79-19, will be investigated for operability.

[6] Corrective Action

The operational readiness of a pump shall be determined by comparing surveillance procedure test results to the established acceptable, alert and required action ranges. Analysis of pump surveillance procedure test data shall be completed within four (4) workdays (Relief Request RP-8).

(a) If deviations fall within the alert range, the frequency of testing shall be doubled until the cause of the deviation is determined and the condition corrected or an evaluation is performed and new reference values are established.

(b) If deviations fall within the required action range, the pump shall immediately be declared inoperative and not returned to service until the cause of the deviation has been determined and the condition corrected or an evaluation is performed and new reference values are established.

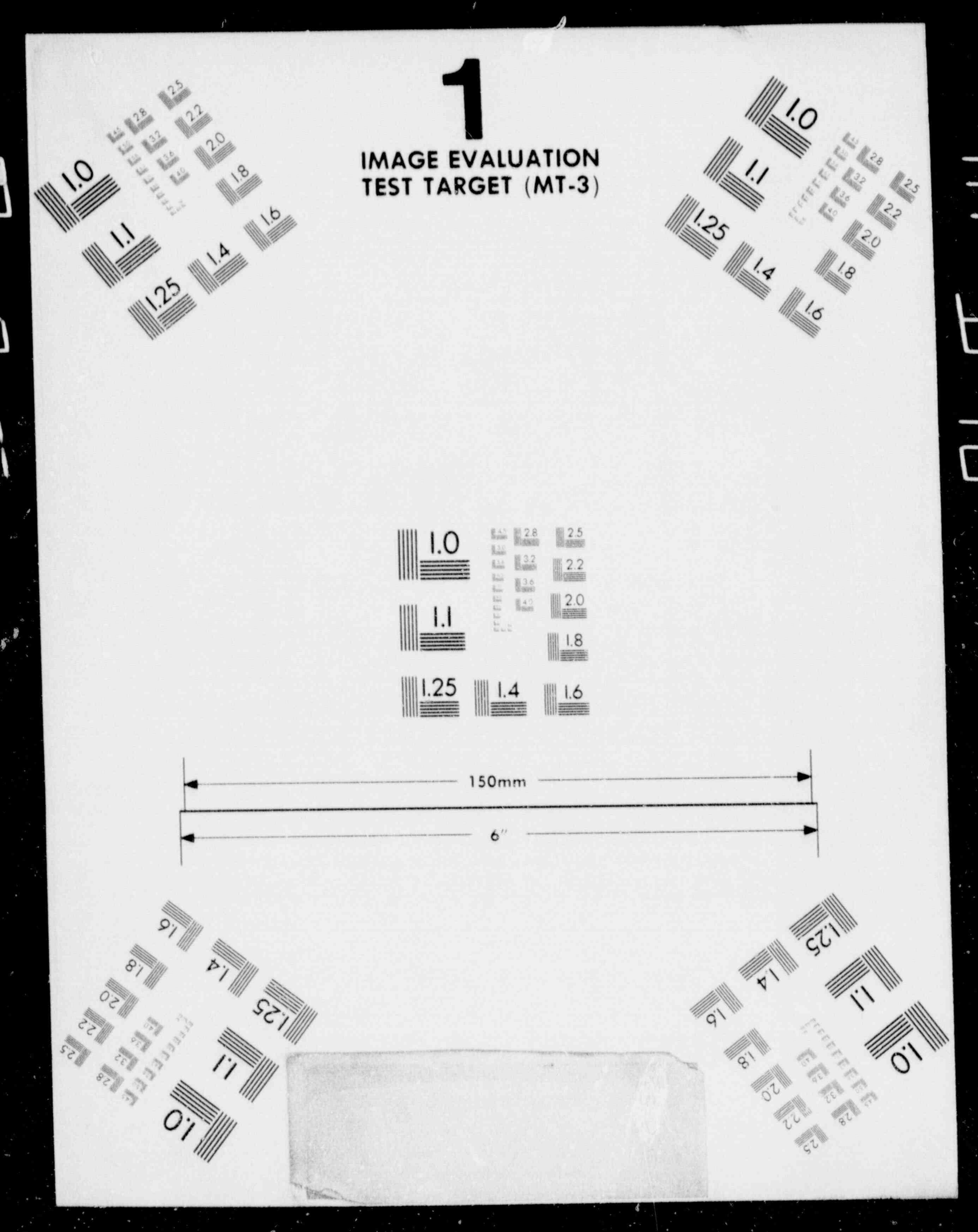
(c) Corrective action shall be either replacement, repair or an analysis to demonstrate that the condition does not impair pump operability and that the pump will still fulfill its function. When an analysis is considered necessary, a new set of reference values shall be established after analysis completion.

[7] Instrument Accuracy

Allowable instrument accuracies are given in table IWP-4110-1. If the accuracies of plant installed instrumentation is not acceptable, temporary instruments meeting the acceptable accuracies will be used.

[8] Exempt Safety Related Pumps

The Reactor Recirculation Pumps and the Recirculation Jet Pumps are exempt from inservice testing. These pumps do not meet the scope of IWP-1100 in that they are not required to perform a specific function in shutting down the reactor or mitigating the consequences of an accident nor are they provided with an emergency power source.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TEST TARGET (MT-3)
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1.1
1.25
1.4
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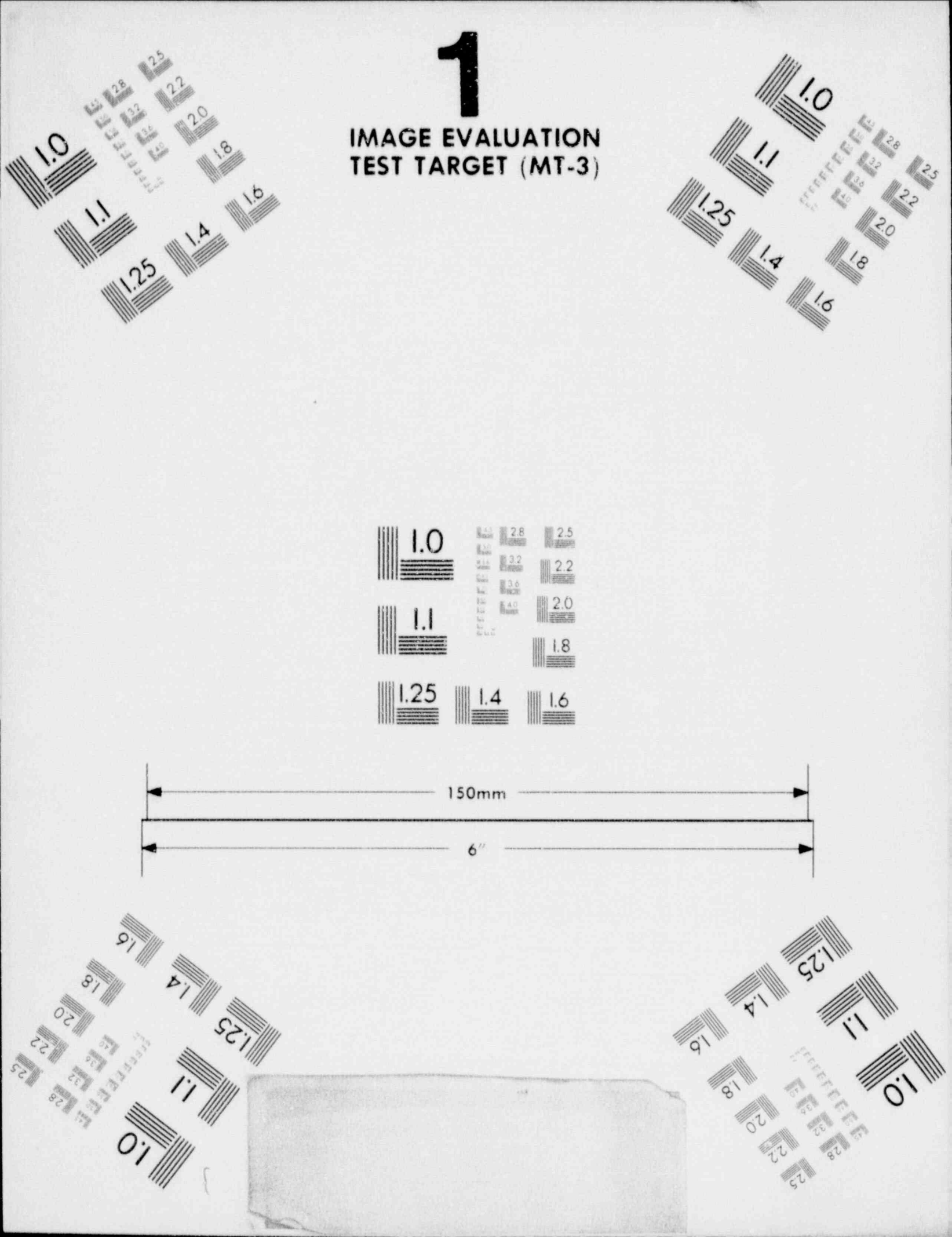
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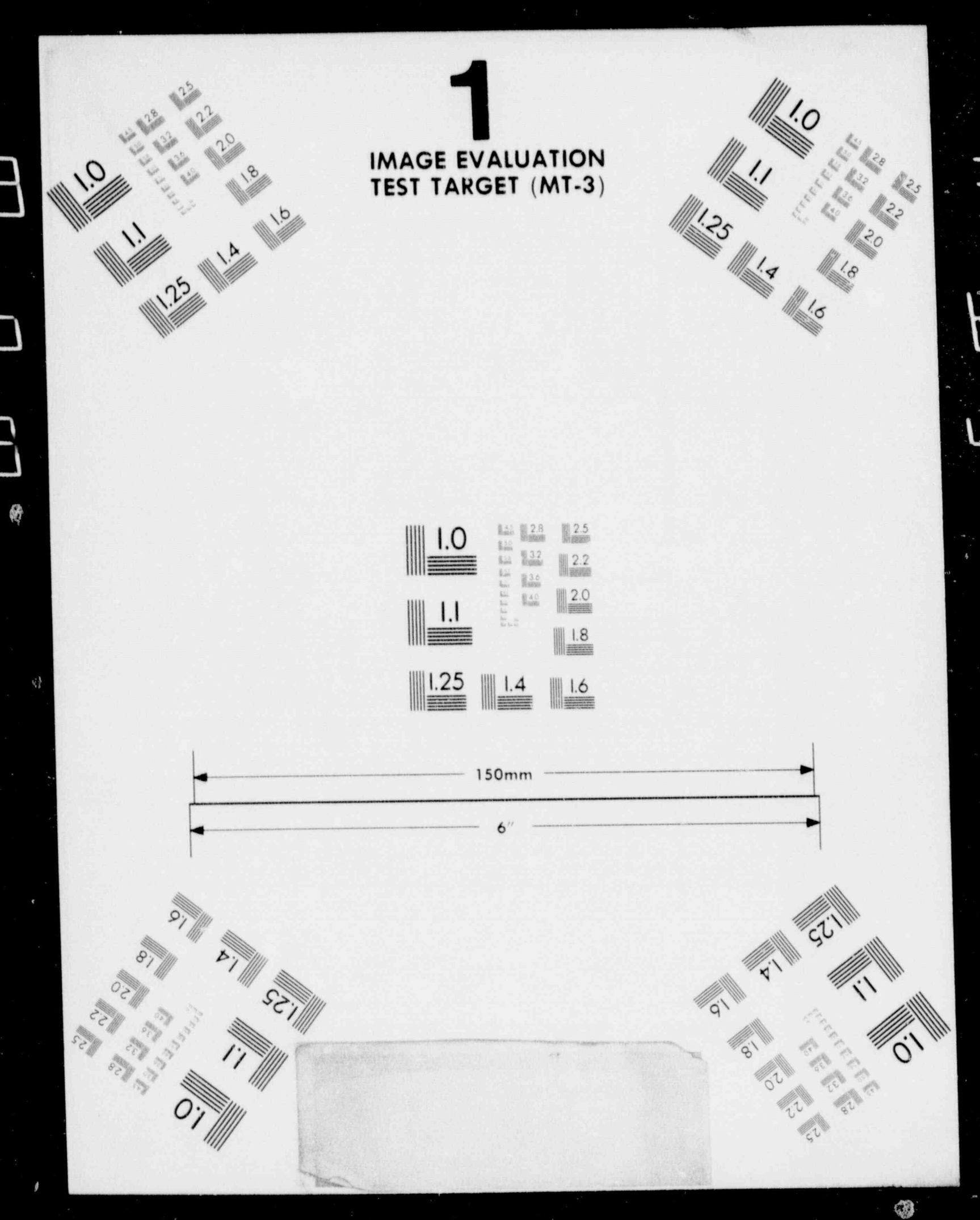
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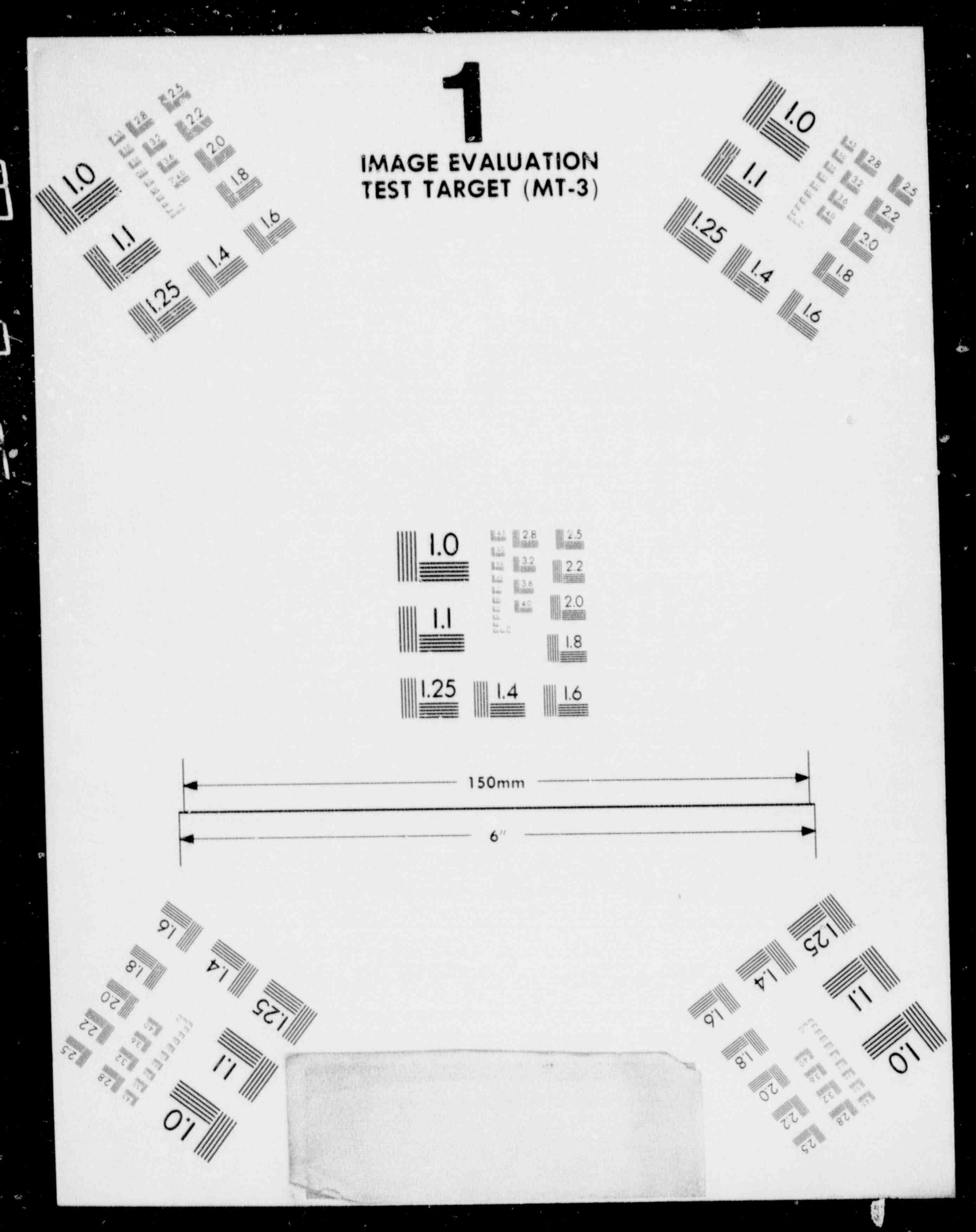
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IMAGE EVALUATION
TEST TARGET (MT-3)
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3.2
3.6
4.0
150mm
6"

5.2 PUMP POST-MAINTENANCE TESTING

During the inservice life of a pump, work may be required to restore or maintain the pump performance to within the acceptable ranges. The IST Program requires each pump to be verified as operationally ready after routine servicing, maintenance, repair or replacement. The verification of operational readiness should be achieved by acceptable performance of a surveillance procedure used to verify test parameters which may have been affected. The test parameters may be verified by other documented procedures as long as all test conditions or parameters are complied with, in accordance with Subsection IWP.

Pump post-maintenance testing guidance is provided using a step-by-step determination process, a work scope guideline and a retest flowpath. The RS&PD ASME Test Engineer may be consulted for questions or further clarification.

[1] Step-By-Step Determination

(a) Steps as follows (reference Retest Flowpath):

Step 1: Using this procedure, Section 5.5, locate the pump and verify if any test requirements are applicable.

Step 2: Verify if the work to be performed is identified within work scope guidelines below.

Step 3: All work identified within the work scope guideline as "Repair", "Replacement" or "Maintenance" requires an IST pump retest. Identify the applicable PNPS Procedure No. on the Maintenance Request for retest.

All work identified within the work scope guideline as "Routine Servicing" requires an IST pump retest OR equivalent documentation. Identify either the applicable PNPS Procedure No. for retest OR equivalent documentation that will verify the test parameter reference value was not affected (such as changing of oil - documented level as visible) on the Maintenance Request.

[2] Work Scope (WS) Guideline

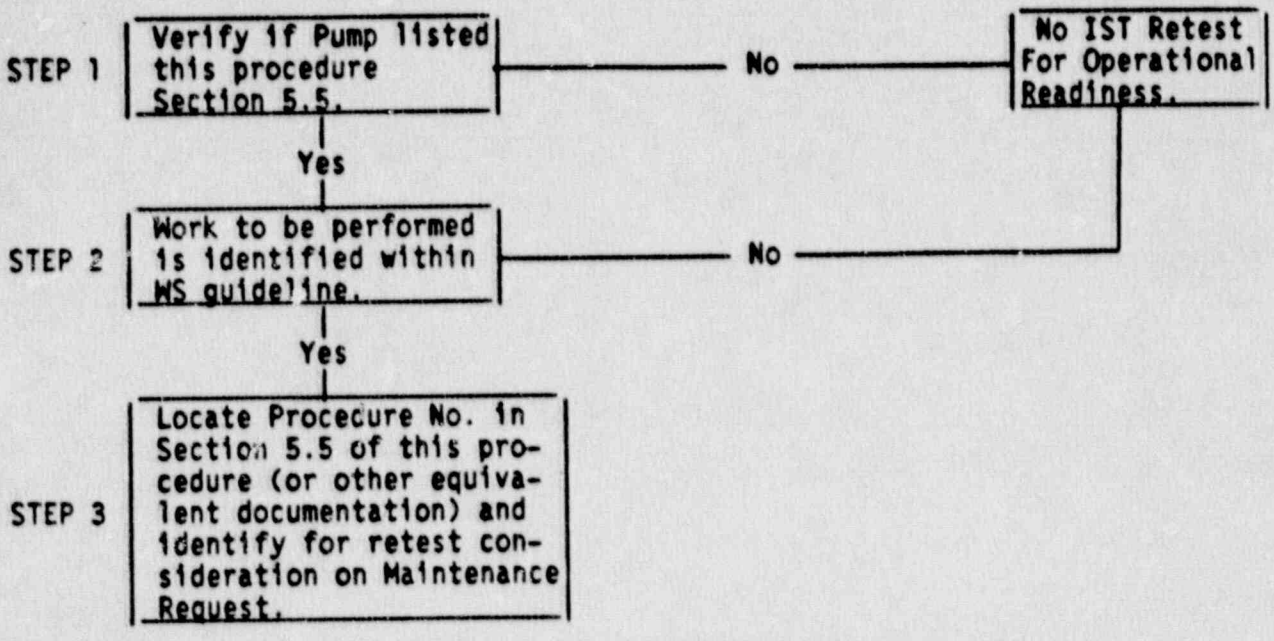
(a) Routine Servicing - Performance of preventive maintenance which does not require disassembly of the pump or replacement of parts such as changing oil, flushing the cooling system, adjusting packing, adding packing rings or mechanical seal maintenance. Exception: (1) When routine servicing is performed on a running pump, verification that monitored parameters do not change may be substituted in place of the PNPS Procedure as documented on the Maintenance Request. (2) When a parameter is verified within the maintenance instruction or prior to operation (i.e., verify acceptable oil level) no retest is required.

(b) Maintenance - Performance of preventive or corrective maintenance which requires disassembly of the pump or replacement of consumable items.

(c) Repair - Performance of welding or grinding on a pump to correct a defect (does not include pump motor).

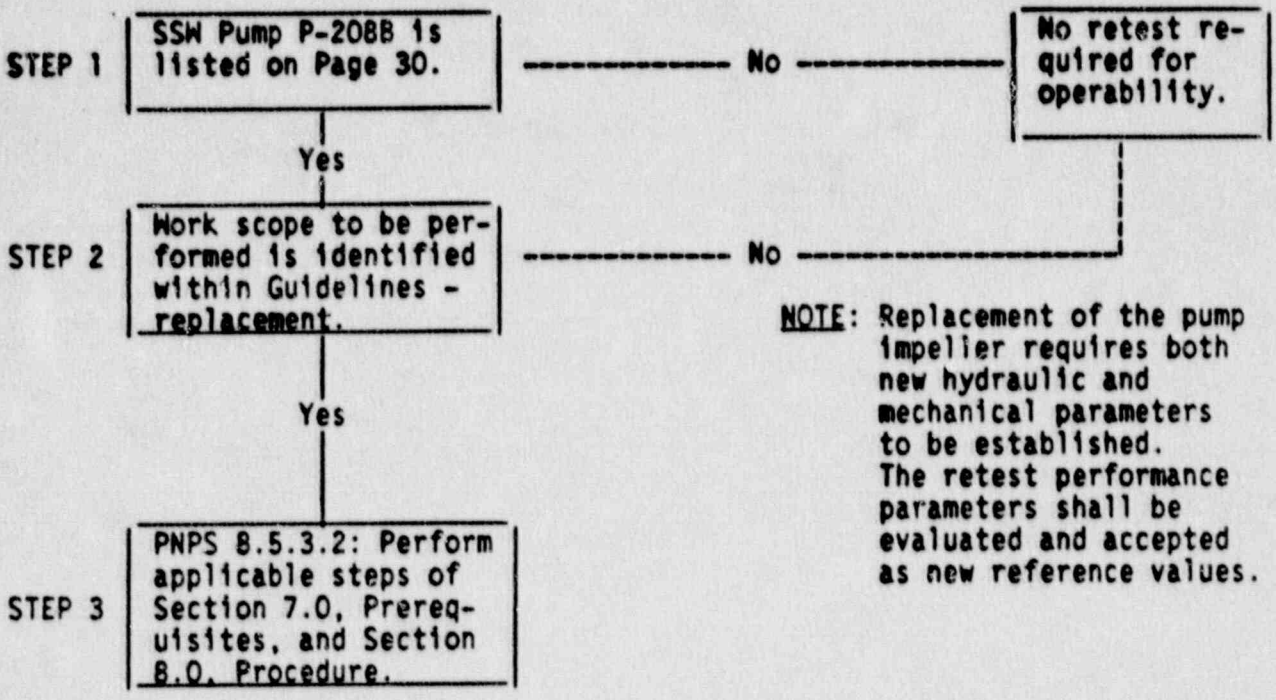
(d) Replacement - Installation of a new pump, pump part or a modification to the pump (does not include pump motor).

[3] Retest Flowpath



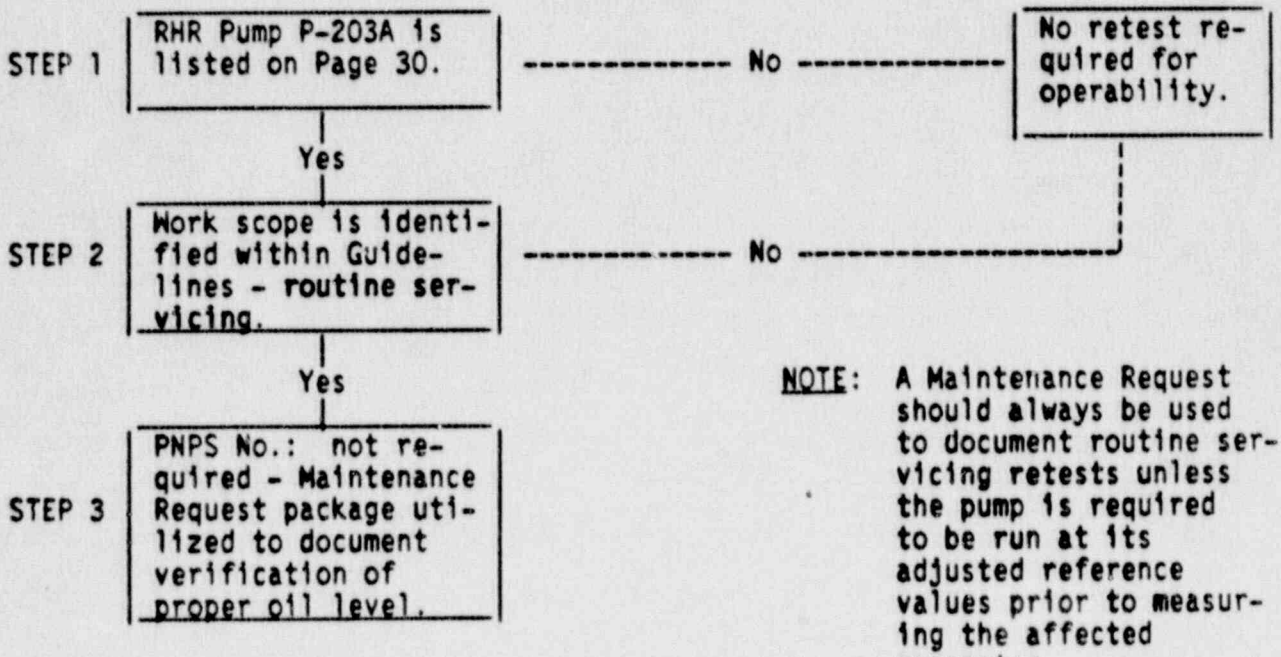
[4] **EXAMPLES:**

(a) Salt Service Water Pump B (P-208B) requires impeller replacement due to excessive wear per Maintenance Request.



