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PALISADES NUCLEAR PLANT
ENGINEERING MANUAL PROCEDURE

TITLE: INSERVICE TESTING OF SELECTED SAFETY-RELATED PUMPS

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/ /
User Reviewer Date Rev #

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USER ALERT
REFERENCE USE PROCEDURE

Refer to the procedure periodically to confirm that all procedure segments of an activity will be or are being performed. Where required, sign appropriate sign-off blanks to certify that all segments are complete.

1.0 PURPOSE

1.1 This procedure provides general requirements for the performance and administration of the Inservice Testing Program for selected pumps.

1.2 This procedure establishes the requirements for the implementing procedures for inservice testing and evaluation of selected pumps.

2.0 SCOPE

2.1 As required by ASME B&PV Code, Section XI, Subsection IWP, this procedure complies with all requirements of OMa-1988 Addenda to ASME/ANSI OM-1987, Operation and Maintenance of Nuclear Power Plants, Part 6, Hereafter referred to as OMa-1988, Part 6, with the exception of the relief requests contained in Attachment 5.

2.2 The Palisades Plant Inservice Pump Testing Program Plan will be in effect through the third 120-month interval (1995 through 2005) and will be updated in accordance with 10CFR50.55a(f). e

2.3 Attachment 1 provides a complete listing of those pumps included in this program per the requirements of Paragraphs 1.1 and 1.2 of Part 6.

3.0 REFERENCES

3.1 ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWP, 1989 Edition with no addenda

3.2 OMa-1988 Addenda to ASME/ANSI OM-1987, Operation and Maintenance of Nuclear Power Plants, Part 6

3.3 Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"

3.4 NUREG-1482, Guidelines for Inservice Testing at Nuclear Power Plants (Draft Report for Comment)

3.5 10CFR50.55a, Codes and Standards

3.6 Technical Specification 4.0.2

3.7 Technical Specification 4.0.5

3.8 Technical Specification 4.6.3

3.9 FSAR 6.9 2.1

3.10 Engineering Manual Procedure EM-30, "Plant Predictive Maintenance Program"

3.11 Palisades Administrative Procedure 9.20, "Technical Specification Surveillance and Special Test Program"

3.12 Palisades Administrative Procedure 10.41, "Procedure Initiation and Revision"

3.13 Palisades Administrative Procedure 10.51, "Writer's Guideline for Procedures"

3.14 Palisades Administrative Procedure 10.53, "Use and Adherence of Procedures and Other Forms of Written Instruction"

3.15 Palisades Administrative Procedure 9.11, "Engineering Analysis"

3.16 Technical Specification Surveillance Procedure MO-38, "Auxiliary Feedwater System Inservice Test Procedure"

3.17 Technical Specification Surveillance Procedure MO-7A-1, "Emergency Diesel Generator 1-1 (K-6A)"

3.18 Technical Specification Surveillance Procedure MO-7A-2, "Emergency Diesel Generator 1-2 (K-6B)"

3.19 Technical Specification Surveillance Procedure QO-10, "Containment Spray Check Valve Test"

3.20 Technical Specification Surveillance Procedure QO-14, "Inservice Test Procedure - Service Water Pumps"

3.21 Technical Specification Surveillance Procedure QO-15, "Inservice Test Procedure - Component Cooling Water Pumps"

3.22 Technical Specification Surveillance Procedure QO-16, "Inservice Test Procedure - Containment Spray Pumps"

3.23 Technical Specification Surveillance Procedure QO-17, "Inservice Test Procedure - Charging Pumps"

3.24 Technical Specification Surveillance Procedure QO-18, "Inservice Test Procedure - Concentrated Boric Acid Pumps"

3.25 Technical Specification Surveillance Procedure QO-19, "Inservice Test Procedure - HPSI Pumps and ESS Check Valve Operability Test"

3.26 Technical Specification Surveillance Procedure QO-20, "Inservice Test Procedure - Low Pressure Safety Injection Pumps"

3.27 Special Test Procedure T-261, "Low Pressure Safety Injection Pumps P-67A and P-67B Performance Test"

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4.0 DEFINITIONS AND RESPONSIBILITIES

4.1 Alert Range - That range (Attachment 2) for a given pump parameter outside the normal operating range in which an increased testing frequency is specified.