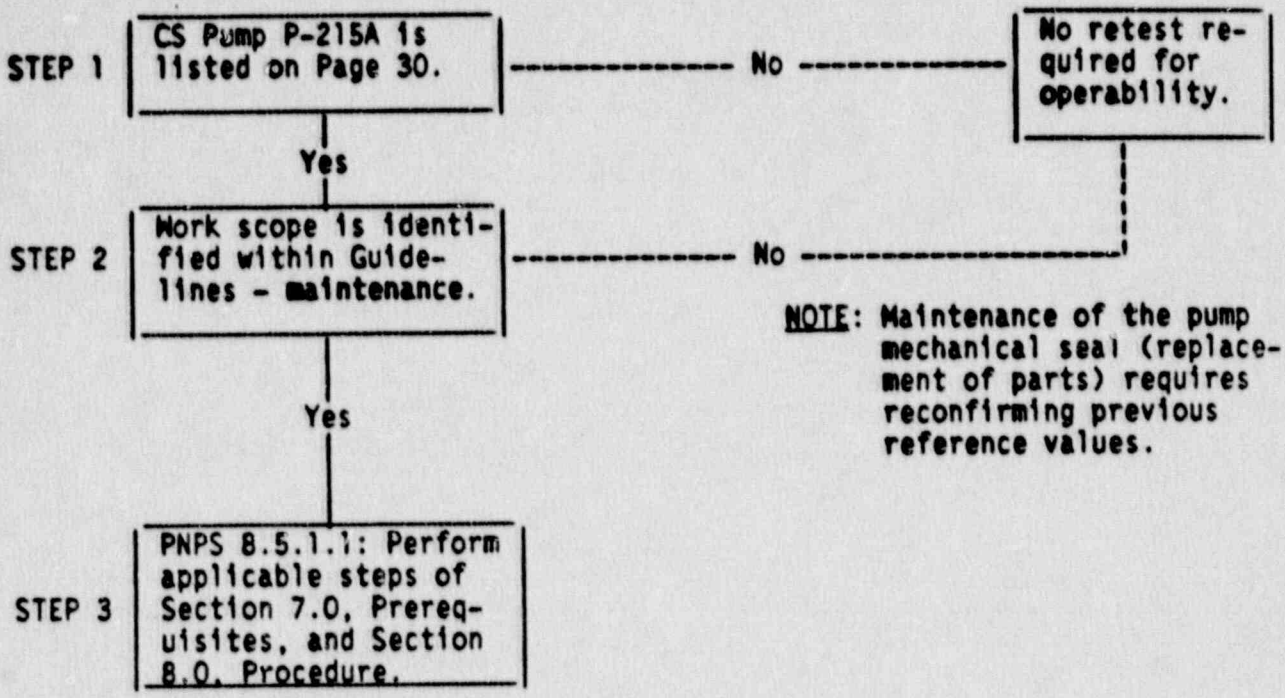
NOTE: Replacement of the pump impeller requires both new hydraulic and mechanical parameters to be established. The retest performance parameters shall be evaluated and accepted as new reference values.

(b) Residual Heat Removal Pump A (P-203A) requires the lubricant reservoir to be filled because level indication is just visible per Maintenance Request.



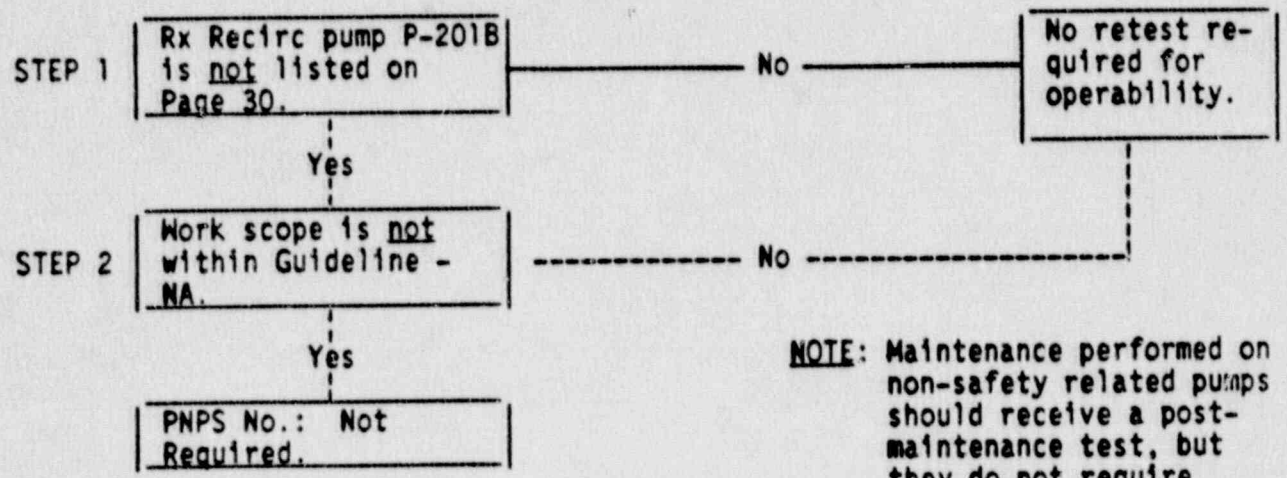
NOTE: A Maintenance Request should always be used to document routine servicing retests unless the pump is required to be run at its adjusted reference values prior to measuring the affected parameter.

(c) Core Spray Pump A (P-215A) requires the pump mechanical seal replacement per Maintenance Request.



NOTE: Maintenance of the pump mechanical seal (replacement of parts) requires reconfirming previous reference values.

(d) Reactor Recirculation Pump B (P-201B) requires the motor to be replaced per Maintenance Request.



NOTE: Maintenance performed on non-safety related pumps should receive a post-maintenance test, but they do not require retest in accordance with Subsection IWP (ISTP).

5.3 HYDRAULIC CIRCUITS

The following IST hydraulic circuits are used to identify pump test paths and instrumentation. Individual hydraulic and mechanical reference value test quantities are identified within each pump testing procedure.

M&TE instrumentation may be used in place of installed plant instruments provided that IWV-4000, Methods of Measurement, requirements are satisfied. The effects of flow losses and elevation differences due to instrument location must be considered.

5.3.1 Salt Service Water (SSW) Pumps

[1] Test Frequency

SSW Pumps are tested on a quarterly and refueling outage frequency because of system design configuration and operational requirements.

[2] Hydraulic Test Path

(a) Quarterly - SSW pumps shall be shutoff (dead) head tested (RP-5) by verifying operation at nameplate speed and that discharge head (ft) is compared to the established value.

(b) Refueling Outage - Each pump shall be tested by establishing a flowpath through a RBCCW Heat Exchanger. Then, using the Heat Exchanger Isolation Valve for throttling, establish a flowrate in accordance with current Tech Spec requirements. Pump discharge pressure shall be recorded, and using suction bay level (RP-4), the pump differential pressure (total head) will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (ft): LI-3831A, LI-3831B (actual measurement from ladder as backup).

(b) Discharge Pressure, (psig): PI-3802, PI-3807, PI-3812, PI-3817, PI-3822.

(c) Flowrate, Q (gpm): FI-6240, FI-6241.

5.3.2 Reactor Building Closed Cooling Water (RBCCW) Pumps

[1] Test Frequency

RBCCW pumps are tested on a quarterly and refueling outage frequency because of system design configuration and operational requirements.

5.3.2 Reactor Building Closed Cooling Water (RBCCW) Pumps (Continued)

[2] Hydraulic Test Path

(a) Quarterly - RBCCW pumps shall be shutoff (dead) head tested (RP-1) by verifying operation at nameplate speed and that discharge head (ft) is compared to the established value.

(b) Refueling Outage - Each pump shall be tested by establishing a flowpath through a RBCCW Heat Exchanger. Then, using the Heat Exchanger Isolation Valve for throttling, establish a flowrate in accordance with current Tech Spec requirements. Pump discharge and suction pressures shall be recorded. The differential pressure (total head) will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): PI-4056A, PI-4054A, PI-4057A, PI-4006A, PI-4004A, PI-4007A.

(b) Discharge Pressure, (psig): PI-4056, PI-4054, PI-4057, PI-4006, PI-4004, PI-4007.

(c) Flowrate, Q (gpm): FT-6265, FT-6263.

5.3.3 Diesel Oil Transfer (DOT) Pumps

[1] Test Frequency

DOT pumps are tested on a quarterly frequency.

[2] Hydraulic Test Path

Each pump shall be tested by establishing a flowpath from the storage tank to the day tank. Then, using the pump discharge isolation valve, throttle to a calculated differential pressure. An external clamp on flow meter will measure the flowrate.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): Test gauges at PI-4598, PI-4599.

(b) Discharge Pressure, (psig): PI-4510, PI-4511.

(c) Flowrate, Q (gpm): Test equipment at midpoint of straight piping.

5.3.4 Residual Heat Removal (RHR) Pumps

[1] Test Frequency

RHR Pumps are tested on a quarterly frequency.

5.3.4 Residual Heat Removal (RHR) Pumps (Continued)

[2] Hydraulic Test Path

Each pump shall be tested by establishing a flowpath with suction from and discharge returning to the Torus (Heat Exchanger Bypass Valve open). Then, using the Loop To Suppression Chamber Spray Cooling Valve for throttling, establish a flowrate in accordance with current Tech Spec requirements. Pump discharge and suction pressure shall be recorded. The differential pressure (total head) will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): PI-1001-70A, PI-1001-70B, PI-1001-70C, PI-1001-70D.

(b) Discharge Pressure, (psig): PI-1001-71A, PI-1001-71B, PI-1001-71C, PI-1001-71D.

(c) Flowrate, Q (gpm): FI-1040-11A (Loop A), FI-1040-11B (Loop B).

5.3.5 Core Spray (CS) Pumps

[1] Test Frequency

CS pumps are tested on a quarterly frequency.

[2] Hydraulic Test Path

Each pump shall be tested by establishing a flowpath with suction from and discharge returning to the Torus. Then, using the CS Full Flow Test Valve for throttling, establish a flowrate in accordance with current Tech Spec requirements. Pump discharge and suction pressures shall be recorded and the differential pressure (total head) will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): Test gauges at PI-40A, PI-40B.

(b) Discharge Pressure, (psig): Test gauges at PT-1460A, PT-1460B.

(c) Flowrate, Q (gpm): FI-1450-1A, FI-1450-1B.

5.3.6 High Pressure Coolant Injection (HPCI) Pumps

[1] Test Frequency

HPCI pumps (main and booster) are tested on a quarterly frequency when adequate steam pressure is available.

5.3.6 High Pressure Coolant Injection (HPCI) Pump (Continued)

[2] Hydraulic Test Path

These pumps (main and booster) shall be tested by establishing a flowpath with suction from and discharge returning to the CST. Then, using the HPCI Full Flow Test Valve for throttling, establish the speed and flowrate in accordance with current Tech Spec requirements. Pump discharge and suction pressure shall be recorded. The differential (total head) pressure will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): PI-2340-7 (Booster), Test gauge at PX-2301-80 (Main).

(b) Discharge Pressure, (psig): Test gauge at PX-2301-80 (Booster), PI-2340-2 (Main).

(c) Flowrate, Q (gpm): FI-2340-1.

(d) Speed, N (rpm): SI-2340-1.

5.3.7 HPCI Gland Seal Condenser (GSC) Condensate Pump

[1] Test Frequency

HPCI GSC Condensate Pump is tested on a cold shutdown frequency (RP-10).

[2] Hydraulic Test Path

The pump shall be tested by establishing a flowpath from the Gland Seal Condenser to Clean Radwaste. Using the pump discharge test valve for throttling and the Condensate Storage Tank water as makeup, establish a discharge pressure at a known reference value. Isolate the CST supply water to the GSC while monitoring both time elapsed and GSC level change. Level change over time is converted into flowrate and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi: Not applicable (RP-10).

(b) Discharge Pressure, (psig): Test gauge at HO-2301-66.

(c) Flowrate, Q (inches): GSC Test rig (with measuring stick).

5.3.8 Reactor Core Isolation Cooling (RCIC) Pump

[1] Test Frequency

RCIC pump is tested on a quarterly frequency, when adequate steam pressure is available.

[2] Hydraulic Test Path

The pump shall be tested by establishing a flowpath from and returning to the CST. Then, using the test valve for throttling, establish the speed and flowrate in accordance with current Tech Spec requirements. Pump discharge and suction pressures shall be recorded. The differential (total head) pressure will be calculated and compared to the established value.

[3] Instrumentation

(a) Inlet Pressure, Pi (psig): PI-1340-2.

(b) Discharge Pressure, (psig): PI-1340-7.

(c) Flowrate, Q (gpm): FI-1340-1.

(d) Speed, N (rpm): SI-1340-1.

5.3.9 Standby Liquid Control (SLC) Pumps

[1] Test Frequency

SLC pumps are tested on a quarterly frequency.

[2] Hydraulic Test Path

Each pump shall be tested by establishing a flowpath with suction from and discharge returning to the SLC Test Tank. Then, using the test tank valve for throttling, establish a discharge pressure at a known reference value. Measure the time elapsed, initial and final test tank level. Calculate the flow rate by level change over time and compare to the established value.

[3] Instrumentaion

(a) Inlet Pressure, Pi: Not applicable (RP-3).

(b) Discharge Pressure (psig): PI-1159.

(c) Flowrate, Q (inches): Measuring Stick (yardstick).

5.4 RELIEF REQUESTS FOR INSERVICE PUMP TESTING PROGRAM

Pump Relief Requests (RP) are provided for conditions in which compliance to ASME Code, Section XI test requirements cannot be satisfied. Each Relief Request identifies: Pump(s) involved, test requirement(s) of non-compliance, basis for relief and alternate testing.

[1] Relief Request RP-1

PUMPS: P-202A, P-202B, P-202C, P-202D, P-202E, P-202F

SYSTEM: Reactor Building Closed Cooling Water

CLASS: 3

FUNCTION: Emergency Equipment Cooling

TEST REQUIREMENTS: Table IWP-3100-1, Inservice Test Quantities; Measure pump flowrate.

Table IWP-3100-2, Allowable Ranges of Test Quantities; dP high values.

BASIS FOR RELIEF: **Reactor Building Closed Cooling Water System** instrumentation is not **configured** to measure **individual pump** flowrate **during plant operation**. Redesign of the system would be necessary to install flow instrumentation or to utilize portable flow instrumentation. Piping configuration does not permit installation of flow orifices on the pump discharge piping that would be consistent with good instrument practices. Adequate distance downstream of elbows is not available on the individual pump discharge prior to where discharge piping joins a common header.

The Reactor Building Closed Cooling Water System is part of the ultimate heat sink for containment cooling functions and reactor vessel shutdown cooling. Test loops do not exist for individual pump flow tests; therefore, disturbance of the system normal configuration during operation and cold shutdown conditions will have a negative impact on the plants ability to safely operate or maintain the plant in the cold shutdown condition.

There is no method available to control the flowrates of individual pumps. Shutoff head will provide a repeatable parameter for measuring pump performance. Pumps are not run at shutoff head for more than 60 seconds by procedure. Due to minimum run time, the low values only for discharge pressure (Alert Range and Required Action Range) shall be monitored and corrective action (IWP-3230) taken. **Individual pump flowrate and pressure will be measured each refueling outage.**

ALTERNATE TESTING: Measure pump shutoff head quarterly with corrective action being taken for low allowable range only. **Measure individual pump flowrate and pressures each refueling outage.**

[2] **Relief Request RP-2**

PUMPS:						
	P-141A	P-202C	P-203A	P-205	P-208A	P-208E
	P-141B	P-202D	P-203B	P-206	P-208B	P-215A
	P-202A	P-202E	P-203C	P-207A	P-208C	P-215B
	P-202B	P-202F	P-203D	P-207B	P-208D	P-220

SYSTEMS: As Applicable

CLASSES: 2, 3 or NC

FUNCTIONS: As applicable.

TEST REQUIREMENT: IWP-4310, Bearings - temperature of all centrifugal pump bearings outside the main flowpath and of the main shaft bearings of reciprocating pumps shall be measured at points selected to be responsive to changes in the temperature of the bearing. Lubricant temperature, when measured after passing through the bearing and prior to entering a cooler, shall be considered the bearing temperature.

Table IWP-3100-1, Inservice Test Quantities - Bearing Temperature Tb.

Table IWP-3100-2, Allowable Ranges of Test Quantities - Tb {Note (2)}. Note (2) Tb shall be within the limits specified by the Owner in the record of tests (IWP-6000).

BASIS FOR RELIEF:

(a) Some pumps are cooled by their respective process fluid, "Main Flowpath." Thus, bearing temperature measurements would be highly dependent on the temperature of the cooling medium.

(b) Pump bearing temperature is taken at one (1) year intervals **and** provides very little data toward determining the incremental degradation of a bearing or provide any meaningful trend data.

(c) All pumps will be subject to vibration measurements per Subsection IWP-4500. Vibration measurements (displacement **and** velocity) are a significantly more reliable indication of pump bearing degradation than that of temperature measurements.

ALTERNATE TESTING: Vibration measurements, using velocity as a measured value, shall be taken on each pump in the same locations as the required displacement measured values. **Pumps with velocity amplitude** exceeding 0.314 in/sec shall require investigation utilizing spectrum analysis to determine bearing status.

[3] Relief Request RP-3

PUMPS: P-207A, P-207B

SYSTEM: Standby Liquid Control

CLASS: 2

FUNCTION: Provides a method of shutting down the reactor without use of the control rods.

TEST REQUIREMENTS: IWP-3300, Scope of Test - measurement and observation of inlet pressure (Pi) and differential pressure (dP) across the pumps.

IWP-3500, Duration of Tests - each pump shall be run at least 5 min. under conditions as stable as the system permits.

IWP-4600, Flow Measurement - flowrate shall be measured using a rate or quantity meter installed in the pump test circuit.

BASIS FOR RELIEF: The standby liquid control pumps are required to supply the necessary flowrate at a given system pressure. The inlet pressure (no installed test equipment) will be equivalent to the static head provided by the test tank. Test tank level is established within the inservice test procedures. Also, the measurement of inlet pressure on a positive displacement pump is not a significant test parameter. The system resistance is varied to establish the measured and observed discharge pressure as the reference value. **Then the test tank level change is measured to determine pump flowrate.**

The SLC pumps are tested by pumping into a test tank. The test tank capacity does not allow operation of the pump for longer than three minutes.

ALTERNATE TESTING: Utilize pump discharge pressure reading in lieu of pump differential pressure reading and verify test tank level to ensure adequate suction pressure. The pump shall be run for a duration **of 3 minutes** to measure test parameters.

[4] Relief Request RP-4

PUMPS: P-208A, P-208B, P-208C, P-208D, P-208E

SYSTEM: Salt Service Water

CLASS: 3

FUNCTION: Emergency Equipment Cooling

TEST REQUIREMENT: IWP-4200, Pressure Measurement (Inlet Suction Pressure Pi).

BASIS FOR RELIEF: No instrumentation is installed to measure pump inlet pressure.

ALTERNATE TESTING: Tide level will be used to calculate pump inlet pressure, and to specify inlet pressure for test purposes.

[5] Relief Request RP-5

PUMPS: P-208A, P-208B, P-208C, P-208D, P-208E

SYSTEM: Salt Service Water

CLASS: 3

FUNCTION: Emergency Equipment Cooling

TEST REQUIREMENTS: Table IWP-3100-1, Inservice Test Quantities; Measure pump flowrate.

Table IWP-3100-2, Allowable Ranges of Test Quantities; dP High Values.

BASIS FOR RELIEF: **Salt Service Water System** instrumentation is not **configured** to measure individual pump flowrate **during operation**. Redesign of the system would be necessary to install flow instrumentation. Piping configuration does not permit installation of flow orifices on the pump discharge piping prior to where the pump discharge joins a common header. Ultrasonic indicators cannot be **reliably** utilized with the rubber lined piping used in the salt service water system, also the pump discharge piping is underground. **The Salt Service Water System is the ultimate heat sink for containment cooling functions and reactor vessel shutdown cooling. Test loops do not exist for individual pump flow tests; therefore, disturbance of the system normal configuration during operation and cold shutdown conditions will have a negative impact on the plants ability to safely operate or maintain the plant in the cold shutdown condition.**

There is no method available to control the flowrates of individual pumps. Shutoff head will provide a repeatable parameter for measuring pump performance. Pumps are not run at shutoff for more than 60 seconds by procedure. Due to minimum run time, the low values only for discharge pressure (Alert Range and Required Action Range) shall be monitored and corrective action (IWP-3230) taken. **Individual pump flowrate and pressure will be measured each refueling outage.**

ALTERNATE TESTING: Measure pump shutoff head quarterly **and take** corrective action **for only lower level alert and required action ranges. Measure individual pump flowrate and pressure each refueling outage.**

[6] Relief Request RP-6

PUMPS: P-208A, P-208B, P-208C, P-208D, P-208E

SYSTEM: Salt Service Water

CLASS: 3

FUNCTION: Emergency Equipment Cooling

TEST REQUIREMENT: IWP-4500, Vibration Amplitude

BASIS FOR RELIEF: The pump casing is physically located under water and is therefore inaccessible.

ALTERNATE TESTING: Measure pump motor vibration at upper bearing using the Hydraulic Institute Standards for location guidance.

[7] Relief Request RP-7

PUMPS: P-141A, P-141B

SYSTEM: Diesel Fuel Oil Transfer

CLASS: **NC**

FUNCTION: The fuel oil transfer pumps maintain a sufficient operating level in the fuel oil day tank by transferring fuel oil from the fuel oil storage tank to the fuel oil day tank.

TEST REQUIREMENTS: IWP-4600 Flow measurement (accuracy), IWP-3230(a) corrective action (alert range), and IWP-3230(b) corrective action (action range).

BASIS FOR RELIEF: One fuel oil transfer pump supplies each day tank. **There is no installed flow instrumentation for either pump.** The capacity of a fuel transfer pump is approximately 28 gpm with the required design capacity of the Diesel Engine being 3.3 gpm. Flowrate can be measured with a portable survey flow meter. **The best obtainable accuracy for survey flow meters is approximately ±5%. System configuration impairs the control of discharge pressure and flowrate repeatability. Each pump can meet its design function with greater than 75% degradation; therefore,** relief for expanded accuracy requirements and alert/action ranges will adequately provide for pump operability assessment.

ALTERNATE TESTING: Measurement of flow by survey flow meter with an approximate ±5% accuracy. **Corrective action ranges for flow shall be: 15% degradation for the alert range and 25% degradation for the action required range.**

[8] Relief Request RP-8

PUMPS:					
	P-141A	P-202D	P-203C	P-207B	P-208E
	P-141B	P-202E	P-203D	P-208A	P-215A
	P-202A	P-202F	P-205	P-208B	P-215B
	P-202B	P-203A	P-206	P-208C	P-220
	P-202C	P-203B	P-207A	P-208D	

SYSTEMS: As Applicable

CLASSES: 2, 3 or MC

FUNCTION: As Applicable

TEST REQUIREMENT: IWP-3220, Time Allowed for Analysis of Tests - all test data shall be analyzed within 96 hours after completion of a test.

BASIS FOR RELIEF: Test acceptance criteria is contained within the test procedures and the determination of equipment operability is made immediately by on-shift personnel. Therefore, on-shift personnel shall declare the pump inoperable and the appropriate Technical Specification action time must be started. The analysis of results for degradation requiring increased testing or engineering evaluation will then occur when the appropriate personnel are available for reviewing the inservice pump test data. The appropriate personnel are not always readily available for this review effort.

ALTERNATE TESTING: Test data will be reviewed within four (4) work days (96 hrs) following the test, excluding weekends (Saturday & Sunday) and Holidays.

[9] Relief Request RP-9

PUMPS:					
	P-141A	P-202D	P-203C	P-207B	P-208E
	P-141B	P-202E	P-203D	P-208A	P-215A
	P-202A	P-202F	P-205	P-208B	P-215B
	P-202B	P-203A	P-206	P-208C	P-220
	P-202C	P-203B	P-207A	P-208D	

SYSTEMS: As Applicable

CLASSES: 2, 3 or MC

FUNCTIONS: As Applicable

TEST REQUIREMENT: IMP-4120, Range - the full-scale range of each instrument shall be three times the reference values or less.

BASIS FOR RELIEF: The instrumentation (IRD) used to measure vibration aptitude has a range selector with multiples of 0.03, 0.1, 0.3, 1, 3 and others for full-scale reading. When measuring reference values that would fall between; 0.031 to 0.033, 0.31 to 0.33, 3.1 to 3.3 the full-scale range requirement can not be met. The minimal portion of scale usage which does not comply shall not degrade the monitoring of the pump operational readiness status and the scale indication is close enough to the lower 1/3 which reflects an accurate vibration level reading.

ALTERNATE TESTING: The small range of reference values identified shall be measured on the appropriate scale.

[10] Relief Request RP-10

PUMPS: P-220

SYSTEMS: High Pressure Coolant Injection System (2301)

CLASS: 2

FUNCTIONS: To maintain adequate Gland Seal Condenser (GSC) Hotwell level by pumping Condensate from the GSC Hotwell to the HPCI Booster Pump Suction or Clean Radwaste (as an alternate path).