4.2 Required Action Range - That region (Attachment 2) outside the upper and lower limits of the alert range in which the pump is considered inoperable until the cause of the deviation has been determined and the condition corrected.

4.3 Pump Record - Information showing the history of the pump, including the original manufacturer's test data, surveillance test results, significant maintenance actions, and evaluation of new reference values established following maintenance, repair, or replacement of pumps. At Palisades, the pump record includes the vendor print files (original pump data), the Uniform Filing Index (UFI) (test results), the maintenance order files contained on AMMS (pump maintenance documentation), the applicable surveillance test procedure basis document (source of test limits and basis), and the pump trend/data programs.

4.4 ISI Coordinator - That individual assigned to oversee performance of the pump testing program, evaluate test data, and identify the need for corrective action to the appropriate System Engineer.

4.5 Technical Specification Surveillance Program Administrator (TSSPA) - The individual responsible for the administration of the Technical Specification Surveillance Program.

4.6 System Engineer - Service manager for the system in question.

4.7 Reference Values - One or more fixed set of pump operating parameters which reflect acceptable pump operating characteristics and are determined from the results of a baseline preoperational or inservice test. They shall be at points of operation which are readily duplicated during subsequent inservice testing, the results of which are compared to these reference values.

4.8 Relief Requests - Specific documents requesting exemption from code testing requirement, submitted to the US Nuclear Regulatory Commission (NRC). Upon identification of need, the initial request shall be submitted to the Nuclear Licensing Department who shall review the requests, ensure all questions or comments are adequately resolved, and submit the request for relief. Relief Requests shall also be sent to the State of Michigan Department of Labor.

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5.0 PROCEDURES

USER ALERT
REFERENCE USE PROCEDURE

Refer to the procedure periodically to confirm that all procedure segments of an activity will be or are being performed. Where required, sign appropriate sign-off blanks to certify that all segments are complete.

5.1 FREQUENCY AND SCHEDULING OF TESTS (PART 6, PARAGRAPH 5.1)

5.1.1 Inservice tests shall be run on each pump in the program nominally every 3 months during normal Plant operation. This test frequency should be maintained during shutdown periods if this can be reasonably accomplished, although this is not mandatory. OMa-1988, Part 6, Paragraph 5.1 requires that pumps in systems declared inoperable or not required to be operable (eg, during Plant shutdown periods) need not be tested on the required frequency; however, they shall be tested within 3 months prior to placing the system in an operable status. Pumps which can only be tested during Plant operation shall be tested within 1 week (7 days) of startup.

5.1.2 If a pump is operated more frequently than once per quarter, it need not be started or stopped specifically for the test. Inorder to take credit for normal pump operation, however, the pump must be run at least once every 3 months at the reference conditions and all required test data must be recorded per OMa-1988, Part 6.

5.1.3 Unless otherwise specified, each inservice test surveillance requirement shall be performed within the specified time interval with:

a. A maximum allowable extension not to exceed 25% of the surveillance interval, and

b. A total maximum combined interval time for any three consecutive surveillance intervals not to exceed 3.25 times the specified surveillance interval.

5.1.4 All test data shall be analyzed within 96 hours after completion of the test.

5.1.5 If a pump is replaced or a repair is made which may have affected any of the pump reference values as determined by the ISI Coordinator (based on the OMa-1988, Part 6 requirements and pump design requirements), a new reference value or set of reference values shall be determined or the previous value reconfirmed by an inservice test prior to declaring the pump operable. Analysis of the test results shall be analyzed within 96 hours after completion of the test or prior to the expiration of any LCO applicable to that pump, which ever comes first. Deviations between the previous and new set of reference values shall be identified, and verification that the new values represent acceptable pump operations shall be placed in the record of tests. If the pump repair or replacement is performed during an outage and the pump can only be tested during plant operation, the new reference test shall be completed as soon as possible after startup, but in no case shall the time to complete the test exceed 1 week.

5.1.6 If pump parameters determined during a quarterly inservice test fall within the alert range, the test frequency shall be doubled; ie, the ISI Coordinator and TSSPA shall cause the test to be performed at least every 46 days until the cause of the deviation is determined and the condition corrected. For monthly inservice tests, the TSSPA shall cause the test to be performed at least every 15 days until the cause of the deviation is determined and the condition corrected.

5.1.7 Each test procedure shall include the pump reference values and corresponding alert and required action ranges. These shall be presented in such a manner that the shift individual(s) responsible for conducting the test (ie, Shift Supervisor, Reactor Operator) is able to make a timely determination as to whether or not the data meets operability requirements.

5.1.8 All Technical Specification Surveillance Procedures associated with the Palisades pump inservice testing program shall be developed in accordance with Palisades Administrative Procedures 9.20, "Technical Specification Surveillance and Special Test Program,"; 10.41, "Procedure Initiation and Revision"; 10.51, "Writers Guideline for Procedures," and 10.53, "Use and Adherence of Procedures and Other Forms of Written Instructions."

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5.2 REFERENCE CONDITIONS (PART 6, PARAGRAPHS 4.3 and 4.4)

5.2.1 The reference values for pump operating parameters are determined from the initial inservice test performed when the pump is known to be operating acceptably. Reference values shall be at points of operation readily duplicated during subsequent tests. If the particular parameter being measured or determined can be significantly influenced by other related conditions, then these conditions shall be analyzed. Additional sets of reference values may be established in order to facilitate pump testing under different Plant conditions or equipment operating modes. These additional reference values will be determined when the pump is known to be operating acceptably and will not conflict with the original reference data.

When determining an additional set of reference values, an inservice test shall first be run at the conditions of an existing set of reference values and the results analyzed. If operation is acceptable, a second test run at the new reference conditions shall follow as soon as practicable. The reason for establishing the new reference values shall be documented in the record of test.

5.2.2 As specified in Step 5.1.5, when a reference value or set of values may have been affected by repair or routine servicing of the pump, a new reference value or set of values shall be determined or the previous values reconfirmed by an inservice test run prior to declaring the pump operable.

Deviations between the previous and new set of reference values shall be identified, and verification that the new values represent acceptable pump operation shall be performed via Step 5.3.1 or equal. In general, this is accomplished by making the Technical Specification test a retest requirement on the Work Order used to take the pump out of service. New reference values shall be incorporated into the test procedure as described in Step 5.3.5.

5.2.3 Allowable instrument accuracies are given in OMa-1988, Part 6, Table 1. If the accuracies of the station's instruments are not acceptable, temporary instruments meeting those requirements in Table 1 may be used, or a relief request may be submitted to justify using existing instrumentation if it can be shown that any degraded pump condition can be recognized before an unsafe condition arises.

5.2.4 CONSIDERATION OF TEST UNCERTAINTIES

When developing test acceptance criteria, the affect of various uncertainties associated with the test procedure shall be considered when equipment meets test acceptance criteria, assurance is provided that the same equipment will support the mitigation of analyzed accidents. Based on this fact, the relationship between test acceptance criteria and safety (analytical) limits shall be understood. If required, test acceptance criteria shall be adjusted to accommodate appropriate uncertainties associated with, but not necessarily limited to:

Design Basis Event Instrument Uncertainty,
Process Dependent Effects,
Calculation Model Effects,
Dynamic Effects,
Instrument Calibration Uncertainty, and
Instrument Uncertainty - Normal Operations.

Safety (analytical) limits are established during the design of the Plant. The values of these terms may be found in the FSAR, Technical Specifications, and in calculations performed by various Plant engineering departments. It is assumed that the safety (analytical) limit represents the true maximum value at which action must be taken to avoid further degradation of a component. Based on this assumption, it is important that the test acceptance criteria be set at levels where corrective action will result prior to violating Plant safety limits.