TEST REQUIREMENT: IWP-3300, Scope of test - measurement and observation of inlet pressure (Pi) and differential pressure (dP) across the pump.

IWP-3400, Test Frequency - test pumps at least every three months, quarterly.

IWP-4600, Flow Measurement - flowrate shall be measured using a rate or quantity meter installed in the pump test circuit.

BASIS FOR RELIEF: The HPCI GSC Condensate Pump must transfer condensate from the GSC to verify proper operation. To establish a temporary hydraulic circuit for pump testing, the HPCI System must be made inoperable for an extended period of time (approx. 8 hrs). System configuration does not allow measurement of flow or inlet pressure. Since the pump is positive displacement, inlet pressure is not a significant parameter for measuring pump performance.

During testing, the discharge pressure is established as the reference value by controlling system resistence. Then the GSC Hotwell level change is measured to determine pump flowrate.

ALTERNATE TESTING: Testing will be performed during cold shutdown utilizing pump discharge pressure in lieu of pump differential pressure. The GSC Hotwell level change will be monitored and timed to determine pump flowrate.

5.5 PUMP PROGRAM TABLE

This table identifies the scope of pumps within the ISTP and allows cross-referencing specific pump test quantities to their implementing station procedure.

The test quantities measured include: Speed (N), Inlet Pressure (Pi), Differential Pressure (dP), Flowrate (Q), Vibration (V), Lubricant Level (L) and Bearing Temperature (Tb).

TABLE

PUMPS TESTED

ISI CLASS 1, 2, 3 AND NC PUMPS

INSERVICE TEST QUANTITIES

SYSTEM	PUMP #	ISI CLASS	P&ID	P&ID COORD.	TEST PROC.	FREQ.	SPEED (N)	INLET PRESS.(Pi)	DIFF. PRESS.(dP)	FLOW RATE (Q)	VIB. (V)	LUBRICANT LEVEL (L)	BEARING TEMP.(Tb)
SALT SERVICE WATER (SSW)	P-208A	3	M212	B7	8.5.3.2#	Q	NA	RP-4	RP-5	RP-5	RP-6 & 9	Y	RP-2
	P-208B	3	M212	B8	8.5.3.2#	Q	NA	RP-4	RP-5	RP-5	RP-6 & 9	Y	RP-2
	P-208C	3	M212	B7	8.5.3.2#	Q	NA	RP-4	RP-5	RP-5	RP-6 & 9	Y	RP-2
	P-208D	3	M212	B6	8.5.3.2#	Q	NA	RP-4	RP-5	RP-5	RP-6 & 9	Y	RP-2
	P-208E	3	M212	B5	8.5.3.2#	Q	NA	RP-4	RP-5	RP-5	RP-6 & 9	Y	RP-2
REACTOR BUILDING CLOSED COOLING WATER (RBCCW)	P-202A	3	M215	F3	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
	P-202B	3	M215	F3	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
	P-202C	3	M215	G3	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
	P-202D	3	M215	G5	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
	P-202E	3	M215	G5	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
	P-202F	3	M215	F5	8.5.3.1#	Q	NA	Y	Y	RP-1	RP-9	Y	RP-2
DIESEL OIL TRANSFER (DOT)	P-141A	NC	M223	F6	8.9.1.1	Q	NA	Y	Y	RP-7	RP-9	NA	RP-2
	P-141B	NC	M223	E6	8.9.1.1	Q	NA	Y	Y	RP-7	RP-9	NA	RP-2
RESIDUAL HEAT REMOVAL (RHR)	P-203A	2	M241(S2)	D6	8.5.2.2.1	C	NA	Y	Y	Y	RP-9	Y	RP-2
	P-203B	2	M241(S2)	D3	8.5.2.2.2	C	NA	Y	Y	Y	RP-9	Y	RP-2
	P-203C	2	M241(S2)	F6	8.5.2.2.1	Q	NA	Y	Y	Y	RP-9	Y	RP-2
	P-203D	2	M241(S2)	F3	8.5.2.2.2	Q	NA	Y	Y	Y	RP-9	Y	RP-2
CORE SPRAY (CS)	P-215A	2	M242	F7	8.5.1.1	Q	NA	Y	Y	Y	RP-9	Y	RP-2
	P-215B	2	M242	F9	8.5.1.1	Q	NA	Y	Y	Y	RP-9	Y	RP-2
HIGH PRESSURE COOLANT INJECTION (HPCI)	P-205	2	M244	F9	8.5.4.1	Q	Y	Y	Y	Y	RP-9	Y	RP-2
HPCI GLAND SEAL CONDENSER (GSC) CONDENSATE	P-220	2	M244	L13	8.I.11.18	CS RP-10	NA	RP-10	RP-10	RP-10	RP-9	NA	RP-2
REACTOR CORE ISOL COOLING (RCIC)	P-206	2	M246	F8	8.5.5.1	Q	Y	Y	Y	Y	RP-9	Y	RP-2
STANDBY LIQUID CONTROL (SBLC)	P-207A	2	M249	E5	8.4.1	Q	NA	RP-3	RP-3	RP-3	RP-9	Y	RP-2
	P-207B	2	M249	F5	8.4.1	Q	NA	RP-3	RP-3	RP-3	RP-9	Y	RP-2

These pumps are tested in compliance with the ASME Code, Section XI Requirements each refueling outage. The refueling outage procedure shall be used for post-maintenance testing if plant conditions exist in which compliance to the Limitations and Precautions can be met.

6.0 INSERVICE VALVE TESTING

6.1 GENERAL INFORMATION

[1] Applicable Code

This Inservice Testing Program for ISI Class 1, 2, 3 and NC valves meets the requirements of Subsection IWV of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through the Winter 1980 Addenda. Where these requirements are determined to be impractical, specific requests for relief have been written and included in Section 6.4.

[2] Valve Program Table

The Tables contained in Section 6.5 list all ISI Class 1, 2, 3 and NC valves that are tested to meet IST requirements.

The tables are sorted by system & Piping and Instrumentation Drawing (P&ID) number(s) and contain the following information.

(a) VALVE NUMBER: Valve identification number.

(b) P&ID COORDINATE: Coordinate location and sheet number on the P&ID.

(c) ISI CLASS: Inservice inspection classification (Class 1, 2, 3 or NC).

(d) VALVE CATEGORY: Category assigned to the valve based on the definitions of IWV-2200. Four (4) separate categories are defined in the Code:

(1) CATEGORY A - valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.

(2) CATEGORY B - valves for which a specific amount of leakage in the closed position is inconsequential for fulfillment of their function.

(3) CATEGORY C - valves which are self-actuating in response to some system characteristic such as pressure (relief valves) or flow direction (check valves).

(4) CATEGORY D - valves which are actuated by an energy source capable of only one operation such as rupture disks or explosive actuated valves.

(5) CATEGORY AC - valves which exhibit both Category A and Category C characteristics.

(6) CATEGORY NA - valves which are not required by IWV to be tested.

(e) VALVE SIZE: Nominal pipe size (in inches).

(f) VALVE TYPE: Valve Body Design;

ANGLE	AN	PLUG	PG
BALL	BL	RELIEF	RL
BUTTERFLY	BF	RUPTURE DISC	RD
CHECK	CK	SAFETY	SV
GATE	GA	SHEAR	SH
GLOBE	GL	STOP CHECK	SC
NEEDLE	ND	SPRING CHECK	SK

(g) ACTUATOR TYPE: Valve Actuator Power;

MOTOR OPERATOR	MO	EXPLOSIVE ACTUATOR	EX
AIR OPERATOR	AO	MANUAL	MA
SOLENOID OPERATOR	SO	SELF ACTUATED	SA
HYDRAULIC OPERATOR	HO		

(h) NORMAL POSITION: Normal Position During Plant Operation;

NORMAL OPEN	O	LOCKED OPEN	LO
NORMALLY CLOSED	C	LOCKED CLOSED	LC

(i) TEST REQUIREMENT: Test(s) that will be performed to fulfill the requirements of Subsection IWV. The test definitions and abbreviations used are identified in Table 1, Inservice Valve Tests.

(j) TEST FREQUENCY: Frequency at which the tests will be performed. The frequency definitions and abbreviations used are identified in Table 2, Test Frequency.

(k) TEST DIRECTION: Direction the valve is exercised to during stroke time measurements or a check valve exercise. The direction for stroke time measurements is that which is required to fulfill its safety-related function per the FSAR and/or Tech Specs. The direction for check valve exercising is to the position required to fulfill their function.

O - Open
C - Closed
FF - Forward Flow, Normally Closed Valves
RF - Reverse Flow, Normally Closed Valves

(l) COLD SHUTDOWN JUSTIFICATION: Refer to Section 6.3 for cold shutdown description. Requests are identified as CS-XX.

(m) RELIEF REQUEST: Refer to Section 6.4 for relief request description. Requests are identified as RV-XX.

(n) REMARKS: Clarification to the particular column to identify a special or unique requirement.

5.1 GENERAL INFORMATION (Continued)

[3] Exempt Valves

Valves exempt per IWV-1200 and passive valves that do not have a specific maximum leakage requirement are not included in the IST Program. Passive valves are those valves which are not required to change position to accomplish a safety-related function. Subarticle IWV-1200, "Valves Exempt From Testing", includes:

(a) Valves used only for operating convenience, system control and maintenance.

(b) External control and protection systems responsible for sensing plant conditions and providing signals for valve operation.

Control valves whose actuators are required to provide a fail-safe position have been included in the program per Generic Letter 89-04 and are fail-safe tested only.

Exempt valves with remote position indicators have been included so their position indicators will be checked with the exempt status noted. Dampers are considered exempt (i.e., HVAC System).

[4] Measurement of Test Quantities

(a) STROKE TIME: Stroke time is the time interval from initiation of the actuating signal to the end of the actuating cycle. Stroke time value(s) for each power operated valve is specified within the appropriate test procedure.

(b) POSITION INDICATION: Valve disk movement is determined by exercising the valve while observing appropriate indicators which signal the required change of disk position. Observation of actual valve movement or indirect evidence (such as changes in system pressure, flowrate, level or temperature) which reflect stem or disk position will be used to verify that remote position indicators agree with valve travel direction.

(c) SEAT LEAKAGE: Seat leakage is measured by one of the following methods:

(1) Draining the line, closing the valve, bringing one side to test pressure and measuring leakage through a downstream telltale connection.

(2) By measuring the feedrate required to maintain pressure between two valves or between two seats of a gate valve, provided the total apparent leak rate is charged to the valve or gate valve seat being tested and that the conditions required by IWV-3423 are satisfied.

(3) By performance of a Pressure Drop (Decay) Test to verify that an entire pressure boundary does not exceed its specified leakage criteria (Reference RV-30).

(d) CHECK VALVE EXERCISE: Check valve exercises will be confirmed by observing a direct indicator such as a position indicating device or by observing system changes such as flowrate, system pressure, level, temperature or other positive means.

The following test practices will be utilized:

(1) Full Flow Check Exercise - will be verified by observation of substantially free flow through the valve. When a required accident condition flowrate exists, it will be verified. If the accident flowrate can not be confirmed, the valve may be exercised mechanically or placed in the disassembly program (Reference RV-27).

(2) Mechanical Exerciser - the force or torque delivered to the disk by the exerciser must be limited to less than 10% of the equivalent force or torque represented by the minimum emergency condition pressure differential acting on the disk or to 200% of the actual observed force or torque required to perform the exercise on the valve when the valve is new and in good operating condition, whichever is less.

(3) Vacuum Breaker - the exerciser force or torque delivered to the disk may be equivalent to the desired functional pressure differential force. Also, the disk movement shall be sufficient to prove that the disk moves freely off the seat. If no functional pressure differential force is specified, only disk movement is required.

[5] Allowable Ranges of Test Quantities

(a) STROKE TIME:

(1) Motor Operated Valves

The following values are based on a valve reference time (R) which is established from actual field test results.

REFERENCE TIME (R)	ALERT VALUE (SEC.)	REQUIRED ACTION VALUE (SEC.)
$2 \leq R$ to ≤ 5 sec.	(1.2 x R) + (0.5) Round to nearest 1/10 sec.	(1.4 x R) + (0.5) Round to nearest 1/10 sec.
$5 < R$ to ≤ 15 sec.	(1.2 x R) Round to nearest 1/2 sec.	(1.4 x R) Round to nearest 1/2 sec.
$R > 15$ sec.	(1.10 x R) Round to nearest: 1 sec. for times ≤ 50 sec. 5th Integer for times > 50 sec.	(1.2 x R) Round to nearest: 1 sec. for times ≤ 50 sec. 5th Integer for times > 50 sec.

a. The valve stroke time required action value shall not exceed either the Tech Spec or FSAR requirements.

b. Valve stroke time deviations faster than the reference value by a magnitude greater than the alert value will be considered erratic and investigated.

(2) Other Valves (Air, Hydraulic, Solenoid, Etc.)

The following values are based on a valve reference time (R) which is established from actual field test results.

REFERENCE TIME (R)	ALERT VALUE (SEC.)	REQUIRED ACTION VALUE (SEC.)
1 ≤ R to ≤ 5 sec.	(1.5 x R) + (.5) Round to nearest 1/10 sec.	(2.0 x R) + (0.5) Round to nearest 1/10 sec.
5 < R to ≤ 10 sec.	(1.5 x R) Round to nearest 1/2 sec.	(2.0 x R) Round to nearest 1/2 sec.
R > 10 sec.	(1.25 x R) Round to nearest: 1 sec. for times ≤ 50 sec. 5th Integer for times > 50 sec.	(1.5 x R) Round to nearest: 1 sec. for times ≤ 50 sec. 5th Integer for times > 50 sec.

a. The valve stroke time required action value shall not exceed either the Tech Spec or FSAR requirements.

b. Valve stroke time deviations faster than the reference value by a magnitude greater than the alert value will be considered erratic and investigated.

c. Valves may be classified as fast-acting and assigned a 2-second required action value with the alert value being Not Applicable.

(3) A valve stroke time shall not exceed its specified alert value without increased test frequency or specified limiting stroke time (required action) value without being declared inoperable immediately and corrective action being taken.

(b) POSITION INDICATION: During valve opening and closure, the remote position indicators shall accurately reflect valve travel direction.

(c) SEAT LEAKAGE:

(1) Valve leakage rates shall not exceed the value established by Boston Edison Company. These leakage values are specified within the implementing test procedures. Valves that fail to meet the acceptance criteria shall be declared inoperable immediately and require corrective action.

(2) For valves 6 in. nominal pipe size and larger (not to include containment isolation valves), the leakage rate shall not exceed that established by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate by 50% or greater. The test frequency shall be doubled. The tests shall be scheduled to coincide with a cold shutdown until corrective action is taken. If tests show a leakage rate increasing with time and a projection based on three or more tests indicates that the leakage rate of the next scheduled test will exceed the maximum permissible leakage rate by greater than 10%, then corrective action will be taken.

[5] Instrument Accuracy

Instruments used to measure stroke times shall be capable of measurement to the nearest tenth of a second.

[6] Corrective Action

(a) STROKE TIME: Corrective action shall be to repair or replace the valve.

(b) SEAT LEAKAGE: Corrective action shall be to repair or replace the valve.

(c) RELIEF VALVES:

(1) Relief valves which fail to function properly during testing shall be: 1) adjusted 2) repaired or 3) replaced and retested to show acceptable operation. Procedure credit may be taken for valves that are tested by the vendor/manufacturer provided that similar test methods are used and the documentation verifies surveillance procedure acceptance criteria has been met.

(2) If any relief valve in a system fails the regular test, an additional sampling of valves in that system shall be tested. If any of these additional valves fail, then all the remaining relief valves in the system shall be tested.

TABLE 1
INSERVICE VALVE TESTS

TEST	TEST NAME	TEST DESCRIPTION/DEFINITION
LJ	Containment Isolation Valves	Containment isolation valves (CIVs) will be seat leak tested in accordance with 10CFR50, Appendix J, Type C Leak Test which is equivalent to the requirements of IWV-3421 through IWV-3425. The practice of testing between CIVs is acceptable since the most restrictive CIV leakage limit is used to evaluate test results for acceptance and unacceptable test results require compliance to IWV-3426 and IWV-3427(a).
LP	Pressure Isolation Valves	Pressure Isolation Valves are any two valves in series within the Reactor Coolant Pressure Boundary which separated the High Pressure Reactor Coolant from an attached low pressure system and are normally closed. These valves will be seat leak tested in accordance with ASME Boiler and Pressure Vessel Code, Section XI, IWV-3420 Valve Leak Rate Test. The basis for valve selection is provided in BECo's response to Generic Letter 87-06.
LX	Miscellaneous Isolation Valves	Other safety related valves - Miscellaneous Isolation Valves will be seat leak tested in accordance with; 10CFR50 Appendix J, ASME Boiler and Pressure Vessel Code Section XI, or standard pressure drop test techniques (RV-30).
FE	Full-Stroke Exercise	Exercise testing of Category A or B valves through one complete cycle of operation. 1) Normally open: Full Stroke exercise the valve closed then return to open position. 2) Normally closed: Full Stroke exercise the valve open then return to closed position.
ST	Stroke Time	Stroke time is the measurement of the time required to exercise test a Category A or B valve through an operation. The direction for stroke time measurements is that which is required to fulfill its safety-related function per the FSAR and/or Tech Specs.
PE	Partial Stroke Exercise	Partial stroke exercise testing will be performed on those valves that cannot be full stroke exercised during plant operation and have the capability to be partially exercised. The full stroke exercise shall be performed during cold shutdowns.

TABLE 1
INSERVICE VALVE TESTS (Continued)

TEST	TEST NAME	TEST DESCRIPTION/DEFINITION
FC	Check Valve Exercise	Check valves will be exercised to assure freedom of motion and prevent sticking/seizure of parts from prolonged immobility. 1) Forward Flow Direction (FF) - Normally closed valves: Full Stroke open. 2) Reverse Flow Direction (RF) - Normally open valves: Full Stroke close.
PC	Partial Check Exercise	Partial (valve checked in same flow direction) exercise is when a Category C valve can not be verified in its full flow position as required by an FC test.
RD	Rupture Disk Test	Non-Testable rupture disks were test certified by the manufacturer or the start-up testing program and no additional testing shall be required. All rupture disks at PNPS are non-testable.
EX	Explosive Test	Testing of explosive charges by firing per ASME Section XI with at least 20% of the charges in a batch fired every 2 years with no charge exceeding 10 years.
RT	Relief Set Point Test	Relief and Safety Valve setpoints will be verified in accordance with ASME Boiler and Pressure Vessel Code, Section XI (IWV-3510), ASME PTC 25.3-1976 with addenda and PNPS Technical Specifications.
FS	Fail Safe Test	Valves with fail safe actuators, (e.g., air operated, spring loaded, solenoid operated and hydraulic operated) will be tested to verify proper fail safe operation upon loss of actuator power.
PI	Position Indication Verification	Valves with remote position indicators will be checked to verify that remote valve position indicators accurately reflect valve travel direction.

TABLE 1
INSERVICE VALVE TESTS (Continued)

TEST	TEST NAME	TEST DESCRIPTION/DEFINITION
AP	Check Alternate (Safety) Position Verification	An augmented requirement which will verify a check valve has returned to its normal operational position. This verification will be implemented when the check valve performs a safety-related function in its normal operational position. Check valves reposition themselves following an exercise. This repositioning is verified by normal operational parameters, special testing or valve disassembly. Test frequency may be as often as every 92 days and will not exceed a refueling outage. The following practices will be utilized for AP verification: 1. Performance of a 2-year leak test satisfies an AP requirement for the closed position, thus if a normally closed valve has a leakage requirement, there will be no AP test requirement identified. 2. Check valves requiring disassembly to satisfy the AP requirement may be placed in the Disassembly Sampling Program, Reference RV-27, for guidance. 3. Check valves requiring an FC disassembly will be assigned an AP requirement on their test table and will have the AP performed during disassembly.

TABLE 2
TEST FREQUENCY

TEST FREQ.	OPERATIONAL CONDITION	FREQUENCY OF TESTING
Q	Power Operation	At least once per 92 days
CS	Cold Shutdown	See (2) below
RO	Refueling Outage	See (1) below
5Y	No operational condition limitations	Every five years (see IWV-3511). Applies to RT test
2Y	No operational condition limitations	Every two years (see IWV-3300). Applies to position indication tests and seat leakage tests

(1) Refueling outage conditions are as contained in the definitions of the PNPS Tech Specs.

(2) Plant Cold Shutdown (as defined in PNPS Tech Specs) testing is acceptable when the following conditions are met:

(a) Testing is to commence as soon as practical when 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.

(b) Completion of all testing is not a prerequisite to return to power. Any testing not completed during one cold shutdown should be performed during any subsequent cold shutdown starting with those tests not previously completed.

(c) Testing need not be performed more often than once every 3 months.

(d) In the case of extended cold shutdowns, the testing need not be started within the 48-hour limitation. However, in extended cold shutdowns, all Cold Shutdown Testing must be completed prior to returning to power.

(3) PNPS Tech Spec Surveillance Interval definitions are to be applied to the following required frequencies for performing inservice testing activities. These required intervals may be extended as allowed by the PNPS Tech Spec "Surveillance Frequency" definition.

ASME B&PV CODE TERMINOLOGY FOR IST ACTIVITIES	REQUIRED FREQUENCIES FOR PERFORMING IST ACTIVITIES
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly (every 3 months)	At least once per 92 days
Semiannually (every 6 months)	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly	At least once per 366 days

6.2 VALVE POST-MAINTENANCE TESTING

The IST Program requires each valve to be verified as operationally ready after routine servicing, maintenance, repair or replacement. The verification of operational readiness should be achieved by acceptable performance of a procedure used to verify test requirements which may have been affected. The test requirements may be verified by other documented procedures as long as all test conditions are complied with in accordance with Subsection IWV.

Valve post-maintenance testing guidance is provided using a step-by-step determination process, a work scope (WS) guideline, and a retest flowpath. The RS&PD ASME Test Engineer may be consulted for questions or further clarification.

The As-Found (Prework) Testing requirements can be determined through this process. As-Found testing is pertinent to Containment Isolation Valves (only) and must be identified prior to start of maintenance for compliance of 10CFR50 Appendix J.

[1] Step-By-Step Determination

(a) Steps as follows (reference Retest Flowpath):

Step 1: Using this procedure, Section 6.6, locate the valve and verify if it is listed within the table.

Step 2: Note all test requirement(s) identified for the valve.

Step 3: For each valve test requirement, verify if the work to be performed is identified within the WS guideline.

NOTE

When using guidelines to determine containment isolation valve As-Found (Prework) test requirements, if a post-maintenance LJ procedure requires retest for operational readiness, then an As-Found test must be considered. When the work scope covered in a Maintenance Request is changed, it is important to re-verify this As-Found testing requirement.

Step 4: Identify the applicable PNPS Procedure No(s). OR equivalent documentation (that will verify the test requirement is performed in accordance with the Subsection IWV) on the Maintenance Request.

[2] Work Scope Guideline

(a) **Routine Servicing** - Performance of planned preventive maintenance which does not require disassembly of the valve or replacement of parts such as adjustment of stem packing.

(b) **Maintenance** - Performance of preventive or corrective maintenance which does require disassembly of the valve or replacement of consumable items. **EXAMPLES:** replacement of packing, removal of bonnet, stem assembly or actuator, and disconnection of hydraulic or electrical lines.

and

Specified Maintenance - Performance of preventive or corrective maintenance which is unique to a test requirement and is identified within the test requirement work scope. The test requirement need only be performed if specifically identified within the work scope.

(c) **Repair** - Performance of welding or grinding on a valve to correct a defect (does not include valve actuator).

(d) **Replacement** - Installation of a new valve, valve part or a modification to the valve (does not include valve actuator).

Cross-Reference Table (Test Requirement vs Work Scope)

Test Requirement	Work Scopes
FE, FC, ST, FS	Routine servicing, maintenance, repair or replacement.
LJ	Specified maintenance, repair or replacement. Specified maintenance: repacking, lowering of motor-operated valve torque switch mechanism, adjustment of motor-operated valve closing limit switch for valves that close on limit switch, disassembly of valve internals or removal of valve actuator. As-Found (Pretest) testing is required for Containment Isolation Valves. **Exception**: Motor operated valve diagnostic testing may sometimes be used to verify a torque setting has not been lowered in lieu of leak testing.

LP, LX	Specified maintenance, repair or replacement. Specified maintenance: alteration to seating surface, lowering of motor-operated valve closing torque switch setting, replacement of motor-operated valve torque switch mechanism, adjustment of motor-operated valve closing unit switch for motor-operated valves that close on limit switch. **Exception**: Same as LJ Test.
PI	Specified maintenance, repair or replacement. Specified maintenance: adjustment or disassembly of limit switch mechanism for a remote position indicator, terminating/ reterminating wiring for the remote indicator circuitry and/or reconnection of the valve actuator. Exception: No retest for replacement of fuses or light bulbs and single lead lifting and landing wire removal method.
RT	Specified maintenance, repair or replacement. Specified maintenance: adjustment of setting, disassembly or internal gagging.
RD	Repair or replacement.
EX	None (Manufacturer's Data acceptable).

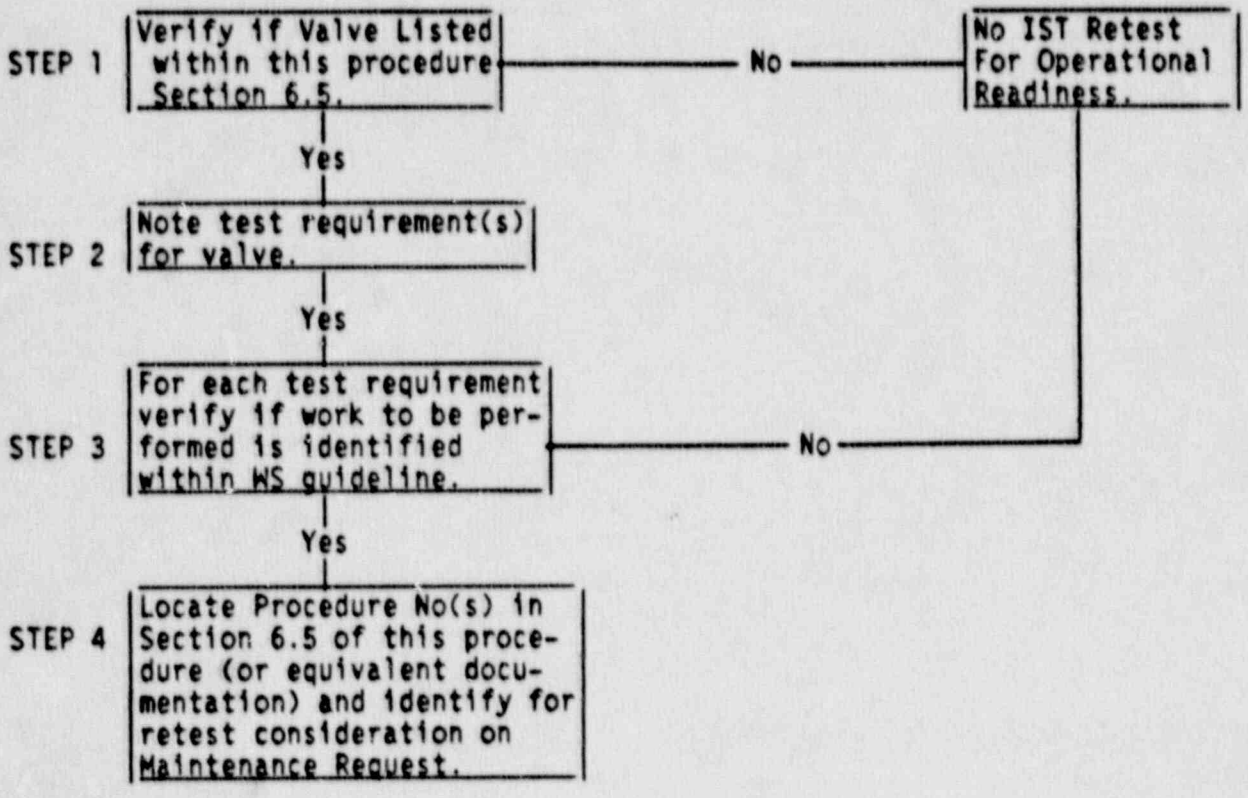
[3] Retest Flowpath

****

CAUTION

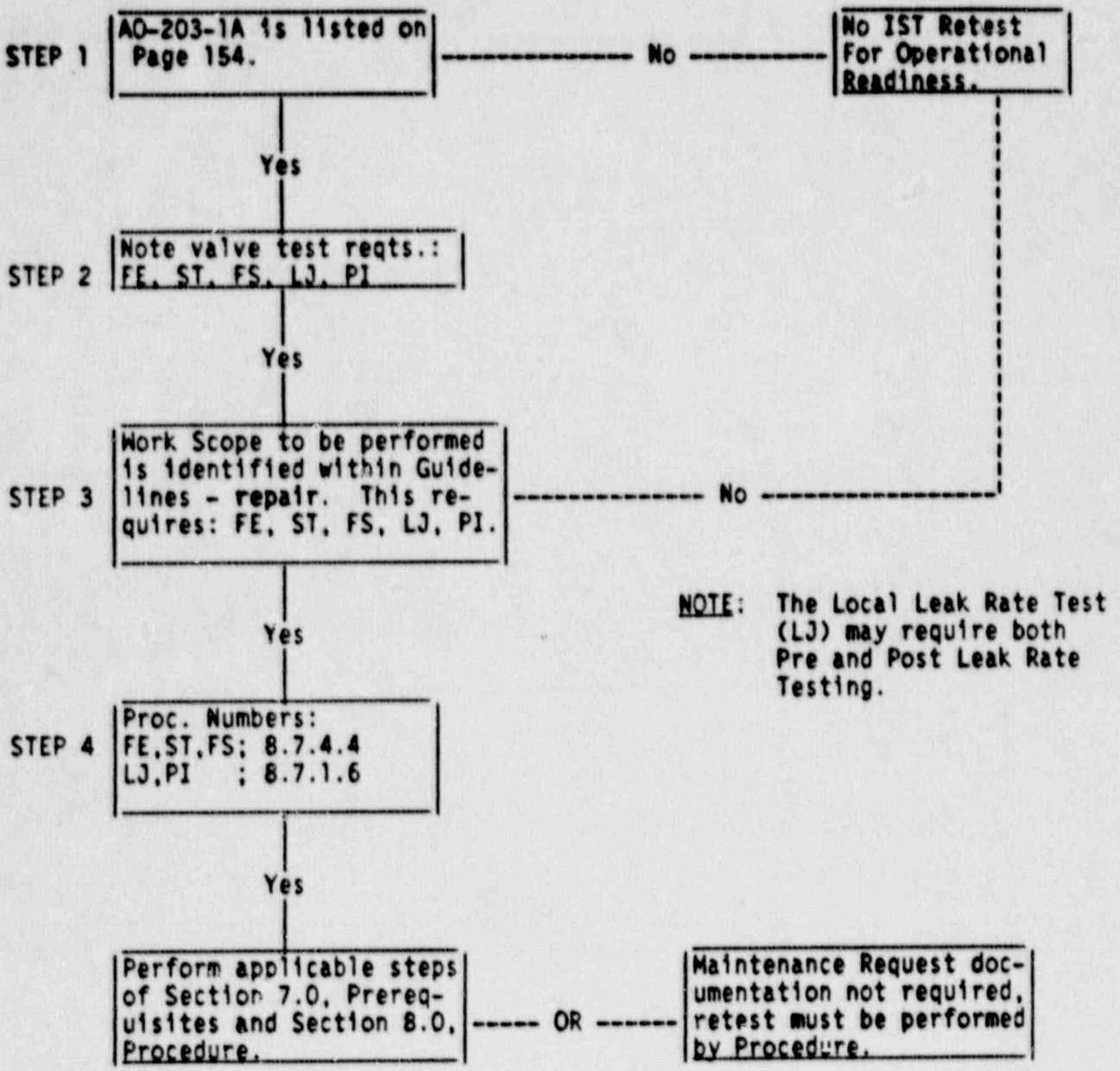
When a post-maintenance LJ test requirement is identified, a pretest (As-Found) test must be considered prior to commencing work.

****



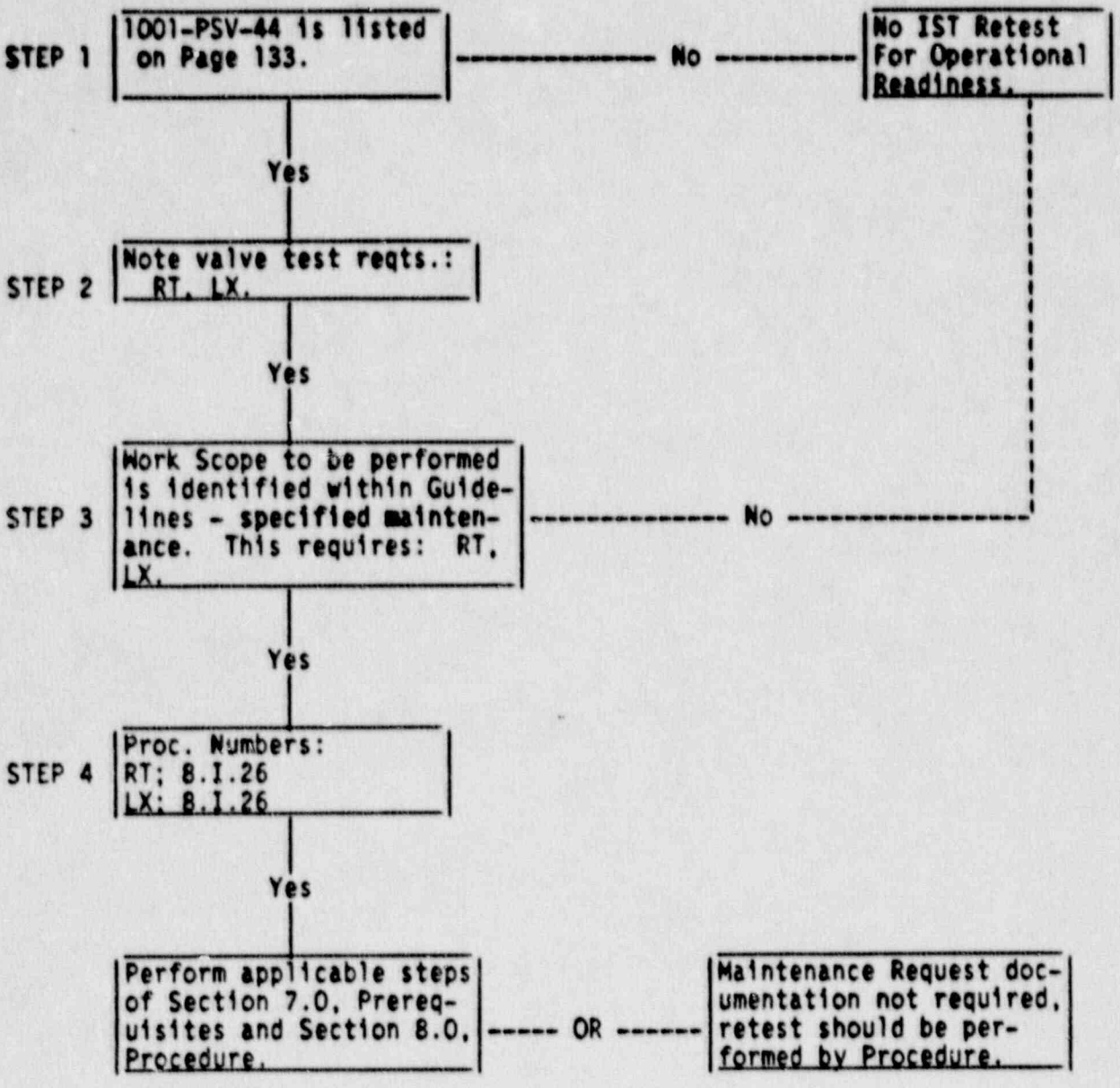
[4] **EXAMPLES**:

(a) AO-203-1A requires the valve seating surface to be machined (grinding) and lapped per Maintenance Request and the appropriate procedures to be used for retests.

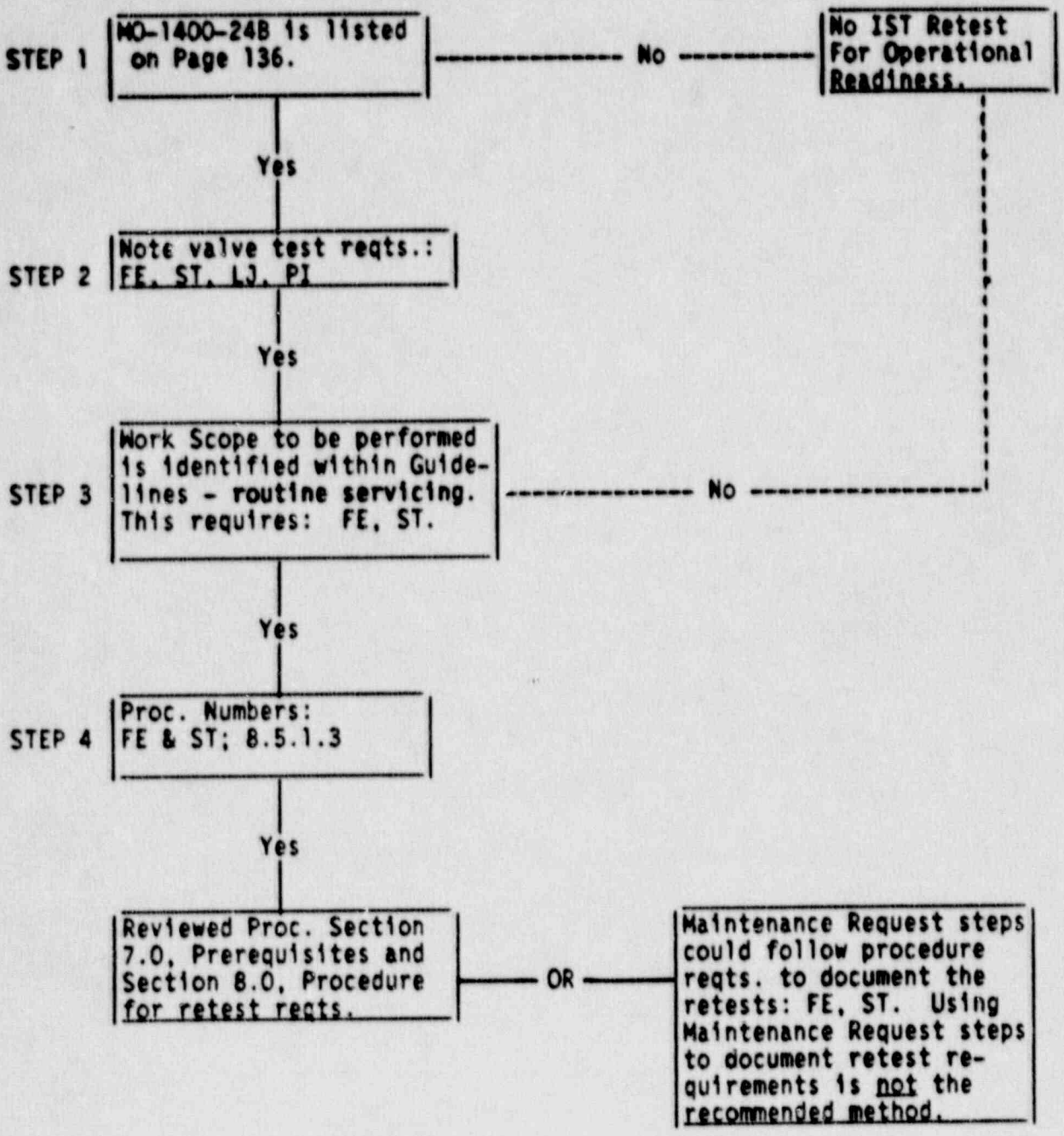


NOTE: The Local Leak Rate Test (LJ) may require both Pre and Post Leak Rate Testing.

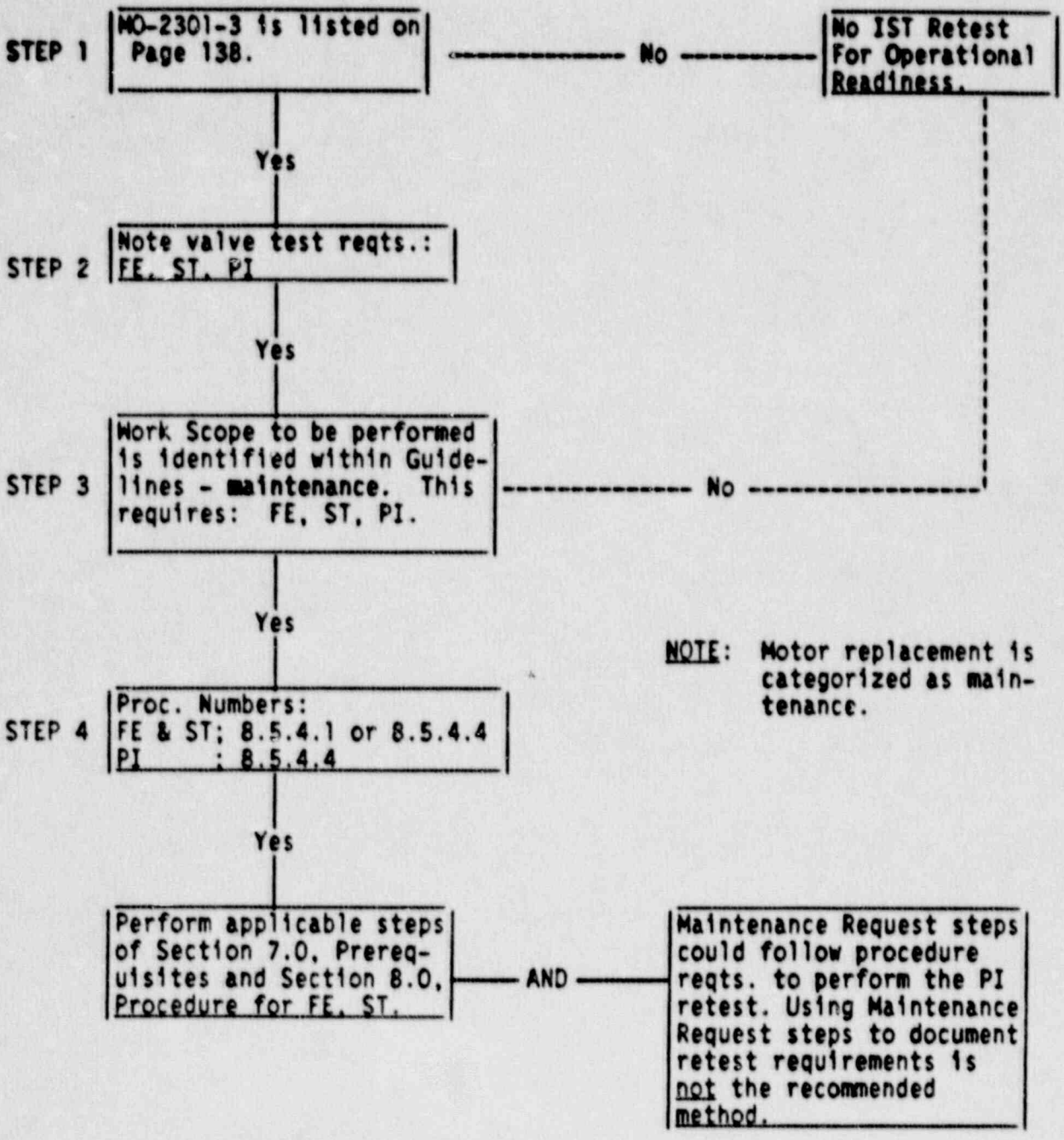
(b) 1001-PSV-44 requires the valve seating surface to be lapped per Maintenance Request and the appropriate procedures to be used for retests.



(c) MO-1400-24B requires the stem packing to be adjusted to minimize leaking and the retest is to be performed within the Maintenance Request package.

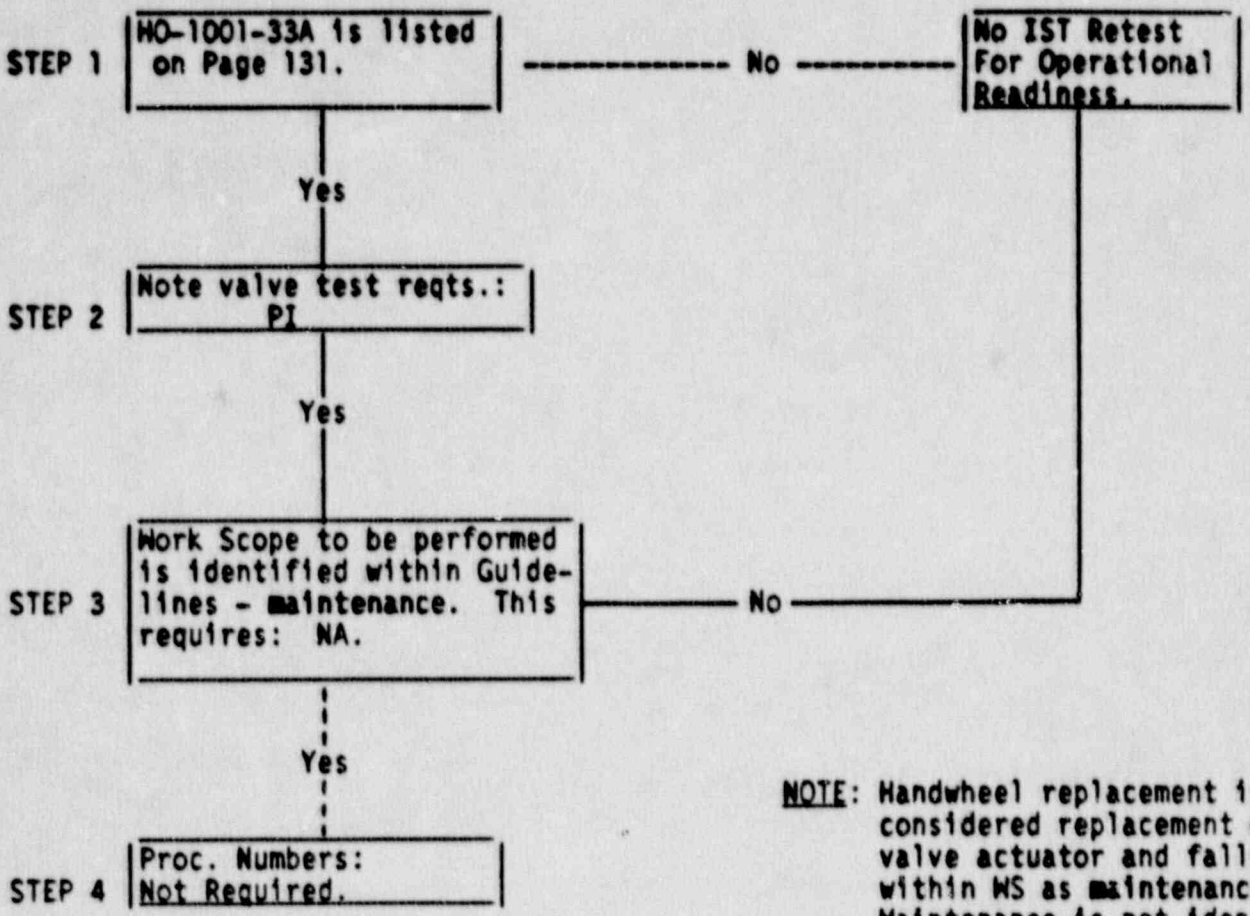


(d) MO-2301-3 requires the electric motor to be replaced per Maintenance Request and the appropriate procedures to be used for retest.



NOTE: Motor replacement is categorized as maintenance.

(e) HO-1001-33A requires the handwheel to be replaced per Maintenance Request.



NOTE: Handwheel replacement is considered replacement of valve actuator and falls within WS as maintenance. Maintenance is not identified within the PI test reqt. work scope.

6.3 COLD SHUTDOWN JUSTIFICATIONS

Valve Cold Shutdown Justifications (CS) are provided for conditions where compliance to ASME Code, Section XI, Subsection IWV test requirements are satisfied, but conditions exist that necessitate a test frequency of "cold shutdown" in lieu of "quarterly". Each Cold Shutdown Justification identifies: Valve(s) involved, compliance test requirement(s), basis for justification, and an alternate testing frequency of cold shutdown.

[1] **COLD SHUTDOWN JUSTIFICATION CS-01**

SYSTEM: Reactor Building Closed Cooling Water System (30)

VALVES: 4009A, 4009B, 4002

CATEGORIES: A,B

CLASSES: 2, 3

FUNCTION: These valves provide isolation to drywell components cooled by RBCCW. The components would require isolation for primary containment criteria and maintenance.

TEST REQUIREMENTS: IWV-3411; Test frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: The testing of these valves would require isolation of the following components; Drywell Area Coolers, Reactor Recirculation Pump Seal Coolers, Reactor Recirculation Pump Lube Oil Coolers and additionally; The Reactor Water Cleanup (RWCU) non-regenerative heat exchanger, B Fuel Pool Cooling Heat Exchanger, RWCU Pump Cooling System Coolers, Control Rod Drive (CRD) Pump Area Cooling and CRD Pump Thrust Bearing Coolers for testing of the 4009A and 4009B. The listed components supply numerous plant systems required for safe plant operation. The recirculation pumps and drywell coolers maybe required to support the plant during cold shutdown conditions to prevent stratification of Reactor Vessel Lower Head Water and overheating of Drywell components.

ALTERNATE TESTING: Exercise valves during cold shutdown when recirculation pumps and drywell coolers are not required but not to exceed a refueling outage.

[2] COLD SHUTDOWN JUSTIFICATION CS-02

SYSTEM: Residual Heat Removal System (1001)

VALVES: 47, 50, 60, 63

CATEGORY: A

CLASS: 1

FUNCTION: The 47 and 50 valves are the RHR shutdown cooling suction path primary containment and pressure isolation valves. The 60 and 63 valves are the RHR head spray line primary containment and pressure isolation valves.

TEST REQUIREMENTS: IWV-3411; Test frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: The valves are interlocked to prevent opening when reactor pressure is greater than 100 psig. Each pressure isolation motor operated valve maintains one of the two high pressure barriers during plant operation. To exercise these valves during plant operation would involve a loss of one pressure isolation barrier between the high pressure reactor coolant system and low pressure RHR system.

ALTERNATE TESTING: Exercise valves during cold shutdown.

[3] **COLD SHUTDOWN JUSTIFICATION CS-03**

SYSTEM: Residual Heat Removal System (1001)

VALVES: 68A, 68B

CATEGORY: AC

CLASS: 1

FUNCTION: These valves are the low pressure coolant injection pressure isolation check valves which provide a flowpath for shutdown cooling.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: Exercising these valves to the open position can only be accomplished by verifying flow to the vessel. **Partial** flow exercising of these valves is confirmed during shutdown cooling operations.

ALTERNATE TESTING: **Partial** exercise valve during cold shutdown not to exceed refueling outage.

[4] **COLD SHUTDOWN JUSTIFICATION CS-04**

SYSTEMS: High Pressure Coolant Injection System (2301)
Reactor Core Isolation Cooling System (1301)

VALVES: 2301-7, 1301-50

CATEGORY: AC

CLASS: 1

FUNCTION: These valves are the HPCI and RCIC injection pressure isolation check valves.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: Testing these valves during normal operation would require; 1) injecting cold water into the reactor vessel using the HPCI (or RCIC) system which would result in both a reactivity excursion and thermal shock to the feedwater nozzle and piping and 2) loss of one pressure isolation barrier between the high pressure reactor coolant system and low pressure HPCI (or RCIC) System.

These valves are manually stroke testable. Since a maximum allowable torque on the mechanical test lever of 120 ft-lbs for Valve 2301-7 and 75 ft-lbs for Valve 1301-50 is specified by the manufacturer to prevent damage, the valves can be tested by manual stroking only if the plant is not in an abnormal cold shutdown valve lineup **(no differential pressure across these valves)**. During a normal cold shutdown, the feedwater header is isolated.