5.3 DATA EVALUATION (PART 6, PARAGRAPH 6.1)

5.3.1 The initial evaluation of Technical Specification Surveillance test data and determination of pump operability is conducted by the operator who performed the test and is reviewed by the Shift Supervisor. Individual pump Technical Specifications require this evaluation to be done as soon as possible, usually by the end of the shift in which the data was taken, in order to meet possible Limiting Condition of Operation (LCO) requirements. If the data is not available before the end of the shift, then the oncoming shift will make the determination. This review meets the 96-hour requirement of OM-6, Paragraph 6.2, as data obtained is being compared to acceptance criteria based upon Table 2 (Attachment 2). A follow-up evaluation is performed by the ISI Coordinator or his designee to monitor trends in pump hydraulic performance (pump d/p, flowrate, and speed) and mechanical performance (vibrations). In addition, when the test results are used as new reference values, such as after maintenance or for a new system configuration, the ISI Coordinator must evaluate and verify that the new values represent acceptable pump performance. In the latter case, a revision to the record of tests may be required.

Following data evaluation, the ISI Coordinator notes any abnormal conditions under remarks, signs the completed test, and forwards the test to the System Engineer for identification and completion of necessary corrective action.

5.3.2 The allowable ranges for the pump operating parameters are defined in Attachment 2. These ranges are based on the ranges provided in OMa-1988, Part 6.

If deviations fall within the alert range, the frequency of testing specified for the pump shall be doubled until the cause of the deviation is determined and the condition corrected. If deviations fall within the required action range, the pump shall be declared inoperable until the cause of the deviation has been determined and the condition corrected. If any measured parameter falls within the required action range, the evaluator shall initiate corrective action per Section 5.4 below.

When a test shows deviations outside of the acceptable range, the instruments involved may be recalibrated and the test rerun. If during the test, it becomes obvious that the instrument is malfunctioning, the test may be halted and the instruments promptly recalibrated. Care should be taken to ensure that the noted deviations are due to the gauge and not a result of degraded pump performance.

5.3.3 Where available, the data sheets require that motor currents, voltages, and other data be recorded as an additional aid for pump performance evaluation. Although this information is not required by OMa-1988, Part 6, the ISI Coordinator should consider using this information and/or obtaining similar data from other pumps when necessary to evaluate a change in pump operating parameters. This data should not be compared to acceptance criteria and should not lead to a pump being declared inoperable.

Testing data necessary to determine pump head capacity, efficiency, and break horsepower shall be made available to NECO Electrical upon request and anytime changes to test parameters are approved. Such data is necessary to maintain the Diesel Generator Steady State Load Analysis.

5.3.4 If adverse trends are detected in pump parameters, the reviewers should attempt to predict when the parameter will enter the alert or required action ranges. This prediction should then be used to schedule necessary maintenance during a convenient outage or when practical.

5.3.5 Through the performance of the review following repair or replacement of a pump, new reference values and acceptance criteria may be required, as identified in Step 5.3.2. This change may be accomplished per Palisades Administrative Procedure 10.41, "Procedure Initiation and Revision." The establishment of new reference values shall be documented via Engineering Analysis per Palisades Administrative Procedure 9.11, "Engineering Analysis."

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5.4 NONCONFORMANCES

5.4.1 Any variation of a measured parameter falling within the specified Required Action Range shall be documented on a corrective action document for identification and evaluation.

5.4.2 If a measured parameter falls within the specified Required Action Range, the pump shall be declared inoperable and identified to prevent its use, except in an emergency, until the cause of the deviation has been determined and the condition corrected. It should be noted that this may be a reportable condition and require NRC notification. The corrective action is not considered complete until a successful inservice test has been completed following repairs and the new operating parameters evaluated by the ISI Coordinator and System Engineer. Evaluation shall generally be via Palisades Administrative Procedure 9.11, "Engineering Analysis."

5.4.3 It should also be noted that the disposition may also include accepting the pump performance as-is as long as an analysis shows the pump is operating acceptably and is capable of performing its design function. However, reference values should not be changed unless the present test methods and system configuration will not allow repeatable testing using the old reference values.

Analysis shall generally be via Palisades Administrative Procedure 9.11, "Engineering Analysis."

5.5 RECORDS

5.5.1 A listing of pumps shall be maintained to record the current status of the ISI Program for pumps. The status of each pump shall be reported and documented in the Pump Inservice Test Program Quarterly Report.

5.5.2 A record shall be maintained for each pump covered in the ISI Program which shall include the following:

a. The pump manufacturer and associated model numbers and serial numbers, or other identification numbers, are maintained on the Plant Equipment Data Base.

b. A copy or summary of the manufacturer's acceptance test report, and a copy of the pump manufacturer's operating limit, if available. This information will generally be contained in the appropriate pump vendor file.