ALTERNATE TESTING: Manually exercise during cold shutdown (normal cold shutdown feedwater valve lineup) not to exceed refueling outage.

[5] **COLD SHUTDOWN JUSTIFICATION CS-05**

SYSTEM: Nuclear Boiler - Reactor Recirculation System (202)

VALVES: 5A, 5B

CATEGORY: B

CLASS: 1

FUNCTION: These valves are the reactor recirculation pump discharge valves and function to close upon LOCA signals. (This is the remaining function of LPCI Loop Selection Logic.)

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3412; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: Closure of these valves during normal operation will result in loss of forced circulation to the reactor, a condition prohibited by PNPS License.

Closure of these valves during cold shutdown necessitates securing operation of the reactor recirculation pumps. This is detrimental because even though the moderator temperature is less than 212°F the recirculating system is usually kept in operation during cold shutdown to provide reactor coolant mixing to prevent reactor vessel temperature stratification. The reactor vessel temperature profile takes on an increasing temperature gradient between the bottom vessel head and the shutdown core when mixing (forced circulation) is stopped. Additionally the water in the idle recirculation loops cools down. This stratification can have the following adverse effects: reactor vessel temperatures become greater between the vessel bottom and top resulting in unnecessary thermal cycling, startup of the shutdown recirculation pump can cause a cold water intrusion affecting reactor vessel metal temperatures. Deliberate stopping and starting of the recirculation pumps creates unnecessary cycling wear on major equipment important to plant reliability.

ALTERNATE TESTING: Exercise valves during cold shutdown when a respective reactor recirculation pump is not required, but not to exceed a refueling outage.

[6] **COLD SHUTDOWN JUSTIFICATION CS-06**

SYSTEM: Nuclear Boiler - Main Steam, Vent, Drain & Sampling System (220)

VALVES: 46, 47

CATEGORY: B

CLASS: 1

FUNCTION: These valves are used to vent the reactor vessel head and main steam line "A" during startup.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercises at least once every three months.

IWV-3413; Power operated valves - full stroke time.

IWV-3415; Fail safe - at least once every three months.

BASIS FOR JUSTIFICATION: Exercising one of these valves during normal operation leaves the other valve as the only barrier between the reactor vessel and the drywell sump. Any leakage through the closed valve could potentially pressurize the drywell which is an unnecessary risk for the sole purpose of testing a valve. Finally, operating procedures prohibit operation of these valves during power operation.

ALTERNATE TESTING: Exercise valves during cold shutdown (not to exceed refueling outage).

[7] **COLD SHUTDOWN JUSTIFICATION CS-07**

SYSTEM: High Pressure Coolant Injection System (2301)

VALVES: 232, 233

CATEGORY: C

CLASS: 2

FUNCTION: These valves provide a vent path to relieve a vacuum created within the HPCI exhaust line after turbine operation.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months.

BASIS FOR JUSTIFICATION: The HPCI Exhaust Vacuum Breaker Line Check Valves shall be forward flow exercised. These normally closed check valves are verified in the open direction by isolating the vacuum breaker exhaust line and ensuring unrestricted flow. The vacuum breaker line isolation will make the HPCI system inoperable. Exercising is to be performed during cold shutdown.

ALTERNATE TESTING: Exercise during cold shutdown.

[8] **COLD SHUTDOWN JUSTIFICATION CS-08**

SYSTEM: Reactor Building Closed Cooling Water (30)

VALVES: 4085A, 4085B

CATEGORY: B

CLASS: 3

FUNCTION: Valves 4085A and 4085B are the non-safety related component isolation valves for RBCCW Loop A.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: Valves 4085A and 4085B are the non-safety related component isolation valves for RBCCW Loop A. Components cooled by this RBCCW branch include the reactor recirculation pump motor-generator set fluid coupling oil and bearing coolers.

Stroke testing quarterly during power operation could result in loss of cooling to the recirculation pump motor-generator set fluid coupling oil and bearing coolers with consequent loss of forced circulation to the reactor, requiring plant shutdown.

Stroke testing at cold shutdown could result in loss of the recirculation pump operation due to interruption of cooling to the recirculation pump motor-generator set fluid coupling oil and bearing coolers. This is detrimental because even though the moderator temperature is less than 212°F, the recirculation system is kept in operation during cold shutdown to provide mixing of the reactor coolant to prevent reactor vessel temperature stratification.

The reactor vessel temperature profile takes on an increasing temperature gradient between the bottom vessel head and the core when mixing (forced circulation) is stopped. Additionally, the water in the idle recirculation loops cools down. This stratification can have the following adverse effects: reactor vessel metal temperature differences become greater between reactor vessel bottom and top resulting in unwanted thermal cycling. Start up of the shutdown recirculation pumps causes a cold water intrusion which affects reactor vessel metal temperatures and causes thermal cycling of the reactor vessel.

ALTERNATE TESTING: Exercise valves during cold shutdown when reactor recirculation pumps are not required but not to exceed a refueling outage.

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
66	G-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
67	E-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
68	E-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
69	D-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
70	D-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
71	F-6 (SH.2)	2	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
72	F-6 (SH.2)	2	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
73	C-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	ZY	8.7.4.8			
74	C-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	ZY	8.7.4.8			
75	B-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	ZY	8.7.4.8			
76	B-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	ZY	8.7.4.8			
77	E-6 (SH.2)	2	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
78	E-6 (SH.2)	2	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
79	D-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
80	D-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
81	C-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
82	C-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
83	F-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
84	F-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
85	G-6 (SH.2)	1	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
86	G-6 (SH.2)	1	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
2A	B-6 (SH.2)	2	C	2	CK	SA	C	PC	Q	8.5.2.2.1*	FF		Disassemble
								FC	RO	8.I.27*	FF	RV-27	To Exercise
								AP	RO	8.5.2.2.1	Closed		
2B	D-3 (SH.2)	2	C	2	CK	SA	C	PC	Q	8.5.2.2.2*	FF		Disassemble
								FC	RO	8.I.27*	FF	RV-27	To Exercise
								AP	RO	8.5.2.2.2	Closed		
2C	G-6 (SH.2)	2	C	2	CK	SA	C	PC	Q	8.5.2.2.1*	FF		Disassemble
								FC	RO	8.I.27*	FF	RV-27	To Exercise
								AP	RO	8.5.2.2.1	Closed		
2D	G-3 (SH.2)	2	C	2	CK	SA	C	PC	Q	8.5.2.2.2*	FF		Disassemble
								FC	RO	8.I.27*	FF	RV-27	To Exercise
								AP	RO	8.5.2.2.2	Closed		
7A	D-5 (SH.2)	2	B	18	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
7B	D-4 (SH.2)	2	B	18	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
7C	F-5 (SH.2)	2	B	18	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
7D	F-4 (SH.2)	2	B	18	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
16A	F-7 (SH.2)	2	B	18	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			
16B	E-2 (SH.2)	2	B	18	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
87	D-4 (SH.1)	2	B	1	GL	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
88	D-4 (SH.1)	2	B	1	GL	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
89	D-7 (SH.1)	2	B	1	GL	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
90	D-6 (SH.1)	2	B	1	GL	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			
91	A-5 (SH.1)	2	A	1	GA	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
92	A-5 (SH.1)	2	A	1	GA	AO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
122A	C-8 (SH.1)	2	B	.375	GA	SV	O	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	2Y	8.7.4.8*			
122B	C-1 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	2Y	8.7.4.8*			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
123A	C-8 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	ZY	8.7.4.8*			
123B	C-1 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	ZY	8.7.4.8*			
124A	C-7 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	ZY	8.7.4.8*			
124B	C-2 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.7.4.1*			
								ST	Q	8.7.4.1*	O	RV-04	
								FS	Q	8.7.4.1*	C		
								PI	ZY	8.7.4.8*			
5117A	H-6 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.M.3-13*			
								ST	NA	NA		RV-31	
								FS	Q	8.M.3-13*	C		
5117B	H-3 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.M.3-13*			
								ST	NA	NA		RV-31	
								FS	Q	8.M.3-13*	C		
5137A	G-6 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.M.3-13*			
								ST	NA	NA		RV-31	
								FS	Q	8.M.3-13*	C		
5137B	G-3 (SH.1)	2	B	.375	GA	SV	C	FE	Q	8.M.3-13*			
								ST	NA	NA		RV-31	
								FS	Q	8.M.3-13*	C		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
18A	G-6 (SH.2)	2	B	3	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
18B	G-3 (SH.2)	2	B	3	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
19	B-7 (SH.1)	2	B	18	GA	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	C		
								PI	2Y	8.5.2.3			
21	B-3 (SH.1)	2	A	4	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	C		
								PI	2Y	8.5.2.11*			
								LX	2Y	8.5.2.11*			
22A	F-8 (SH.1)	2	AC	1	RL	SA	C	RT	5Y	8.1.26*			
								LX	RA	8.1.26*			RT Verifies
22B	F-2 (SH.1)	2	AC	1	RL	SA	C	RT	5Y	8.1.26*			
								LX	RA	8.1.26*			RT Verifies
23A	G-6 (SH.1)	2	A	10	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3*	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
23B	G-4 (SH.1)	2	A	10	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3*	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
26A	G-5 (SH.1)	2	A	10	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3*	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
26B	G-4 (SH.1)	2	A	10	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3*	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
28A	F-6 (SH.1)	2	A	18	GL	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
28B	F-4 (SH.1)	2	A	18	GL	MO	O	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
29A	E-6 (SH.1)	1	A	18	GA	MO	C	FE	CS	8.1.11.3		CS-09	
								ST	CS	8.1.11.3	O/C	CS-09	
								PI	2Y	8.5.2.7			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.2.7			
29B	E-4 (SH.1)	1	A	18	GA	MO	C	FE	CS	8.1.11.4		CS-09	
								ST	CS	8.1.11.4	O/C	CS-09	
								PI	2Y	8.5.2.7			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.2.7			
32	B-3 (SH.1)	2	A	4	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	C		
								PI	2Y	8.5.2.11			
								LX	2Y	8.5.2.11			
33A	E-6 (SH.1)	1	NA	18	GA	MA	LO	NA	NA	NA			Exempt (Manual)
								PI	2Y	8.5.2.7			
33B	E-4 (SH.1)	1	NA	18	GA	MA	LO	NA	NA	NA			Exempt (Manual)
								PI	2Y	8.5.2.7			
34A	F-7 (SH.1)	2	A	12	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
34B	F-3 (SH.1)	2	A	12	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
36A	E-7 (SH.1)	2	B	12	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
36B	E-3 (SH.1)	2	B	12	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.5.2.3			
37A	E-7 (SH.1)	2	A	6	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
37B	E-3 (SH.1)	2	A	6	GL	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
43A	E-5 (SH.2)	2	B	18	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			
43B	E-4 (SH.2)	2	B	18	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			
43C	G-5 (SH.2)	2	B	18	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			
43D	G-4 (SH.2)	2	B	18	GA	MO	C	FE	Q	8.5.2.3			
								ST	Q	8.5.2.3	O		
								PI	2Y	8.5.2.3			
44	C-5 (SH.1)	2	AC	1.5	RL	SA	C	RT	5Y	8.1.26*			
								LX	NA	8.1.26*			RT Verifies
47	C-5 (SH.1)	1	A	20	GA	MO	C	FE	CS	8.1.11.5		CS-02	
								ST	CS	8.1.11.5	C	CS-02	
								PI	2Y	8.5.2.8			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.2.8			
50	D-5 (SH.1)	1	A	20	GA	MO	C	FE	CS	8.1.11.5		CS-02	
								ST	CS	8.1.11.5	C	CS-02	
								PI	2Y	8.5.2.8			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.2.8			
59	H-6 (SH.1)	2	AC	1	RL	SA	C	RT	5Y	8.1.26*			
								LX	NA	8.1.26*			RT Verifies
60	H-5 (SH.1)	1	A	4	GA	MO	C	FE	NA	NA			Inoperative PDC (Deenergized)
								ST	NA	NA			
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
63	G-5 (SH.1)	1	A	4	GA	MO	C	FE	NA	NA			Inoperative PDC (Deenergized)
								ST	NA	NA			
								PI	2Y	8.5.2.9			
								LJ	2Y	8.7.1.5			
								LP	RO	8.5.2.9		RV-24	
64	G-5 (SH.1)	1	AC	4	CK	SA	C	FC	CS	8.I.11.6		CS-10	Inoperative PDC (Pipe Capped)
								LP	RO	8.5.2.9		RV-24	
67A	D-6 (SH.2)	2	C	12	CK	SA	C	FC	Q	8.5.2.2.1	FF		
								AP	RO	8.5.2.2.1	Closed		
67B	D-3 (SH.2)	2	C	12	CK	SA	C	FC	Q	8.5.2.2.2	FF		
								AP	RO	8.5.2.2.2	Closed		
67C	F-7 (SH.2)	2	C	12	CK	SA	C	FC	Q	8.5.2.2.1	FF		
								AP	RO	8.5.2.2.1	Closed		
67D	F-3 (SH.2)	2	C	12	CK	SA	C	FC	Q	8.5.2.2.2	FF		
								AP	RO	8.5.2.2.2	Closed		
68A	E-6 (SH.1)	1	AC	18	CK	SA	C	PC	CS	8.I.11.17*	FF	CS-03	
								FC	RO	8.I.27*	FF	RV-27	Disassemble To Exercise
								LP	2Y	8.5.2.7			
68B	E-4 (SH.1)	1	AC	18	CK	SA	C	PC	CS	8.I.11.17*	FF	CS-03	
								FC	RO	8.I.27*	FF	RV-27	Disassemble To Exercise
								LP	2Y	8.5.2.7			
362B	F-2 (SH.2)	2	AC	2	CK	SA	C	PC	Q	8.5.2.2.2*	FF		
								FC	RO	8.5.2.7*	FF	RV-20	
								AP	RO	8.5.2.13*	Closed		
								LX	2Y	8.5.2.13*			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-241 SHEET 1 of 2
P&ID: M-241 SHEET 2 of 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (1001)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
363A	G-8 (SH.2)	2	AC	2	CK	SA	C	PC	Q	8.5.2.2.1*	FF		
								FC	RO	8.5.2.7*	FF	RV-20	
								AP	RO	8.5.2.13*	Closed		
								LX	2Y	8.5.2.13*			
515	D-3 (SH.1)	2	AC	6	CK	SA	C	FC	NA	NA			Exempt (Maint.)
								PI	2Y	8.5.2.14*			
								LX	RO	8.5.2.14*			
8004	F-6 (SH.2)	2	AC	1.5	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
8005	D-6 (SH.2)	2	AC	1.5	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
8006	D-4 (SH.2)	2	AC	1.5	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
8007	F-4 (SH.2)	2	AC	1.5	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
8008	D-7 (SH.2)	2	AC	1	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
8009	D-3 (SH.2)	2	AC	1	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-242 **SYSTEM: CORE SPRAY SYSTEM (1400)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
3A	F-7	2	B	18	GA	MO	O	FE	Q	8.5.1.3			
								ST	Q	8.5.1.3	C		
								PI	2Y	8.5.1.3			
3B	F-8	2	B	18	GA	MO	O	FE	Q	8.5.1.3			
								ST	Q	8.5.1.3	C		
								PI	2Y	8.5.1.3			
4A	C-6	2	B	6	GA	MO	C	FE	Q	8.5.1.1			
								ST	Q	8.5.1.1	C		
								PI	2Y	8.5.1.1			
4B	C-6	2	B	6	GA	MO	C	FE	Q	8.5.1.1			
								ST	Q	8.5.1.1	C		
								PI	2Y	8.5.1.1			
6A	C-3	1	NA	10	GA	MA	LO	NA	NA	NA			Exempt (Manual)
								PI	2Y	8.5.1.6			
6B	C-3	1	NA	10	GA	MA	LO	NA	NA	NA			Exempt (Manual)
								PI	2Y	8.5.1.6			
7	D-4	1	AC	1	CK	SA	O	FC	RO	8.M.3-2*	RF	RV-22	PDC: 86-888
								AP	RO	8.M.3-2*	Open		Currently
								LX	RO	8.M.3-2*		RV-22	Inoperative
9A	D-3	1	AC	10	CK	SA	C	FC	RO	8.I.15	FF	RV-06	
								LP	2Y	8.5.1.6			
9B	B-3	1	AC	10	CK	SA	C	FC	RO	8.I.15	FF	RV-06	
								LP	2Y	8.5.1.6			
13A	E-7	2	C	3	SC	SA	C/LO	PC	Q	8.5.1.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble
								AP	RO	8.I.27*	Closed		To Exercise
13B	E-9	2	C	3	SC	SA	C/LO	PC	Q	8.5.1.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble
								AP	RO	8.I.27*	Closed		To Exercise
24A	D-5	2	A	10	GA	MO	O	FE	Q	8.5.1.3			
								ST	Q	8.5.1.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
24B	B-5	2	A	10	GA	MO	O	FE	Q	8.5.1.3			
								ST	Q	8.5.1.3	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-242

SYSTEM: CORE SPRAY SYSTEM (1400)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PBPS Proc. Number	Test Direction	Relief Request	Notes
25A	D-4	1	A	10	GA	MO	C	FE	CS	8.I.11.11		CS-09	
								ST	CS	8.I.11.11	O/C	CS-09	
								PI	2Y	8.5.1.6			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.1.6			
25B	B-4	1	A	10	GA	MO	C	FE	CS	8.I.11.11		CS-09	
								ST	CS	8.I.11.11	O/C	CS-09	
								PI	2Y	8.5.1.6			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.1.6			
28A	E-6	2	AC	2	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
28B	B-7	2	AC	2	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
31A	C-4	1	AC	1	CK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
31B	C-4	1	AC	1	CK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
35	E-5	2	C	6	CK	SA	C	FC	Q	8.5.1.1	FF		
36A	E-7	2	C	10	CK	SA	C	FC	Q	8.5.1.1	FF		
								AP	RO	8.5.1.1	Closed		
36B	E-9	2	C	10	CK	SA	C	FC	Q	8.5.1.1	FF		
								AP	RO	8.5.1.1	Closed		
212A	D-7	2	AC	2	CK	SA	C	PC	Q	8.5.1.1*	FF		
								FC	RO	8.5.1.6*	FF	RV-20	
								AP	RO	8.5.1.7*	Closed		
								LX	2Y	8.5.1.7*			
212B	B-7	2	AC	2	CK	SA	C	PC	Q	8.5.1.1*	FF		
								FC	RO	8.5.1.6*	FF	RV-20	
								AP	RO	8.5.1.7*	Closed		
								LX	2Y	8.5.1.7*			
214	E-5	2	C	6	CK	SA	C	FC	Q	8.5.1.1	FF		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-243 SHEET 1
P&ID: M-244 SHEET 2

SYSTEM: HIGH PRESSURE COOLANT INJECTION (2301)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
2301-23 (HO-1)	E-11 (SH.2)	2	B	10	GA	HO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								FS	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
2301-24 (HO-2)	E-11 (SH.2)	2	NA	10	GV	HO	C	FE	Q	8.5.4.4			Control Valve
								ST	Q	NA		RV-07	FE,ST, Augmented NRC requirement
								FS	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
3	F-13 (SH.1)	2	B	10	GA	MO	C	FE	Q	8.5.4.1			Also 8.5.4.4
								ST	Q	8.5.4.1	O		Also 8.5.4.4
								PI	2Y	8.5.4.4			
4	D-4 (SH.1)	1	A	10	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5	D-6 (SH.1)	1	A	10	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
6	C-10 (SH.1)	2	B	16	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.5.4.4			
7	H-5 (SH.1)	1	AC	14	CK	SA	C	FC	CS	8.1.11.7	FF	CS-04	
								LP	2Y	8.5.4.8			
8	H-5 (SH.1)	1	A	14	GA	MO	C	FE	CS	8.1.11.11		CS-09	
								ST	CS	8.1.11.11	O/C	CS-09	
								PI	2Y	8.5.4.8			
								LJ	2Y	8.7.1.5		RV-28	
								LP	2Y	8.5.4.8			
9	H-6 (SH.1)	2	B	14	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O		
								PI	2Y	8.5.4.4			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-243 SHEET 1
P&ID: M-244 SHEET 2

SYSTEM: HIGH PRESSURE COOLANT INJECTION (230)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
10	E-6 (SH.1)	2	B	10	GL	MO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
14	F-8 (SH.1)	2	B	4	GL	MO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.5.4.4			
15	D-7 (SH.1)	NC	B	10	GA	MO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
20	D-10 (SH.1)	2	B	16	CK	SA	C	FC	Q	8.5.4.1	FF		
23	D-8 (SH.2)	2	AC	1	RL	SA	C	RT	5Y	8.1.26*			RT Verifies
								LX	RA	8.1.26*			
26	E-5 (SH.1)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
29	K-14 (SH.1)	2	B	1	GL	AO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								FS	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
33	M-1 (SH.1)	2	A	4	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
34	L-2 (SH.1)	2	A	4	GA	MO	O	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-243 SHEET 1
P&ID: M-244 SHEET 2

SYSTEM: HIGH PRESSURE COOLANT INJECTION (2301)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
34	K-5 (SH.1)	2	C	2	CK	SA	C	PC	Q	8.5.4.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.I.27*	Closed		Exercise
35	E-9 (SH.1)	2	B	16	GA	MO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.5.4.4			
36	M-5 (SH.1)	2	B	16	GA	MO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	O/C		
								PI	2Y	8.5.4.4			
39	M-6 (SH.1)	2	C	16	CK	SA	C	FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.I.27*	Closed		Exercise
40	K-5 (SH.1)	2	C	4	CK	SA	C	PC	Q	8.5.4.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.I.27*	Closed		Exercise
45	J-4 (SH.1)	2	AC	20	CK	SA	C	FC	Q	8.5.4.1	FF		
								LJ	2Y	8.7.1.5*		RV-28	
53	J-10 (SH.2)	3	AC	1	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
64	L-9 (SH.2)	3	B	1	GA	AO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4*	O/C		
								FS	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			
68	K-11 (SH.1)	2	D	16	RD	SA	C	RD	NA	NA			Non-Testable
69	K-12 (SH.1)	NC	D	16	RD	SA	C	RD	NA	NA			Non-Testable
74	J-3 (SH.1)	2	AC	20	SC	SA	C/LO	FC	Q	8.5.4.1	FF		
								LJ	2Y	8.7.1.5*		RV-28	
75	K-8 (SH.2)	2	C	4	CK	SA	C	FC	Q	8.5.4.1	FF		
76	L-8 (SH.2)	2	C	2	CX	SA	C	PC	Q	8.5.4.1*	FF		
								FC	CS	8.I.11.18	FF	CS-16	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-243 SHEET 1
P&ID: M-244 SHEET 2

SYSTEM: HIGH PRESSURE COOLANT INJECTION (2301)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
216	H-9 (SH.2)	2	C	2	CK	SA	C	PC	Q	8.5.4.1*	FF		
								FC	RO	8.1.27*	FF	RV-27	Disassemble To Exercise
								AP	RO	8.1.27*	Closed		
217	K-4 (SH.1)	2	C	2	CK	SA	C	PC	Q	8.5.4.1*	FF		
								FC	RO	8.1.27*	FF	RV-27	Disassemble To Exercise
								AP	RO	8.1.27*	Closed		
218	J-3 (SH.1)	2	AC	1	CK	SA	C	FC	CS	8.1.11.8*	FF	CS-15	
								LJ	2Y	8.7.1.5			
220	F-5 (SH.1)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
232	M-1 (SH.1)	2	C	3	CK	SA	C	FC	CS	8.1.11.8*	FF	CS-07	
								AP	RO	8.1.11.8*	Closed		
233	M-1 (SH.1)	2	C	3	CK	SA	C	FC	CS	8.1.11.8*	FF	CS-07	
								AP	RO	8.1.11.8*	Closed		
9068A	J-2 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.5.4.4			
								ST	Q	NA		RV-25	
								FS	Q	8.5.4.4	C		
								LJ	2Y	8.7.1.5*			
9068B	J-2 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.5.4.4			
								ST	Q	NA		RV-25	
								FS	Q	8.5.4.4	C		
								LJ	2Y	8.7.1.5*			
9312	K-10 (SH.1)	2	B	1	GL	AO	C	FE	Q	8.5.4.4*			
								ST	Q	8.5.4.4*	C		
								FS	Q	8.5.4.4*	C		
								PI	2Y	8.5.4.4*			
9313	K-10 (SH.1)	2	B	1	GL	AO	C	FE	Q	8.5.4.4			
								ST	Q	8.5.4.4	C		
								FS	Q	8.5.4.4	C		
								PI	2Y	8.5.4.4			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-245 SHEET 1
P&ID: M-246 SHEET 2

SYSTEM: REACTOR CORE COOLING SYSTEM (1301)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
1	E-12 (SH.2)	2	B	2	GA	SO	O	FE	Q	8.5.5.1*			
								ST	Q	8.5.5.1*	C	RV-04	
								FS	Q	8.5.5.1*	C		Closed
								PI	2Y	8.5.5.1*			
2	E-11 (SH.2)	2	NA	2	GV	HO	O	FE	Q	8.5.5.1*			Gov. Valve -
								ST	Q	NA		RV-16	FE,ST NRC Aug-
								FS	Q	8.5.5.1*	O		mented Req'mt
								PI	2Y	8.5.5.1*			
9	E-10 (SH.2)	2	D	8	RD	SA	C	RD	NA	NA			Non-Testable
12	L-7 (SH.2)	3	B	1	GL	AO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	C		
								FS	Q	8.5.5.4	C		
								PI	2Y	8.5.5.4			
15A	B-6 (SH.1)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
15B	B-6 (SH.1)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
16	C-6 (SH.1)	1	A	3	GA	MO	O	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
17	C-7 (SH.1)	1	A	3	GA	MO	O	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-245 SHEET 1
P&ID: M-246 SHEET 2

SYSTEM: REACTOR CORE COOLING SYSTEM (1301)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
22	D-11 (SH.1)	2	B	6	GA	MO	O	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.5.5.4			
23	D-11 (SH.1)	2	C	6	CK	SA	C	FC	Q	8.5.5.1*	FF		
25	L-8 (SH.1)	2	B	6	GA	MO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.5.5.4			
26	D-10 (SH.1)	2	B	6	GA	MO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.5.5.4			
27	L-9 (SH.1)	2	C	6	CK	SA	C	FC	RO	8.I.27*	FF	RV-27	Disassemble To Exercise
								AP	RO	8.I.27*	Closed		
31	C-8 (SH.2)	2	AC	2	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
34	K-13 (SH.1)	2	B	1	GL	AO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	C		
								FS	Q	8.5.5.4	C		
								PI	2Y	8.5.5.4			
40	J-9 (SH.1)	2	AC	2	CK	SA	C	PC	Q	8.5.5.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To Exercise
								LX	2Y	8.7.1.12*			
41	J-6 (SH.1)	2	AC	8	CK	SA	C	FC	Q	8.5.5.1*	FF		
								LX	2Y	8.7.1.12*			
42	J-8 (SH.2)	3	AC	1	RL	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
47	H-8 (SH.1)	2	AC	2	CK	SA	C	PC	Q	8.5.5.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To Exercise
								LX	2Y	8.7.1.12*			
48	E-8 (SH.1)	2	B	4	GA	MO	O	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.5.5.7			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-245 SHEET 1 **SYSTEM: REACTOR CORE COOLING SYSTEM (1301)**
P&ID: M-246 SHEET 2

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
49	E-7 (SH.1)	1	A	4	GA	MO	C	FE	CS	8.I.11.11		CS-09	
								ST	CS	8.I.11.11	O/C	CS-09	
								PI	2Y	8.5.5.7			
								LJ	2Y	8.7.1.5			
								LP	2Y	8.5.5.7			
50	E-7 (SH.1)	1	AC	4	CK	SA	C	FC	CS	8.I.11.9	FF	CS-04	
								LP	2Y	8.5.5.7			
53	D-8 (SH.1)	2	B	4	GL	MO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	C		
								PI	2Y	8.5.5.4			
59	**J-7 (SH.1)**	**2**	**C**	**2**	**CK**	**SA**	**C**	**PC**	**Q**	**8.5.5.1***	**FF**		
								FC	**RO**	**8.I.27***	**FF**	**RV-27**	**Disassemble To Exercise**
								AP	**RO**	**8.I.27***	**Closed**		
60	H-8 (SH.1)	2	B	2	GL	MO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4	O/C		
								PI	2Y	8.5.5.4			
61	E-13 (SH.2)	2	B	3	GA	MO	C	FE	Q	8.5.5.1			**Also 8.5.5.4**
								ST	Q	8.5.5.1*	**O/C**		**Also 8.5.5.4**
								PI	2Y	8.5.5.4			
62	J-7 (SH.2)	2	B	2	GL	MO	C	FE	Q	8.5.5.4			
								ST	Q	8.5.5.4*	**O/C**		
								PI	2Y	8.5.5.4			
63	K-6 (SH.2)	**2**	C	2	CK	SA	C	**PC**	Q	8.5.5.1*	FF		
								FC	**RO**	**8.I.27***	**FF**	**RV-27**	**Disassemble To Exercise**
								AP	**RO**	**8.I.27***	**Closed**		
64	J-6 (SH.1)	2	AC	8	**SC**	SA	**LO/C**	FC	Q	8.5.5.1*	FF		
								LX	2Y	8.7.1.12			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-245 SHEET 1 **SYSTEM: REACTOR CORE COOLING SYSTEM (1301)**
P&ID: M-246 SHEET 2

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
70	J-12 (SH.2)	3	AC	1.5	RL	SA	C	RT	5Y	8.I.26*			
								LX	MA	8.I.26*			RT Verifies
89	J-10 (SH.2)	3	C	1	CK	SA	C	FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.I.27*	Closed		Exercise
90	K-11 (SH.2)	3	C	1	CK	SA	C	PC	Q	8.5.5.1*	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.I.27*	Closed		Exercise
9067	H-6 (SH.1)	2	C	1	SK	SA	C	FC	CS	8.I.11.10	FF	CS-11	
								AP	RO	8.5.5.1*	Closed		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-247

SYSTEM: REACTOR WATER CLEANUP SYSTEM (1201)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PTPS Proc. Number	Test Direction	Relief Request	Notes
2	C-2	1	A	6	GA	MO	O	FE	Q	8.6.5.2			
								ST	Q	8.6.5.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5	C-3	1	A	6	GA	MO	O	FE	Q	8.6.5.2			
								ST	Q	8.6.5.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
80	B-9	1	A	4	GL	MO	O	FE	Q	8.6.5.2			
								ST	Q	8.6.5.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
81	B-4	1	C	4	CK	SA	O	FC	RO	8.I.21	RF	RV-21	
85	C-2	1	B	6	GA	MO	O	FE	Q	8.6.5.2			
								ST	Q	8.6.5.2	C		
								PI	2Y	8.6.5.2			
360	C-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
361	D-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-249

SYSTEM: STANDBY LIQUID CONTROL SYSTEM (1101)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actualtor Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
1	J-2	1	NA	1.5	GA	MA	LO	MA	MA	MA			Exempt (Manual)
								PI	2Y	8.7.1.5			
15	J-2	1	C	1.5	CK	SA	C	FC	RO	8.4.6	FF	RV-03	
16	H-1	1	AC	1.5	CK	SA	C	FC	RO	8.4.6	FF	RV-03	
								LJ	2Y	8.7.1.5			
43A	E-4	2	AC	1.5	CK	SA	C	FC	Q	8.4.1*	FF		
								LX	2Y	8.4.2.1*			
43B	F-4	2	AC	1.5	CK	SA	C	FC	Q	8.4.1*	FF		
								LX	2Y	8.4.2.1*			
1105A	D-4	2	C	1	RL	SA	C	RT	5Y	8.1.26*			
1105B	H-4	2	C	1	RL	SA	C	RT	5Y	8.1.26*			
1106-A	E-2	2	D	1.5	SH	EP	C	EX	10Y	8.4.6			
1106-B	E-2	2	D	1.5	SH	EP	C	EX	10Y	8.4.6			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-250 SHEET 1 of 2
P&ID: M-250 SHEET 2 of 2

SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM (302)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
21A	G-3 (SH.2)	2	B	1	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
21B	G-7 (SH.2)	2	B	1	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
22A	D-4 (SH.2)	2	B	2	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
22B	D-7 (SH.2)	2	B	2	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
23A	G-3 (SH.2)	2	B	1	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
23B	G-7 (SH.2)	2	B	1	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-250 SHEET 1 of 2
P&ID: M-250 SHEET 2 of 2

SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM (302)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
24A	D-4 (SH.2)	2	B	2	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
24B	D-7 (SH.2)	2	B	2	PG	AO	O	FE	Q	8.3.3			
								ST	Q	8.3.3	O		
								ST	RO	8.M.1-31*	C	RV-26	
								FS	Q	8.3.3	C		
								PI	2Y	8.3.3			
114 (HCU)	A-18 (SH.1)	2	C	0.5	CK	SA	C	FC	RO	9.9*	FF	RV-09	
115 (HCU)	C-19 (SH.1)	2	C	0.5	CK	SA	C	FC	RO	9.9*	FF	RV-09	
								AP	RO	8.I.25*	Closed		
120 (HCU)	B-18 (SH.1)	2	B	0.5	ND	SO	C	FE	Q	8.3.2		RV-17	
								ST	Q	NA		RV-17	
								FS	Q	8.3.2	C	RV-17	
121 (HCU)	B-18 (SH.1)	2	B	0.5	ND	SO	C	FE	Q	8.3.2		RV-17	
								ST	Q	NA		RV-17	
								FS	Q	8.3.2	C	RV-17	
122 (HCU)	B-17 (SH.1)	2	B	0.5	ND	SO	C	FE	Q	8.3.2		RV-17	
								ST	Q	NA		RV-17	
								FS	Q	8.3.2	C	RV-17	
123 (HCU)	B-17 (SH.1)	2	B	0.5	ND	SO	C	FE	Q	8.3.2		RV-17	
								ST	Q	NA		RV-17	
								FS	Q	8.3.2	C	RV-17	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-250 SHEET 1 of 2
P&ID: M-250 SHEET 2 of 2

SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM (302)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
126 (HCU)	B-17 (SH.1)	2	B	1	PG	AO	C	FE	RO	9.9*		RV-09	
								ST	RO	NA		RV-09	
								FS	RO	9.9*	O	RV-09	
								PI	2Y	9.9*			
127 (HCU)	A-17 (SH.1)	2	B	0.5	PG	AO	C	FE	RO	9.9*		RV-09	
								ST	RO	NA		RV-09	
								FS	RO	9.9*	O	RV-09	
								PI	2Y	9.9*			
132 (HCU)	C-18 (SH.1)	2	D	0.5	RD	SA	C	RD	NA	NA			Non-Testable
138 (HCU)	C-16 (SH.1)	2	C	0.5	CK	SA	O	FC	Q	8.3.2	RF	RV-10	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-251

SYSTEM: RECIRC. PUMP INSTRUMENTATION (262)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PTPS Proc. Number	Test Direction	Relief Request	Notes
2-5A	D-1	2	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-5B	D-1	2	AC	1	SK	SA	C	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-6A	D-1	2	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-6B	D-1	2	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
F013A	C-2	2	AC	0.75	CK	SA	O	FC	RO	8.7.1.5	RF	RV-13	
								LJ	2Y	8.7.1.5			
F013B	C-2	2	AC	0.75	CK	SA	O	FC	RO	8.7.1.5	RF	RV-13	
								LJ	2Y	8.7.1.5			
F017A	C-1	2	AC	0.75	CK	SA	O	FC	RO	8.7.1.5	RF	RV-13	
								LJ	2Y	8.7.1.5			
F017B	C-1	2	AC	0.75	CK	SA	O	FC	RO	8.7.1.5	RF	RV-13	
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: FEEDWATER SYSTEM (6)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
58A	E-4	1	AC	18	CK	SA	O	FC	RO	8.7.1.5	RF	RV-12	
								AP	RO	9.3 *	Open		
								LJ	2Y	8.7.1.5		RV-28	
58B	F-4	1	AC	18	CK	SA	O	FC	RO	8.7.1.5	RF	RV-12	
								AP	RO	9.3 *	Open		
								LJ	2Y	8.7.1.5		RV-28	
62A	E-3	1	AC	18	CK	SA	O	FC	RO	8.7.1.5	RF	RV-12	
								AP	RO	9.3 *	Open		
								LJ	2Y	8.7.1.5		RV-28	
62B	F-3	1	AC	18	CK	SA	O	FC	RO	8.7.1.5	RF	RV-12	
								AP	RO	9.3 *	Open		
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: REACTOR RECIRCULATION SYSTEM (202)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
4A	L-5	1	NA	28	GA	MO	0	NA	NA	NA			Passive
								PI	2Y	8.I.11.1			
4B	M-6	1	NA	28	GA	MO	0	NA	NA	NA			Passive
								PI	2Y	8.I.11.2			
5A	L-8	1	B	28	GA	MO	0	FE	CS	8.I.11.1		CS-05	Note 1
								ST	CS	8.I.11.1	C	CS-05	Note 1
								PI	2Y	8.I.11.1			
5B	M-6	1	B	28	GA	MO	0	FE	CS	8.I.11.2		CS-05	Note 1
								ST	CS	8.I.11.2	C	CS-05	Note 1
								PI	2Y	8.I.11.2			

NOTES: 1. When core flow from recirculation pump operation is not required

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: MAIN STEAM ISOL., ADS & SAFETY RELIEF (203)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
1A	C-9	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
1B	E-9	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
1C	F-7	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
1D	F-7	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
2A	C-11	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: MAIN STEAM ISOL., ADS & SAFETY RELIEF (203)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
2B	E-9	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
2C	F-7	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
2D	F-7	1	A	20	GL	AO	O	FE	Q	8.7.4.4			
								ST	Q	8.7.4.4	C		
								FS	Q	8.7.4.4	C		
								PI	2Y	8.7.1.6			
								LJ	2Y	8.7.1.6		RV-28	
3A	C-7	1	AC	6	RL/SV	AO/SA	C	FE	RO	8.5.6.2		RV-11	
								ST	RO	NA		RV-11	
								FS	RO	8.5.6.2	C	RV-11	
								PI	2Y	8.5.6.2*			
								RT	5Y	8.1.26*			
								LX	NA	8.1.26*			RT Verifies
3B	F-7	1	AC	6	RL/SV	AO/SA	C	FE	RO	8.5.6.2		RV-11	
								ST	RO	NA		RV-11	
								FS	RO	8.5.6.2	C	RV-11	
								PI	2Y	8.5.6.2*			
								RT	5Y	8.1.26*			
								LX	NA	8.1.26*			RT Verifies

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: MAIN STEAM ISOL., ADS & SAFETY RELIEF (203)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
3C	F-7	1	AC	6	RL/SV	AO/SA	C	FE	RO	8.5.6.2		RV-11	
								ST	RO	NA		RV-11	
								FS	RO	8.5.6.2	C	RV-11	
								PI	2Y	8.5.6.2*			
								RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
3D	E-9	1	AC	6	RL/SV	AO/SA	C	FE	RO	8.5.6.2		RV-11	
								ST	RO	NA		RV-11	
								FS	RO	8.5.6.2	C	RV-11	
								PI	2Y	8.5.6.2*			
								RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4A	E-8	1	AC	6	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4B	E-7	1	AC	6	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: NUCLEAR BOILER SYSTEM (220)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
1	C-9	1	A	3	GA	MO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
2	C-11	1	A	3	GA	MO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
44	K-4	1	A	1	GA	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
45	K-3	1	A	1	GL	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
46	B-4	1	B	1	GL	AO	C	FE	CS	8.I.11.11		CS-06	
								ST	CS	8.I.11.11	C	CS-06	
								FS	CS	8.I.11.11	C	CS-06	
								PI	2Y	8.I.11.11			
47	B-5	1	B	1	GL	AO	C	FE	CS	8.I.11.11		CS-06	
								ST	CS	8.I.11.11	C	CS-06	
								FS	CS	8.I.11.11	C	CS-06	
								PI	2Y	8.I.11.11			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: COMPRESSED AIR (31)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PTPS Proc. Number	Test Direction	Relief Request	Notes
84A	B-9	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
84B	E-10	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
84C	E-11	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
84D	E-11	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
85A	B-11	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
85B	E-10	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
85C	E-11	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
85D	E-11	3	C	1	CK	SA	C	FC	Q	8.7.4.4*	FF	RV-18	
								AP	RO	8.7.1.14*	Closed		
372A	C-7	3	AC	1	CK	SA	C	FC	CS	8.I.11.15	FF	CS-13	
								LX	2Y	8.7.1.10*		RV-30	
372B	E-10	3	AC	1	CK	SA	C	FC	CS	8.I.11.15	FF	CS-13	
								LX	2Y	8.7.1.10*		RV-30	
372C	E-11	3	AC	1	CK	SA	C	FC	CS	8.I.11.15	FF	CS-13	
								LX	2Y	8.7.1.10*		RV-30	
372D	E-11	3	AC	1	CK	SA	C	FC	CS	8.I.11.15	FF	CS-13	
								LX	2Y	8.7.1.10*		RV-30	
373A	B-7	3	A	3/4	GL	MA	C	FE	MA	MA			Passive (Manual)
								LX	2Y	8.7.1.10*		RV-30	
373B	E-9	3	A	3/4	GL	MA	C	FE	MA	MA			Passive (Manual)
								LX	2Y	8.7.1.10*		RV-30	
373C	F-7	3	A	3/4	GL	MA	C	FE	MA	MA			Passive (Manual)
								LX	2Y	8.7.1.10*		RV-30	
373D	F-8	3	A	3/4	GL	MA	C	FE	MA	MA			Passive (Manual)
								LX	2Y	8.7.1.10*		RV-30	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252

SYSTEM: COMPRESSED AIR (31)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
9084A	C-7	3	AC	1	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
9084B	E-9	3	AC	1	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
9084C	E-9	3	AC	1	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
9084D	F-9	3	AC	1	SV	SA	C	RT	5Y	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
9085A	B-9	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085B	B-9	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085C	B-9	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085D	B-9	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085E	B-12	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085F	B-12	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085G	B-12	3	C	1	SV	SA	C	RT	5Y	8.I.26*			
9085H	B-12	3	C	1	SV	SA	C	RT	5Y	8.I.26*			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252 **SYSTEM: NUCLEAR BOILER (261)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
17A	D-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
17B	E-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
17C	D-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
17D	E-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
18A	D-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
18B	E-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
18C	D-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
18D	E-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
19A	K-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
19B	J-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
20A	K-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
20B	J-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252 SYSTEM: NUCLEAR BOILER (261)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
21A	K-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
21B	L-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
22A	K-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
22B	L-11	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67A	E-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67B	E-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67C	E-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67D	E-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67E	D-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67F	D-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67G	D-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67H	D-3	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252 **SYSTEM: NUCLEAR BOILER (261)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
89A	L-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
89B	M-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
110A	M-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
110B	J-11	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
139	M-3	1	AC	1	SK	SA	O	FC	RO	8.M.3-2*	RF	RV-22	PDC: 96-008
								AP	RO	8.M.3-2*	Open		Currently
								LX	RO	8.M.3-2*		RV-22	Inoperative

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-252 **SYSTEM: NUCLEAR BOILER (261)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
96A	L-10	NC	C	1	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
96B	L-10	NC	C	1	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
96C	L-10	NC	C	1	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
97A	B-8	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
97B	F-8	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
97C	F-8	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
97D	E-9	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
98A	D-7	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
98B	F-9	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
98C	F-9	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		
98D	E-10	NC	C	10	CK	SA	C	FC	CS	8.I.11.12	FF	CS-12	
								AP	RO	8.I.11.12*	Closed		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-253 SHEET 1 of 2
P&ID: M-253 SHEET 2 of 2

SYSTEM: NUCLEAR BOILER VESSEL INSTRUMENTATION (263)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
2-15A	F-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-15B	F-3 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-17A	E-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-17B	E-3 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-19A	E-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-19B	E-3 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-20A	E-6 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-20B	D-6 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-23A	E-6 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-23B	E-6 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-25	C-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-253 SHEET 1 of 2
P&ID: M-253 SHEET 2 of 2

SYSTEM: NUCLEAR BOILER VESSEL INSTRUMENTATION (263)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
2-27	C-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-31A	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-31B	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-33	D-4 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-37	E-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-42A	D-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-42B	D-3 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-125A	F-6 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
2-125B	F-3 (SH.1)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
51	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
53	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-253 SHEET 1 of 2
P&ID: M-253 SHEET 2 of 2

SYSTEM: NUCLEAR BOILER VESSEL INSTRUMENTATION (263)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
55	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
57	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
59	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
61	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
63	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
65	B-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
67	A-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
69	A-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
71	A-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
73	A-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
75	A-7 (SH.2)	1	AC	1	SK	SA	0	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-253 SHEET 1 of 2
P&ID: M-253 SHEET 2 of 2

SYSTEM: NUCLEAR BOILER VESSEL INSTRUMENTATION (263)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
77	A-7 (SH.2)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
79	E-4 (SH.2)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
81	E-4 (SH.2)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
83	E-6 (SH.1)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
90	E-4 (SH.2)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	
92	D-4 (SH.2)	1	AC	1	SK	SA	O	FC	RO	8.M.3-2	RF	RV-22	
								AP	RO	8.M.3-2	Open		
								LX	RO	8.M.3-2		RV-22	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-259

SYSTEM: DIESEL GENERATOR TURBO AIR ASSIST SYSTEM (47)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
201A	G-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
201B	C-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
201C	E-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
203A	F-7	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
203B	B-7	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
203C	E-6	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
301A	C-4	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
301B	G-4	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
301C	E-4	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
303A	C-3	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
303B	F-3	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
303C	E-3	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-259

SYSTEM: DIESEL GENERATOR TURBO AIR ASSIST SYSTEM (47)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
4563A	G-7	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4563B	D-4	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4563C	D-7	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4563D	G-4	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4565A	E-7	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4565B	E-4	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4569A	E-6	NC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4569B	E-2	NC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4570A	F-6	NC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4570B	E-2	NC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: MIQ-1-5 (VENDOR DRAWING) SYSTEM: TRAVERSE INCORE PROBE (45)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
300A		2	A	0.25	BL	SO	C	FE	Q	8.7.4.3			
(Ball A)								ST	Q	8.7.4.3	C	RV-04	
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
300B		2	A	0.25	BL	SO	C	FE	Q	8.7.4.3			
(Ball B)								ST	Q	8.7.4.3	C	RV-04	
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
300C		2	A	0.25	BL	SO	C	FE	Q	8.7.4.3			
(Ball C)								ST	Q	8.7.4.3	C	RV-04	
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
300D		2	A	0.25	BL	SO	C	FE	Q	8.7.4.3			
(Ball D)								ST	Q	8.7.4.3	C	RV-04	
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
N_2 Check		2	AC	0.25	CK	SA	O	FC	RO	8.7.1.5	RF	RV-05	
								LJ	2Y	8.7.1.5			
301A													
(Shear A)		2	D	0.25	SH	EP	Q	EX	10Y	3.M.2-5.6.8*			
301B													
(Shear B)		2	D	0.25	SH	EP	Q	EX	10Y	3.M.2-5.6.8*			
301C													
(Shear C)		2	D	0.25	SH	EP	Q	EX	10Y	3.M.2-5.6.8*			
301D													
(Shear D)		2	D	0.25	SH	EP	Q	EX	10Y	3.M.2-5.6.8*			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-294

SYSTEM: STANDBY GAS TREATMENT SYSTEM (48)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
N99	F-6	2	B	20	BF	AO	C	FE	Q	8.7.2.10*			
								ST	Q	8.7.2.10*	O/C		
								FS	Q	8.7.2.10*	O		
								PI	ZY	8.7.2.10*			
N106	D-6	2	B	20	BF	AO	C	FE	Q	8.7.2.10*			
								ST	Q	8.7.2.10*	O/C		
								FS	Q	8.7.2.10*	C		
								PI	ZY	8.7.2.10*			
N108	F-2	2	B	20	BF	AO	C	FE	Q	8.7.2.10*			
								ST	Q	8.7.2.10*	O/C		
								FS	Q	8.7.2.10*	O		
								PI	ZY	8.7.2.10*			
N112	D-2	2	B	20	BF	AO	C	FE	Q	8.7.2.10*			
								ST	Q	8.7.2.10*	O/C		
								FS	Q	8.7.2.10*	C		
								PI	ZY	8.7.2.10*			
8180	E-2	2	D	8	RD	SA	C	RD	NA	NA			Non-Testable

[9] **COLD SHUTDOWN JUSTIFICATION CS-09**

SYSTEMS: Residual Heat Removal System (1001)
Core Spray System (1400)
High Pressure Coolant Injection System (2301)
Reactor Core Isolation Cooling System (1301)

VALVES: 1001-29A, 1001-29B, 1400-25A, 1400-25B, 2301-8, 1301-49

CATEGORY: A

CLASS: 1

FUNCTION: These valves provide pressure isolation from the high pressure reactor coolant system.

TEST REQUIREMENTS: IWV-3411; Test Frequency - Exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: These pressure isolation motor operated valves maintain one of the two high to low pressure barriers during plant operation. **The other pressure isolation barrier is a check valve.** To exercise these valves during plant operation **results in** a loss of one isolation barrier. Exercising these motor operated valves quarterly with the Reactor Vessel at pressure significantly increases the occurrence probabilities of an intersystem loss of coolant accident.

ALTERNATE TESTING: Exercise valves during cold shutdown.

[10] COLD SHUTDOWN JUSTIFICATION CS-10

SYSTEM: Residual Heat Removal System (1001)

VALVE: 64

CATEGORY: AC

CLASS: 1

FUNCTION: This valve provides pressure isolation and a flowpath for head spray (RHR) and fire water emergency source water.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: This normally closed check valve provides reactor coolant pressure isolation to protect against overpressurization and an increased occurrence of an intersystem loss of coolant accident. Also, the head spray line motor operator valve receives a reactor high pressure isolation signal (less than 100 psig) isolating the head spray flowpath. This check valve will be forward flow exercised to verify the open direction during cold shutdown.

ALTERNATE TESTING: Exercise valve during cold shutdown ('A' RHR loop shutdown cooling) not to exceed refueling outage.

[11] **COLD SHUTDOWN JUSTIFICATION CS-11**

SYSTEM: Reactor Core Isolation Cooling System (1301)

VALVE: 9067

CATEGORY: C

CLASS: 2

FUNCTION: This valve provides a vent path to relieve a vacuum created within the RCIC exhaust line after turbine operation.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months.

BASIS FOR JUSTIFICATION: The RCIC **turbine line** exhaust vacuum breaker check valve shall be forward flow exercised. This normally closed check valve is verified in the open direction by **performing a test that ensures** unrestricted flow. **Performance of this test at power would require isolation of the RCIC turbine for safety reasons. This will make RCIC inoperable during preparation, testing and restoration of this system.** Exercising **is** to be performed during cold shutdown.

ALTERNATE TESTING: Exercise valve during cold shutdown.

[12] COLD SHUTDOWN JUSTIFICATION CS-12

SYSTEM: Nuclear Boiler - SRV Vacuum Relief (261)

VALVES: 96A, 96B, 96C, 97A, 97B, 97C, 97D, 98A, 98B, 98C, 98D

CATEGORY: C

CLASS: NC

FUNCTION: Vacuum breakers ensure that pressure is equalized for the main steam safety relief discharge lines.

TEST REQUIREMENT: IMV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: The SRV suppression pool discharge vacuum breakers provide a means for relieving the vacuum developed in the discharge lines caused by condensing steam. The vacuum breakers are located in the drywell (primary containment) and are normally closed. During power operation, the inerted drywell environment is unsuitable for manned entry due to atmosphere and high temperature. The forward flow exercising of these valves can only be verified manually. This method of exercising during power operation would have adverse safety and ALARA concerns. Exercising will be performed during cold shutdown when the drywell is deinerted.

ALTERNATE TESTING: Exercise valves during cold shutdown (when drywell is deinerted) not to exceed a refueling outage.

[13] **COLD SHUTDOWN JUSTIFICATION CS-13**

SYSTEM: Nuclear Boiler - Compressed Air (31)

VALVES: 372A, 372B, 372C, 372D

CATEGORY: AC

CLASS: NC

FUNCTION: These valves provide isolation and allow recharging of the ADS air accumulators.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: These check valves with their associated air accumulators are located in the drywell (primary containment) and are not accessible during normal plant operations. Check Valve forward flow exercising will be accomplished by bleeding air through the air accumulators. Therefore, exercising of these check valves will be performed during cold shutdown when the drywell is deinerted.

ALTERNATE TESTING: Exercise valves during cold shutdown (when drywell is deinerted) not to exceed a refueling outage.

[14] **COLD SHUTDOWN JUSTIFICATION CS-14**

SYSTEM: Salt Service Water System (29)

VALVES: 3801, 3805

CATEGORY: B

CLASS: 3

FUNCTION: These valves control cooling water flow from the Turbine Building Closed Cooling Water (TBCCW) heat exchanger, and therefore, the amount of cooling available for TBCCW equipment. The safety function of these valves is to close on LOCA signal in order to direct maximum cooling water flow to the RBCCW heat exchanger.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

BASIS FOR JUSTIFICATION: Since critical power generation equipment such as the turbine lube oil coolers, reactor feed pump coolers and generator hydrogen and stator coolers are serviced by TBCCW, a complete stroke closure of the valves would cause a disruption of cooling in the system. This cooling disruption could lead to power generation equipment damage and possible plant scram from generator protective functions.

ALTERNATE TESTING: Partial stroking of valves quarterly. Exercise valves during cold shutdown.

[15] COLD SHUTDOWN JUSTIFICATION CS-15

SYSTEM: High Pressure Coolant Injection System (2301)

VALVE: 218

CATEGORY: AC

CLASS: 2

FUNCTION: The HPCI exhaust drain pot containment isolation check valve allows a drain path for condensate between the exhaust line check valves.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: The HPCI Exhaust Drain Pot Line Check Valve shall be forward flow exercised. This normally closed check valve is verified in the open direction by isolating a portion of the exhaust drain pot and performing a test that ensures flow through the check valve (thru HPCI Exhaust Drain Pot Level increase). Performance of this test at power would require isolation of the HPCI turbine for safety reasons. This will make HPCI inoperable during preparation, testing and restoration of this system. Exercising is to be performed during cold shutdown.

ALTERNATE TESTING: Exercise during cold shutdown.

[16] COLD SHUTDOWN JUSTIFICATION CS-16

SYSTEM: High Pressure Coolant Injection System (2301)

VALVE: 76

CATEGORY: C

CLASS: 2

FUNCTION: The HPCI Gland Seal Condenser Pump Discharge Check Valve allows a flowpath for condensate from the GSC to the HPCI booster pump suction.

TEST REQUIREMENT: IMV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR JUSTIFICATION: The HPCI GSC Pump Discharge Check Valve shall be forward flow exercised. This normally closed check valve is verified in the open direction during performance of the GSC pump cold shutdown operability test. To establish a temporary hydraulic circuit for pump testing, the HPCI System must be made inoperable for an extended period of time (approx. 8 hrs). Exercising is to be performed during cold shutdown.

ALTERNATE TESTING: Exercise during cold shutdown.

6.4 RELIEF REQUESTS

Valve Relief Requests (RV) are provided for conditions in which compliance to ASME Code, Section XI, Subsection IWV, test requirements can not be satisfied. Each Relief Request identifies: Valve(s) involved, test requirement(s) of non-compliance, basis for relief and alternate testing.

[1] RELIEF REQUEST RV-01

SYSTEM: Reactor Building Closed Cooling Water System (30)

VALVE: 432

CATEGORY: AC

CLASS: 2

FUNCTION: This valve provides isolation to drywell components by RBCCW. The components would require isolation for primary containment criteria and maintenance.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: This check valve is the outboard primary containment isolation valve for a system considered inservice during plant operation. The normally open check valve requires a reverse flow exercise. Leak testing (per 10CFR50, Appendix J) ensures valve exercising in the closed direction.

ALTERNATE TESTING: Exercise valve at least once every two years.

[2] RELIEF REQUEST RV-02

SYSTEM: Compressed Air System (31)

VALVE: 167

CATEGORY: AC

CLASS: 2

FUNCTION: This valve is the nitrogen/instrument air to drywell inboard isolation valve for primary containment isolation.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: This check valve is the inboard primary containment isolation valve for a system considered inservice during plant operation. The normally open check valve requires a reverse flow exercise. Leak testing (per 10CFR50, Appendix J) ensures valve exercising in the closed direction.

ALTERNATE TESTING: Exercise valve at least once every two years.

[3] RELIEF REQUEST RV-03

SYSTEM: Containment Atmosphere Control System (45)

VALVES:

X-201A	X-201E	X-201J
X-201B	X-201F	X-201K
X-201C	X-201G	
X-201D	X-201H	

CATEGORY: AC

CLASS: 2

FUNCTION: These valves are the pressure suppression chamber to drywell vacuum breaker valves which equalize the pressure between the two volumes when the suppression chamber pressure exceeds the drywell pressure.

TEST REQUIREMENTS: IWV-3420; Valve Leak Rate Test.

IWV-3300: Valve Position Indicator Verification, valve with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.

BASIS FOR RELIEF: A specific maximum leakage per valve is not applicable to the vacuum breaker valve testing. A **gross leakage (go/no go)** pressure decay test is performed on the pressure suppression chamber atmosphere in accordance with PNPS Technical Specification on a quarterly basis. The **IWV-3420** valve leak rate test requirements shall be verified by a pressure decay test **which identifies a specific leakage rate from the Drywell to** the pressure suppression chamber atmosphere in accordance with PNPS Technical Specification on a refueling outage basis.

These vacuum breakers are located inside the suppression chamber and have a unique design which allows remote exercising using a testable pneumatic actuator. Their design includes a position indicator and annunciator circuitry to verify that the disk moves freely off the seat. Each refueling outage these vacuum breakers are manually exercised and visually checked. At this time, the position indication is verified. Single personnel access (Drywell/Torus Deinerting) must be available for performance of these test requirements. The position indicator verification shall be scheduled in conjunction to minimize safety hazards and ALARA.

ALTERNATE TESTING: Valve leak rate test requirements shall be demonstrated in accordance with PNPS Technical Specification. **Valve position indication verification shall be performed each refueling outage.**

[4] RELIEF REQUEST RV-04

SYSTEMS: All Applicable

VALVES: All Applicable

CATEGORIES: A,B

CLASSES: All Applicable

FUNCTION: Not Applicable

TEST REQUIREMENT: IWV-3417(a) Corrective Action

BASIS FOR RELIEF: Valves designed to be rapid acting have extremely short stroke times. Since these valves stroke fast it is difficult to time them accurately and any deviation in trended time could be due to reaction time of the individual performing the testing rather than any change in the valve's performance. Because of the rapid action of these valves, a two (2) second acceptance limit will be used **and stroke times will not be recorded and trended. Valves exceeding the 2 second limit will be declared inoperable.**

ALTERNATE TESTING: Verify that all valves **classified as rapid acting** have **stroke times** of less than two (2) seconds. No stroke time recording or trending will be performed.

[5] RELIEF REQUEST RV-05

SYSTEM: Transverse Incore Probe System (45)

VALVE: N_2 Purge Supply Check

CATEGORY: AC

CLASS: 2

FUNCTION: This valve serves as the outboard primary containment isolation valve for the TIP purge system.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: This check valve is the primary containment isolation valve for a system considered inservice during plant operation. The normally open check valve requires a reverse flow exercise. Leak testing (per 10CFR50, Appendix J) ensures valve exercising in the closed direction.

ALTERNATE TESTING: Exercise valve at least once every two years.

[6] RELIEF REQUEST RV-06

SYSTEM: Core Spray System (1400)

VALVES: 9A, 9B

CATEGORY: AC

CLASS: 1

FUNCTION: These valves are the Core Spray Injection Pressure Isolation Check Valves.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: Testing these valves during normal operation would require injecting cold water into the reactor vessel using the Core Spray system. This would result in both a reactivity excursion and thermal shock to the Reactor Vessel and Spray Sparger. Testing these valves during cold shutdown could cause a thermal shock to the reactor vessel when the vessel metal temperature is greater than 212°F.

The suppression pool is the Core Spray System's water source. Injection of suppression pool water into the reactor vessel during cold shutdown results in exceeding the EPRI Water Chemistry Guidelines which PNPS has adopted to preclude the initiation and propagation of intergranular stress corrosion cracking in reactor coolant stainless steel components. The chemistry of the suppression pool water (typical conductivity of 4-5 umho/cm) does not meet the chemical requirements of the reactor coolant (typical conductivity of 0.15-0.3 umho/cm). Restart of the reactor is not permitted until the reactor coolant water chemistry is within the EPRI Guidelines.

In addition, the amount of water that is injected into the vessel during the test of only one of the core spray injection check valve results in significant vessel level increase and may cause a vessel isolation. This would extend the length of a shutdown since the only means of water removal from the reactor is via the reactor water cleanup system line to the condenser.

The forward flow exercise of the injection check valves will require reactor vessel level control out of the normal parameter and a bleed and feed of the core spray system to improve water quality prior to testing.

ALTERNATE TESTING: Exercise valves during refueling outages.

[7] RELIEF REQUEST RV-07

SYSTEM: High Pressure Coolant Injection System (2301)

VALVE: 24 (formerly HO-2)

CATEGORY: B

CLASS: 2

FUNCTION: The High Pressure Coolant Injection **(HPCI)** Turbine Throttle Valve regulates steam to the HPCI turbine in response to changes in the HPCI Pump Flowrate and ramp generator signals.

TEST REQUIREMENT: IWV-3413; Power operated valves - full stroke time.

BASIS FOR RELIEF: **During a HPCI Turbine Start,** this normally closed throttle valve **opens to a** position **as required to maintain the desired** HPCI Pump Flowrate. The rate of positioning and number of poppets open are dependent upon varying plant parameters. The throttle valve fails in the closed position upon a trip of the HPCI turbine. Therefore, the throttle valve timing is variable and **will** be verified by **acceptable HPCI pump and** operability testing.

ALTERNATE TESTING: HPCI throttle valve stroke timing shall be verified by HPCI system operability (adequate valve response to system demand inputs).

[8] RELIEF REQUEST RV-08

SYSTEM: Standby Liquid Control System (1101)

VALVES: 15, 16

CATEGORIES: C, A/C

CLASS: 1

FUNCTION: These valves are the SLC injection check valves.

TEST REQUIREMENT: IWV-3521; Test frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: To verify forward flow during normal operation **or cold shutdown** would require firing a squib valve and injecting water into the reactor vessel using the SLC pumps. Injecting water during operation could result in adverse plant conditions such as changes in reactivity, power transient, thermal shock induced cracking and possible plant trip. **Injecting water during a cold shutdown can result in cyclical thermal shock-induced cracking as cold water enters the reactor vessel which is at an elevated temperature due to decay heat.**

Injection of the SLC system during cold shutdowns using demineralized water requires a lengthy flushing operation to remove boron from the system. Even after extensive flushing, boron remains present in system dead legs. Some of this boron propagates into the reactor vessel during injection and is difficult to remove from the system. The presence of boron in reactor water impedes the plants ability to achieve criticality for plant startup.

Verify forward flow operability during refueling while performing the standby liquid control system injection test, which requires pumping demineralized water into the reactor vessel **after firing at least one squib valve**.

ALTERNATE TESTING: Exercise valves during **each** refueling outage.

[9] RELIEF REQUEST RV-09

SYSTEM: Control Rod Drive Hydraulic System (302)

VALVES: 114, 115, 126, 127 (typical of 145 each)

CATEGORIES: B, C

CLASS: 2

FUNCTION: **These valves are the CRD Discharge Header Check, Accumulator Supply CHeck, Scram Inlet and Outlet Valves.**

TEST REQUIREMENTS: IWV-3411; Test frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

IWV-3415; Fail safe - at least once every three months.

IWV-3521; Test frequency - exercise at least once every three months.

BASIS FOR RELIEF: These valves (with the exception of the 115) operate **coincidentally** to rapidly insert control rods. Valves will be tested by SCRAM timing control rod drives in accordance with Technical Specification Section 4. This requires testing of **at least 10%** of the drives every **120 days**. Additionally, 100% of the drives are tested **during** each shutdown **that is greater than 120 days in duration**. Timing of the SCRAM function will be substituted for individual valve times.

The Accumulator Supply Check Valves (115) will be verified **as** forward flow exercised by **observing that their respective CRD** accumulator fault lights **clear** following restoration from scram time testing.

ALTERNATE TESTING: SCRAM function timing will be substituted for individual valve exercising.

[10] RELIEF REQUEST RV-10

SYSTEM: Control Rod Drive Hydraulic System (302)

VALVES: 138 (typical of 145)

CATEGORY: C

CLASS: 2

FUNCTION: These valves are the CRD cooling water check valves.

TEST REQUIREMENT: IWV-3521; Test Frequency-exercise at least once every three months.

BASIS FOR RELIEF: Failure of these valves to reverse flow exercise would be identified by applying; 1) a notch-out signal which would result in a CRD double-notch, or 2) a notch-in signal which would result in a CRD non-notch. Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week **in accordance with the Technical Specifications**.

ALTERNATE TESTING: Exercise by meeting **the** surveillance requirements **in** PNPS Technical Specification.

[11] RELIEF REQUEST RV-11

SYSTEM: Nuclear Boiler - Main Steam Isol., ADS & Safety Relief System (203)

VALVES: 3A, 3B, 3C, 3D

CATEGORY: AC

CLASS: 1

FUNCTION: The functions of the reactor relief valves are: (1) open upon receipt of an auto depressurization signal to blow down reactor (2) act as a primary system relief valve which can be manually actuated from the control room, and (3) act automatically to relieve reactor pressure at set point.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

IWV-3415; Fail safe - at least once every three months.

BASIS FOR RELIEF: Relief is requested from the Section XI required testing frequency of once every three months. Exercising these valves during normal operation would cause primary system pressure spikes and reactor power fluctuations which could lead to a reactor scram. These valves are exercised as specified in Technical Specification.

Relief is requested from the stroke timing requirements of Section XI. It is impractical to measure stroke times for relief and solenoid valves since the stroke times are on the order of 100 ms.

After **past** failures of two PNPS relief valves to open during bench testing at an independent laboratory (reported to NRC by LER), extensive failure analysis by metalographic examination was conducted. **The exam resulted in the following outstanding concern:**

> Operating the SRV at low operating pressure (150 psi) probably increases the potential for sticking. This is based on the theory that there is little cushioning effect on the spring force due to reactor system pressure. This allows the disc to slam into the seat fracturing carbides at the surface. This gives corrosion more area (crevices) to adhere to, increasing sticking potential. The exact pressure where this would not occur is not known but 500 psi appears acceptable. The reason the valves are cycled is to insure they operate and are not stuck.

Because of the outstanding finding, PNPS intends to operate the relief valves at the higher reactor pressure between 350 and 500 psi.

ALTERNATE TESTING: Exercise valves during refueling outage (adequate pressure available) with stroke times not being measured. **The response of these valves will be verified by observing their tailpipe acoustic monitor alarms.**

[12] RELIEF REQUEST RV-12

SYSTEM: Nuclear Boiler - Feedwater System (6)

VALVES: 58A, 58B, 62A, 62B

CATEGORY: AC

CLASS: 1

FUNCTION: These valves serve as the feedwater inlet check valves.

TEST REQUIREMENT: IWV-3421; Test Frequency - exercise at least once every three months.

BASIS FOR RELIEF: These check valves are primary containment isolation valves for a system considered inservice during plant operation. The normally open check valve requires a reverse flow exercise. Leak testing (per 10CFR50, Appendix J) ensures valve exercising in the closed direction.

ALTERNATE TESTING: Exercise valves at least once every two years.

[13] RELIEF REQUEST RV-13

SYSTEM: Recirculation Pump Seal Water System (201)

VALVES: 13A, 13B, 17A, 17B

CATEGORY: AC

CLASS: 2

FUNCTION: These valves serve as the recirculation pump seal water inboard and outboard **containment isolation** check valves.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months.

BASIS FOR RELIEF: These check valves are the primary containment isolation valves for a system considered inservice during plant operation **and functionally non-safety related**. These normally open check valves require a reverse flow exercise. Leak testing (per 10CFR50, Appendix J) ensures valve exercising in the closed direction.

ALTERNATE TESTING: Exercise valves at least once every two years.

[14] RELIEF REQUEST RV-14

SYSTEM: Salt Service Water System (29)

VALVES: 3915, 3925

CATEGORY: B

CLASS: 3

FUNCTION: These valves isolate the service water system from the screen wash system when LOCA occurs.

TEST REQUIREMENT: IWV-3412; Power operated valves - full stroke time.

BASIS FOR RELIEF: When the screen wash pumps are turned off, these valves receive a signal to close. There are no position indicator lights to show when the valves have closed after the pumps are tripped, therefore, the stroke times cannot be determined. Proper valve closure is verified by observation of actuator stem position change after the screen wash pumps have tripped.

ALTERNATE TESTING: Valves stroke times shall not be measured.

[15] RELIEF REQUEST RV-15

SYSTEM: Diesel Oil Transfer System (38)

VALVES: 4521, 4522

CATEGORY: B

CLASS: NC

FUNCTION: These valves open automatically upon initiation of the diesel oil transfer pumps to allow oil to flow into the day tank.

TEST REQUIREMENT: IWV-3412; Power operated valves - full stroke time.

BASIS FOR RELIEF: These valves are not equipped with position indicators, therefore, stroke times cannot be obtained. Valve opening is indirectly verified by proper system operation.

ALTERNATE TESTING: Valve stroke times shall not be measured.

[16] RELIEF REQUEST RV-16

SYSTEM: Reactor Core Isolation Cooling System (1301)

VALVES: 2

CATEGORY: B

CLASS: 2

FUNCTION: The Reactor Core Isolation Cooling Turbine **Governor** Valve regulates steam to the RCIC turbine in response to changes in RCIC Pump Flowrate.

TEST REQUIREMENT: IWV-3413; Power operated valves - full stroke time.

BASIS FOR RELIEF: **During a RCIC Turbine start,** this normally **open governor** valve **closes** to a position **as required to maintain** RCIC Pump Flowrate. The rate of movement and valve position are dependent upon varying plant parameters. The **governor** valve fails in the open position upon a trip of the RCIC turbine. Therefore, the **governor** valve timing is variable and **will** be verified by **acceptable** RCIC **pump and system** operability testing.

ALTERNATE TESTING: RCIC **governor** valve stroke timing shall be verified by RCIC system operability (adequate valve response to system demand inputs).

[17] RELIEF REQUEST RV-17

SYSTEM: Control Rod Drive Hydraulic System (302)

VALVES: 120, 121, 122, 123 (Typical of 145)

CATEGORY: B

CLASS: 2

FUNCTION: Direct Control Rod Drive (CRD) for the insertion and withdrawal of control rods.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3413; Power operated valves - Full stroke time.

IWV-3415; Fail safe - at least once every three months.

BASIS FOR RELIEF: The insertion and withdrawal of control rods is accomplished via positioning of these valves. The CRD Units are integrally constructed components. Notching of control rods causes rapid position changes to these valves. The recording of stroke time (e.g., less than tenth of a second) would only be indication of electrical circuitry delay and human response errors. Proper insertion/withdrawal by notching shall verify valve operability.

ALTERNATE TESTING: Verify control rod movement by notching weekly.

[18] RELIEF REQUEST RV-18

SYSTEM: Nuclear Boiler - Compressed Air (31)

VALVES: 84A, 84B, 84C, 84D, 85A, 85B, 85C, 85D

CATEGORY: C

CLASS: NC

FUNCTION: These valves allow charging of the MSIV accumulators.

TEST REQUIREMENT: IWV-3522(b); Normal Close Valves - exercise procedure.

BASIS FOR RELIEF: These check valves are required to supply nitrogen/instrument air to recharge air accumulators during each Main Steam Isolation Valve (MSIV) full-stroke cycle. Failure of a check valve to open (forward flow exercise) would impede the normal opening function of the MSIV. Therefore, proper MSIV full-stroke **exercise** verifies **the respective** air accumulator check valve forward flow exercise.

ALTERNATE TESTING: Verify forward flow exercising by MSIV full-stroke valve cycle testing.

[19] RELIEF REQUEST RV-19

SYSTEMS: Diesel Generator Air Start System (47)
Diesel Generator Turbo Air System (47)

VALVES: 4586A, 4586B, 4587A, 4587B, 4588A, 4588B, 4589A, 4589B
4569A, 4569B, 4570A, 4570B

CATEGORY: B

CLASS: NC

FUNCTION: These air start solenoid valves provide starting air to the emergency diesel generator.

TEST REQUIREMENTS: IWV-3411; Test Frequency - exercise at least once every three months.

IWV-3413; Power operated valves - full stroke time.

IWV-3415; Fail safe - at least once every three months.

BASIS FOR RELIEF: Valve design does not allow for any valve position indication verification. During the Diesel Generator Alternate Air Bank Start monthly surveillance, failure of a valve to perform its open function will result in an increase in the starting time. Also, failure of the valve to close will cause starting air to not secure.

ALTERNATE TESTING: Valves shall be verified operable during monthly diesel generator Technical Specification surveillance testing. The starting time will be monitored and trended to determine valve operability.

[20] RELIEF REQUEST RV-20

SYSTEM: Residual Heat Removal System (1001)
Core Spray System (1400)

VALVES: 1001-362B, 363A
1400-212A, 212B

CATEGORY: C

CLASS: 2

FUNCTION: These check valves supply the flowpath for keepfill pressurization and makeup.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months, quarterly.

BASIS FOR RELIEF: These normally **closed** check valves provide keepfill makeup and pressurization which is required to maintain these systems operable. No method exists to verify **forward** flow exercise of these valves while they are in service. **These** valves shall be **partially exercised by performance of the keepfill system check (venting procedure)** and **full** exercised in the open direction by filling the system following maintenance or testing during each refueling outage.

ALTERNATE TESTING: **Partial exercise valves quarterly and verify a full forward flow** exercise during **each** refueling outage.

[21] RELIEF REQUEST RV-21

SYSTEM: Reactor Water Cleanup System (1201)

VALVE: 81

CATEGORY: C

CLASS: 1

FUNCTION: This valve provides the path for RWCU return flow to the reactor vessel.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months.

BASIS FOR RELIEF: The reactor water cleanup return check valve shall be reversed flow exercised. This normally open check valve is verified in the closed direction by; isolating the RWCU return header, pressurizing the feedwater header, and venting the piping on the upstream side of this check valve to verify restricted flow. Controlled pressurization of the feedwater header to perform this test occurs during the Class 1 System Leakage Pressure Test or Hydrodynamic Testing of the RCIC Pressure Isolation Valves each refueling outage.

ALTERNATE TESTING: Exercise valve during each refueling outage.

[22] RELIEF REQUEST RV-22

SYSTEMS: Core Spray System (1400)
High Pressure Coolant Injection System (2301)
Reactor Core Isolation Cooling System (1301)
Reactor Water Cleanup System (1201)
Recirculation Pump Instrumentation (262)
Nuclear Boiler Instrumentation (261)
Nuclear Boiler Instrumentation (263)

VALVES: All Applicable

CATEGORY: AC

CLASS: 1

FUNCTION: These excess flow check valves provide primary containment isolation in case of an instrument line break.

TEST REQUIREMENT: IWV-3521; Test Frequency - exercise at least once every three months.

IWV-3422; Frequency - test shall be conducted at least once every 2 years.

BASIS FOR RELIEF: These excess flow check valves are the primary containment isolation valves for systems considered inservice during plant operation. These normally open instrument isolation check valves require a reverse flow exercise. Leak testing (per ASME Code) performs valve exercising in the closed direction each refueling outage.

The leak rate testing of excess flow check valves requires the reactor coolant pressure boundary (Class 1) to be at a pressure of at least 600 psig. Testing requires valving out instruments which have a high probability of causing a safety system function initiation and/or isolation. Therefore, the plant should be shutdown for testing. During plant shutdowns, the reactor coolant pressure boundary is not pressurized except when performing the once-per-refueling outage ASME Boiler and Pressure Vessel Code, Section XI System Leakage Pressure Test. The excess flow check valve leak testing is conducted during this system leakage pressure test.

ALTERNATE TESTING: Exercise **and leak rate** valves during **each** refueling outage.

[23] RELIEF REQUEST RV-23

SYSTEM: Diesel Oil Transfer System (38)

VALVES: 116A, 116B

CATEGORY: C

CLASS: NC

FUNCTION: These valves provide the supply path for diesel fuel oil for running the Emergency Site Diesel Generators.

TEST REQUIREMENT: IWV-3522; Check Valve Full Flow Exercising - exercise at least once every three months.

BASIS FOR RELIEF: These check valves, located within the day tank, are required to supply fuel oil to each emergency diesel generator. Failure of a check valve to open (forward flow exercise) would deprive the diesel of fuel. Inadequate supply of fuel oil would cause the diesel load handling capabilities to be impaired during surveillance testing. Therefore, proper operation of each emergency diesel generator during run testing verifies the check valve forward flow exercise.

ALTERNATE TESTING: Emergency diesel operability testing will verify check valve forward flow exercise.

[24] RELIEF REQUEST RV-24

SYSTEM: Residual Heat Removal System (1001)

VALVES: 63, 64

CATEGORIES: A, AC

CLASS: 1

FUNCTION: These valves provide pressure and containment isolation between the reactor coolant pressure boundary and the low pressure head spray line.

TEST REQUIREMENT: IWV-3422; Frequency - tests shall be conducted at least once every two years.

BASIS FOR RELIEF: These normally closed valves provide reactor coolant pressure isolation to protect against the possible occurrence of an intersystem loss of coolant accident. The MO-63 valve also performs a containment isolation function (10CFR Appendix J). Pressure isolation (LP) leak testing of these valves requires removal of head spray (Class 1) piping for installation of a blank flange. Installation of this flange is normally performed in conjunction with removal of the drywell head and opening of the of reactor pressure vessel each refueling outage. Pressure isolation leak rate testing for these valves will be performed during this refueling workscope.

ALTERNATE TESTING: Valve pressure isolation (LP) leak rate test requirements shall be demonstrated in accordance with IWV-3420 during each refueling outage.

[25] RELIEF REQUEST RV-25

SYSTEM: High Pressure Coolant Injection System (2301)

VALVES: 9068A, 9068B

CATEGORIES: A

CLASS: 2

FUNCTION: The HPCI exhaust drain pot isolation valves receive an isolation upon HPCI trip and perform a containment isolation function.

TEST REQUIREMENT: IWV-3413; Power operated valves - full stroke time.

BASIS FOR RELIEF: These valves are equipped with common position indicators; therefore, stroke times cannot be obtained. Valve closure is verified by performance of local leak rate testing (Appendix J). Valve opening is verified by normal HPCI operation.

ALTERNATE TESTING: Valve stroke times shall not be measured.

[26] RELIEF REQUEST RV-26

SYSTEM: Control Rod Drive Hydraulic System (302)

VALVES: 21A, 21B, 22A, 22B, 23A, 23B, 24A, 24B

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to isolate reactor coolant flow past the Control Rod Drive seals during a scram condition. They open to drain the Scram Discharge Volume Tank and allow a scram condition to be reset.

TEST REQUIREMENT: IWV-3413; Power operated valves - full stroke time (closed)

BASIS FOR RELIEF: These air operated valves are stroked closed quarterly using a separate testing air vent (bleed) circuit. Stroke times using the test circuit are erratic and can even exceed the Tech Spec Acceptance Criteria. Once per refueling outage, in accordance with Tech Specs, a full reactor scram is initiated which utilizes the normal vent circuit for these valves. The valves are timed in their closed direction using electronic means. Trending these valves in the closed direction is impractical and meaningless because variations in the quarterly test stroke time do not reflect valve degradation. Valve open stroke times are measured and trended quarterly to monitor for valve degradation.

ALTERNATE TESTING: Measure close stroke times electronically by inserting a full reactor scram during each refueling outage in accordance with Tech Specs. Perform closed direction stroke time trending following Tech Spec refueling outage testing.

[27] RELIEF REQUEST RV-27

SYSTEM: As Applicable

VALVES: As Applicable

CATEGORY: AC and C

CLASS: 1,2,3 and NC

FUNCTION: All check valves whose ability to fully open can not be verified without disassembly.

TEST REQUIREMENT: IWV-3521; Test Frequency - Exercise at least once every three months.

BASIS FOR RELIEF: These check valves are normally closed and must open to perform their function. System design inhibits the verification of full open position during flow testing due to system configuration or limitations. These valves will be placed in a check valve disassembly program, complying with the guidelines of Generic Letter 89-04. Other check valves which require a disassembly to verify operability may be incorporated into this program as long as the alternate testing guidelines are followed.

ALTERNATE TESTING: A sample disassembly and inspection plan which selects one valve in each group to be disassembled every refueling outage will be utilized. Sample groups may consist of more than 4 valves, however, all valves within each group must be disassembled within a maximum of 4 refueling outages.

The sample disassembly and inspection program involves grouping similar valves and testing one valve in each group during each refueling outage. The sampling technique requires that each valve in the group be the same design (manufacturer, size, model number, and materials of construction) and have the same service conditions including valve orientation. During each disassembly, the licensee will verify that the disassembled valve is capable of full-stroking (through manual exercise) and that the internals of the valve are structurally sound (no loose or corroded parts).

A different valve for each group is required to be disassembled, inspected, and manually full-stroke exercised at each successive refueling outage, until the entire group has been tested. If the disassembled valve is not capable of being full-stroke exercised or there is binding or failure of valve internals, the remaining valves in that group must also be disassembled, inspected, and manually full-stroke exercised during the same outage. Once this is completed, the sequence of disassembly will be repeated unless extension of the interval can be justified.

[28] RELIEF REQUEST RV-28

SYSTEM: As Applicable

VALVES: Containment Isolation Valves

CATEGORY: AC and C

CLASS: 1 and 2

FUNCTION: These valves provide the primary containment isolation barriers to minimize the consequences of an accident.

TEST REQUIREMENT: IWV-3427 (b); Corrective Action

For valves 6 in. nominal pipe size and larger, if a leakage rate exceeds the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate by 50% or greater, the test frequency shall be doubled.

BASIS FOR RELIEF: Local leakage rate test data trending does not provide reliable evidence for predicting future leak rate test failures. Many of these valves are located inside primary containment or high radiation areas. Misapplication of trended data will result in increased test frequency which places unjustifiable operational constraints upon the plant by requiring extended shutdowns. Also, testing on an increased frequency with questionable basis increases radiation exposure for testing personnel inconsistent with PNPS ALARA practices. Presently testing is conducted during refueling outages (not to exceed 2 years) to minimize exposure. The usefulness of the trend data does not justify the burden of Corrective Action Requirements. Therefore, corrective action per IWV-3427(b) will not be conducted based on unjustifiable operational constraints and ALARA considerations. This position is supported within Generic Letter No. 89-04.

ALTERNATE TESTING: Containment isolation valves will be replaced or repaired as determined by the licensee or when the leakage rate exceeds that as stated in PNPS Tech Specs or IWA-3427(a).

[29] **RELIEF REQUEST RV-29**

SYSTEM: As Applicable

VALVES: As Applicable

CATEGORY: A, B and AC

CLASS: 1, 2, 3 and NC

FUNCTION: Power operated valves (POVs) used in safety significant systems in which their reference stroke times are established by the plant site.

TEST REQUIREMENT: IWV-3417 (a); Corrective Action - for power operated valves, an increase in stroke time of 25% or more from the previous test for valves with full-stroke times greater than 10 seconds or 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, test frequency shall be increased to once each month until Corrective Action is taken.

BASIS FOR RELIEF: Historical stroke time data reveals that establishing an increased test frequency based on a previous stroke time is not the most reliable method for detecting a valve's degraded condition. This method allows for gradual degradation of a valve without requiring corrective action. Determining a reference value based on stroke times when the valve is known to be in good condition and operating properly is the preferred method for establishing a reasonable test Acceptance Criteria.

For POVs (excluding motor operated), recording of fast stroke times (with reference times between 1 and 5 seconds) can result in deviations greater than 50% (e.g., human error, rounding off practices, normal stroke deviation, and actuator source fluctuation) above the reference stroke time without significant valve degradation. These deviations may occur even though stroke times are recorded to within the nearest tenth of a second (which is far more restrictive than IWV). The increased frequency testing requirement for these valves (as stated below) will account for this condition to minimize unnecessary Corrective Action and excessive valve cycling.

ALTERNATE TESTING: Valve stroke times shall be compared against a reference stroke time for IWV 3417(a) Corrective Action determination. POVs (excluding motor operated) stroke times must deviate by greater than [1.5 x reference time plus one half second] for times between 1 and 5 seconds before increased testing of monthly is required.

[30] RELIEF REQUEST RV-30

SYSTEMS: As Applicable

VALVES: As Applicable

CATEGORIES: A, AC

CLASSES: As Applicable

FUNCTION: Valves which are included within a pressure boundary that has a system integrity leakage criteria to ensure satisfactory performance of the system safety function. These system pressure boundaries are inclusive of numerous components/items (i.e., valves, piping, fittings, accumulators and appurtenances) and therefore, the entire boundary must comply with a specific leakage limit.

TEST REQUIREMENT: IWV-3420; Valve Leak Rate Test

BASIS FOR RELIEF: Seat Leak Testing of valves categorized as "A" or "AC" normally involves a determination of specific leakage for each valve. Where a valve becomes an integral part of a pressure boundary, it no longer singularly maintains the specified leakage limit. Each component within the pressure boundary must be considered when trying to satisfy the Acceptance Criteria. No one component or multiple components is allowed to leak in excess of the specified leakage limit. The method commonly used to verify leak tightness of a pressure boundary is a Pressure Drop (Decay) Test. The American Society for Non-Destructive Testing (ASNT) provides testing guidance (Reference: ASNT Non-Destructive Testing Handbook, Volume 1, Leak Testing) in which the results are equivalent and sometimes superior to Section XI, IWV-3420. This testing will be conducted at least once every 2 years.

ALTERNATE TESTING: Perform Pressure Drop (Decay) Tests in lieu of IWV-3420 Valve Leak Rate Tests, utilizing a pressure boundary specified leakage limit.

[31] RELIEF REQUEST RV-31

SYSTEM: H_2/O_2 Analyzer System (5065)

VALVES: 5117A, 5117B, 5137A, 5137B

CATEGORY: B

CLASS: 2

FUNCTION: These valves open automatically during operation of the H_2/O_2 Analyzer to supply reagent gases for gas concentration analysis.

TEST REQUIREMENT: IWV-3412; Power operated valves - full stroke time.

BASIS FOR RELIEF: These solenoid valves are not equipped with position indicators, therefore, stroke times cannot be obtained. Valve cycling is verified by proper system operation during surveillance testing per PNPS Technical Specification requirements for H_2/O_2 Analyzer System. During system testing, placing the analyzer function selector switch to the zero position (i.e., flowmeter shows a downward deflection) and then to the span position (i.e., flowmeter shows an upscale movement with alarm actuation) indicates that the valves have properly cycled.

ALTERNATE TESTING: Valve stroke times shall not be measured.

6.5 VALVE PROGRAM TABLE

This table identifies the scope of valves within the ISTP and allows cross-referencing specific valve test requirements to their implementing station procedure.

[1] Valve Test Index

6.5 VALVES TESTED (Continued)

System	P&ID	Revision	Page
Reactor Water Cleanup System (1201)	M-247	E22	146
Standby Liquid Control System (1101)	M-249	E12	147
Control Rod Drive Hydraulic System (302)	M-250 Sh 1 of 2 Sh 2 of 2	 E18 E5	148
Recirc Pump Instrumentation (262)	M-251	E4	151
Feedwater System (6)	M-252	E17	152
Reactor Recirculation System (202)	M-252	E17	153
Main Steam Isol. ADS & Safety Relief (203)	M-252	E17	154
Nuclear Boiler System (220)	M-252	E17	157
Compressed Air (31)	M-252	E17	158
Nuclear Boiler (261)	M-252	E17	160
Nuclear Boiler Vessel Instrumentation (263)	M-253 Sh 1 of 2 Sh 2 of 2	 E17 E12	164
Diesel Generator Turbo Air Assist System (47)	M-259	E0	168
Traverse Incore Probe (45)	MIQ-1-5	E1	170
Standby Gas Treatment System (48)	M-294	E11	171

NOTE

The drawing revision level will require changing if:

1) The revision affects information within the program table

OR

2) A formal review of the program is performed against the latest revision.

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-212

SYSTEM: SALT SERVICE WATER (29)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
3800	G-8	3	B	18	BF	MO	O	FE	Q	8.5.3.11			
								ST	Q	8.5.3.11	O		
								PI	2Y	8.5.3.11			
3801	G-7	3	B	12	BF	MO	O	PE	Q	8.5.3.11			
								FE	CS	8.I.11.14		CS-14	
								ST	CS	8.I.11.14	C	CS-14	
								PI	2Y	8.I.11.14			
3895	G-6	3	B	12	BF	MO	O	PE	Q	8.5.3.11			
								FE	CS	8.I.11.14		CS-14	
								ST	CS	8.I.11.14	C	CS-14	
								PI	2Y	8.I.11.14			
3806	G-5	3	B	18	BF	MO	O	FE	Q	8.5.3.11			
								ST	Q	8.5.3.11	O		
								PI	2Y	8.5.3.11			
3808	C-6	3	B	12	BF	MO	O	FE	Q	8.5.3.11			
								ST	Q	8.5.3.11	O/C		
								PI	2Y	8.5.3.11			
3813	C-6	3	B	12	BF	MO	O	FE	Q	8.5.3.11			
								ST	Q	8.5.3.11	O/C		
								PI	2Y	8.5.3.11			
3915	D-4	3	B	6	BF	AO	O	FE	Q	8.5.3.11			
								ST	Q	NA		RR-14	
								FS	Q	8.5.3.11	C		
3925	C-4	3	B	6	BF	AO	O	FE	Q	8.5.3.11			
								ST	Q	NA		RR-14	
								FS	Q	8.5.3.11	C		
3880A	C-7	3	C	12	CK	SA	O	FC	Q	8.5.3.2	RF		
								AP	RO	8.5.3.13*	Open		
3880B	C-8	3	C	12	CK	SA	O	FC	Q	8.5.3.2	RF		
								AP	RO	8.5.3.13*	Open		
3880C	C-6	3	C	12	CK	SA	O	FC	Q	8.5.3.2	RF		
								AP	RO	8.5.3.13*	Open		
3880D	C-6	3	C	12	CK	SA	O	FC	Q	8.5.3.2	RF		
								AP	RO	8.5.3.13*	Open		
3880E	C-5	3	C	12	CK	SA	O	FC	Q	8.5.3.2	RF		
								AP	RO	8.5.3.13*	Open		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-212

SYSTEM: SALT SERVICE WATER (29)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
AV-A	C-7	3	C	2	CK	SA	C	PC	Q	8.5.3.2	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.5.3.2	Closed		Exercise
AV-B	C-8	3	C	2	CK	SA	C	PC	Q	8.5.3.2	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.5.3.2	Closed		Exercise
AV-C	C-7	3	C	2	CK	SA	C	PC	Q	8.5.3.2	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.5.3.2	Closed		Exercise
AV-D	C-6	3	C	2	CK	SA	C	PC	Q	8.5.3.2	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.5.3.2	Closed		Exercise
AV-E	C-5	3	C	2	CK	SA	C	PC	Q	8.5.3.2	FF		
								FC	RO	8.I.27*	FF	RV-27	Disassemble To
								AP	RO	8.5.3.2	Closed		Exercise

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-275

SYSTEM: REACTOR BUILDING CLOSED COOLING WATER (38)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
419	G-3	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
420	G-3	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
421	F-3	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
422	G-5	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
423	G-5	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
424	F-5	3	C	8	CK	SA	O	FC	Q	8.5.3.1	RF		
								AP	RO	8.5.3.12*	Open		
432	C-6	2	AC	6	CK	SA	O	FC	RO	8.7.1.5	RF	RV-01	
								LJ	2Y	8.7.1.5		RV-28	
4002	C-4	2	A	6	GA	MO	O	FE	CS	8.I.11.13		CS-01	Note 1
								ST	CS	8.I.11.13	C	CS-01	Note 1
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
4009A	D-6	3	B	8	GA	MO	O	FE	CS	8.I.11.13		CS-01	Note 1
								ST	CS	8.I.11.13	C	CS-01	Note 1
								PI	2Y	8.I.11.13			
4009B	C-4	3	B	8	GA	MO	O	FE	CS	8.I.11.13		CS-01	Note 1
								ST	CS	8.I.11.13	C	CS-01	Note 1
								PI	2Y	8.I.11.13			
4010A	G-7	3	B	12	GA	MO	C	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	O		
								PI	2Y	8.5.3.10			
4010B	H-7	3	B	12	GA	MO	C	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	O		
								PI	2Y	8.5.3.10			
4020	D-1	3	C	0.75	RL	SA	C	RT	5Y	8.I.26*			
4031	D-1	3	C	3	RL	SA	C	RT	5Y	8.I.26*			
4032	H-7	3	C	3	RL	SA	C	RT	5Y	8.I.26*			
4036	H-7	3	C	0.75	RL	SA	C	RT	5Y	8.I.26*			

NOTE 1: When core flow from recirculation pump operation is not required.

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-215 **SYSTEM: REACTOR BUILDING CLOSED COOLING WATER (30)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
4060A	C-2	3	B	12	GA	MO	C	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	O		
								PI	2Y	8.5.3.10			
4060B	D-2	3	B	12	GA	MO	C	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	O		
								PI	2Y	8.5.3.10			
4065	B-2	3	B	6	GA	MO	O	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	C		
								PI	2Y	8.5.3.10			
4083	E-4	3	B	10	BF	MO	O	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	C		
								PI	2Y	8.5.3.10			
4084	F-4	3	B	10	BF	MO	O	FE	Q	8.5.3.10			
								ST	Q	8.5.3.10	C		
								PI	2Y	8.5.3.10			
4085A	E-2	3	B	8	GA	MO	O	FE	CS	8.I.11.13		CS-08	Note 1
								ST	CS	8.I.11.13	C	CS-03	Note 1
								PI	2Y	8.I.11.13			
4085B	D-3	3	B	8	GA	MO	O	FE	CS	8.I.11.13		CS-08	Note 1
								ST	CS	8.I.11.13	C	CS-08	Note 1
								PI	2Y	8.I.11.13			

Note 1: When core flow from recirculation pump operation is not required.

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-219

SYSTEM: DIESEL GENERATOR AIR START SYSTEM (47)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
101A	G-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
101B	D-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
101C	F-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
101D	B-7	NC	AC	0.75	CK	SA	C	FC	Q	8.9.1	FF		
								LX	ZY	8.9.1.2*		RV-30	
102A	F-6	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
102B	C-6	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
102C	E-6	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
102D	A-6	NC	AC	0.75	GA	MA	C	FE	NA	NA			
								LX	ZY	8.9.1.2*		RV-30	
4582A	H-6	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4582B	D-6	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4582C	F-6	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies
4582D	C-6	NC	AC	0.75	SV	SA	C	RT	SY	8.I.26*			
								LX	NA	8.I.26*			RT Verifies

TABLE
INSERVICE VALVE TESTING PROGRAM
IST CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-219 **SYSTEM: DIESEL GENERATOR AIR START SYSTEM (47)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
4586A	H-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4586B	H-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4587A	E-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4587B	E-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4588A	E-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4588B	D-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4589A	B-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	
4589B	B-4	MC	B	1.5	GA	SO	C	FE	Q	8.9.1*		RV-19	
								ST	Q	NA		RV-19	
								FS	Q	8.9.1*	C	RV-19	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-220 SHEET 1 of 2

SYSTEM: COMPRESSED AIR (31)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMMS Proc. Number	Test Direction	Relief Request	Notes
167	D-3	2	AC	3	CK	SA	O	FC	RO	8.7.1.5	RF	RV-02	
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-223

SYSTEM: DIESEL OIL TRANSFER (38)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
101A	F-7	NC	C	2.5	CK	SA	C	FC	Q	8.9.1.1*	FF		
								AP	RO	8.9.1.1*	Closed		
101B	D-7	NC	C	2.5	CK	SA	C	FC	Q	8.9.1.1*	FF		
								AP	RO	8.9.1.1*	Closed		
105A	F-5	NC	C	1	CK	SA	C	FC	Q	8.9.1.1*	FF		
105B	E-5	NC	C	1	CK	SA	C	FC	Q	8.9.1.1*	FF		
116A	G-4	NC	C	0.75	CK	SA	C	FC	Q	8.9.1*	FF	RV-23	
116B	E-4	NC	C	0.75	CK	SA	C	FC	Q	8.9.1*	FF	RV-23	
4521	G-5	NC	B	1.5	BL	AO	C	FE	Q	8.9.1.1*			
								ST	Q	NA		RV-15	
								FS	Q	8.9.1.1*	O		
4522	E-5	NC	B	1.5	BL	AO	C	FE	Q	8.9.1.1*			
								ST	Q	NA		RV-15	
								FS	Q	8.9.1.1*	O		

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
102 (45)	C-6 (SH.1)	2	A	1	GL	MA	C	FE	NA	NA			Passive (Manual)
								LJ	2Y	8.7.1.5			
103 (45)	C-6 (SH.1)	2	A	1	GL	MA	C	FE	NA	NA			Passive (Manual)
								LJ	2Y	8.7.1.5			
104 (45)	C-6 (SH.1)	2	A	1	GL	MA	C	FE	NA	NA			Passive (Manual)
								LJ	2Y	8.7.1.5			
105 (45)	C-6 (SH.1)	2	A	1	GL	MA	C	FE	NA	NA			Passive (Manual)
								LJ	2Y	8.7.1.5			
106 (45)	E-5 (SH.1)	2	A	4	GA	MA	C	FE	NA	NA			Passive (Manual)
								LJ	2Y	8.7.1.5			
X-201A (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201B (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201C (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201D (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201E (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
X-201F (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201G (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201H (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201J (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-201K (45)	C-7 (SH.1)	2	AC	18	CK	SA (Testable)	C	FC	Q	8.A.1	FF		
								PI	RO	8.7.1.9*		RV-03	
								LX	RO	8.A.2*		RV-03	
X-212A (45)	A-8 (SH.1)	2	AC	20	CK	SA	C	FC	Q	8.7.4.9	FF		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
X-212B (45)	A-7 (SH.1)	2	AC	20	CK	SA	C	FC	Q	8.7.4.9	FF		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5025	E-8	2	A	8	BF	AO	C	FE	NA	NA			Passive
(45)	(SH.1)							ST	NA	NA			(De-Energized)
								FS	NA	NA			
								PI	NA	NA			
								LJ	2Y	8.7.1.5		RV-28	
5033A	D-7	2	A	1	GL	AO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5033B	C-6	2	A	4	GA	AO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5033C	D-6	2	A	1	GL	AO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5035A	E-3	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5035B	E-2	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5036A	C-3	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5036B	C-2	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5040A	B-8	2	A	20	BF	AO	C	FE	Q	8.7.4.9			
(45)	(SH.1)							ST	Q	8.7.4.9	O/C		
								FS	Q	8.7.4.9	O		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5040B	B-7	2	A	20	BF	AO	C	FE	Q	8.7.4.9			
(45)	(SH.1)							ST	Q	8.7.4.9	O/C		
								FS	Q	8.7.4.9	O		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5041A	C-8	2	A	2	GL	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5041B	C-8	2	A	2	GL	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5042A	D-8	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5042B	D-8	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5043A	E-7	2	A	2	GL	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5043B	E-7	2	A	2	GL	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5044A	F-7	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	
5044B	F-7	2	A	8	BF	AO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C		
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5		RV-28	

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5081A	G-6	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5081B	G-6	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5082A	G-6	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5082B	G-6	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5083A	G-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5083B	G-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5084A	H-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5084B	H-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(45)	(SH.1)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5085A	E-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5085B	D-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5086A	E-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5086B	D-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2
P&ID: M-227 SHEET 2 of 2

SYSTEM: CONTAINMENT ATMOSPHERE CONTROL
SYSTEM NUMBERS 45 & 9

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
5087A	E-8	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5087B	D-8	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5088A	E-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
5088B	D-7	2	A	1	GA	SO	C	FE	Q	8.7.4.2			
(9)	(SH.2)							ST	Q	8.7.4.2	C	RV-04	
								FS	Q	8.7.4.2	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 1 of 2

SYSTEM: COMPRESSED AIR (31)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
15A	B-3	NC	C	3/4	CK	SA	C	FC	Q	8.C.36*	FF		
15B	B-5	NC	C	3/4	CK	SA	C	FC	Q	8.C.36*	FF		
434	B-6	2	AC	1	CK	SA	C	FC	NA	NA			Exempt (Test)
								LJ	2Y	8.7.1.5			
5003A	C-2	NC	C	3/4	RL	SA	C	RT	5Y	8.I.26*			
5003B	C-4	NC	C	3/4	RL	SA	C	RT	5Y	8.I.26*			
5046	B-6	2	A	1	GL	AO	C	FE	NA	NA			Exempt (Test)
								ST	NA	NA			Exempt (Test)
								FS	NA	NA			Exempt (Test)
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-227 SHEET 2 of 2 **SYSTEM: NITROGEN SUPPLY (9)**

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PMPS Proc. Number	Test Direction	Relief Request	Notes
340	D-7	2	AC	1	CK	SA	C	FC	Q	8.7.2.11*	FF		
								LJ	2Y	8.7.1.5			
341	D-6	2	AC	1	CK	SA	C	FC	Q	8.7.2.11*	FF		
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND MC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-232

SYSTEM: RADWASTE COLLECTION (20)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
7011A	G-6	2	A	2	BL	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
7011B	G-6	2	A	2	BL	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
7017A	D-6	2	A	2	BL	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
7017B	D-6	2	A	2	BL	AO	C	FE	Q	8.7.4.3			
								ST	Q	8.7.4.3	C		
								FS	Q	8.7.4.3	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE

INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
11A	B-6 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
13B	B-3 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
14A	B-6 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
15B	B-3 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
18A	B-6 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
20B	B-4 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PNPS Proc. Number	Test Direction	Relief Request	Notes
21A	B-6 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
22B	B-4 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
24A	B-6 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
25B	B-4 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
26A	B-6 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
27B	B-3 (SH.1)	2	A	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			

TABLE
INSERVICE VALVE TESTING PROGRAM
ISI CLASS 1, 2, 3 AND NC VALVES
PILGRIM NUCLEAR POWER STATION

P&ID: M-239 SHEET 1 of 3
P&ID: M-239 SHEET 2 of 3

SYSTEM: POST ACCIDENT SAMPLING & H_2 + O_2 ANALYZER SYSTEM (5065)

Valve Number	P&ID Coor	ISI Class	Valve Cat	Valve Size	Valve Type	Actuator Type	Normal Position	Test Rqmt.	Test Freq	PCRS Proc. Number	Test Direction	Relief Request	Notes
31B	C-4 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
33A	C-6 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
35B	C-4 (SH.1)	2	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
37A	C-6 (SH.1)	2	A	1	GL	SO	O	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
63	G-7 (SH.2)	1	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
64	G-6 (SH.2)	1	A	1	GL	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1*	O/C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.1.5			
								LJ	2Y	8.7.1.5			
65	G-6 (SH.2)	2	B	1	GA	SO	C	FE	Q	8.7.4.1			
								ST	Q	8.7.4.1	C	RV-04	
								FS	Q	8.7.4.1	C		
								PI	2Y	8.7.4.8			