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5.5.3 Each individual test procedure shall include the following:

a. The hydraulic test circuit to be used, either in textual and/or diagrammatic form.

b. The location and type of measurement for each of the required test quantities.

c. The reference values, limits, and any other value required per OMa-1988, Part 6 and/or Technical Specifications.

d. The method of determining reference values which are not directly measured by instrumentation.

5.5.4 A record of tests shall be maintained which shall include the following:

a. Pump identification.

b. Date of test.

c. Reason for test.

d. Values of measured and observed parameters.

e. Identification of instruments used.

f. Comparisons with allowable ranges of test values and analysis of deviations.

g. Requirement for corrective action.

h. Evaluation and justification for changes to reference values.

i. Signature of the person or persons responsible for conducting and analyzing the test.

5.5.5 The results of the quarterly inservice tests for each pump shall be recorded on trending program(s) in a format adequate to identify trends in pump performance. Parameters to be recorded in the pump record include, as available (where possible actual measured values are always preferred to calculated values):

a. Pump speed (for variable speed pumps only).

b. Pump differential pressure as calculated (measured discharge pressure minus calculated or measured suction pressure), or as directly measured.

c. Pump Discharge Pressure (for positive displacement pumps only).

d. Pump flow rate.

e. Pump vibration.

f. Entries referencing significant maintenance actions or other pertinent comments.

5.5.6 If a pump should require some form of corrective action, whether replacement, repair, or reanalysis of pump operating characteristics for justifying different reference data, it shall be included in the pump record. The record shall include a summary of the corrections made, the subsequent inservice test, confirmation of operational adequacy, and the signature of the individual responsible for corrective action and verification of results.

5.5.7 After transferring the required data to the trending program(s), the completed working copies of the procedures shall be routed as indicated on each procedure and filed in the Uniform Filing Index (UFI).

5.5.8 When the required action limits for pump parameters change, the ISI Coordinator must ensure that the specified test procedure limits are also changed to appropriate new values. Since the first level Shift Supervisor review provides immediate verification of pump operability, these limits shall be kept current. The ISI Coordinator shall notify the TSSPA of any revisions to pump tests, which must be completed by the next inservice test interval.

6.0 ATTACHMENTS AND RECORDS

6.1 ATTACHMENTS

6.1.1 Attachment 1, "Table 1 - Pump Testing System Index"

6.1.2 Attachment 2, "Table 2 - Allowable Ranges of Test Quantities"

6.1.3 Attachment 3, "Table 3 - Pump Test Table"

6.1.4 Attachment 4, "Pump Test Hydraulic Circuits"

6.1.5 Attachment 5, "Relief Requests"

6.2 RECORDS

None

TABLE 1
PUMP TESTING SYSTEM INDEX

SYSTEM	PUMP NO	DRAWING	COORDINATES
Service Water	P7A	M-213	F-3
	P7B	M-213	F-2
	P7C	M-213	F-1
Auxiliary Feedwater	P8A	M-207-2	E-6
	P8B	M-207-2	H-6
	P8C	M-207-2	B-6
Component Cooling Water	P52A	M-209-3	C-4
	P52B	M-209-3	B-4
	P52C	M-209-3	A-4
Containment Spray	P54A	M-204-1A	D-5
	P54B	M-204-1	B-3
	P54C	M-204-1	D-3
Chemical and Volume Control. Charging	P55A	M-202-1B	E-3
	P55B	M-202-1B	C-3
	P55C	M-202-1B	B-3
Chemical and Volume Control. Boric Acid	P56A	M-202-1A	B-3
	P56B	M-202-1A	A-3
HP Safety Injection	P66A	M-204-1A	B-5
	P66B	M-204-1	F-3
LP Safety Injection	P67A	M-204-1A	E-5
	P67B	M-204-1	E-3
Diesel Jacket Water Cooling Pumps	P-211A	M-214-1	B-3
	P-211B	M-214-1	B-3

Based on OMa-1988, Part 6. Includes those Class 1, 2, and 3 pumps important to reactor and spent fuel safety which transfer automatically and restart on an emergency power supply under accident conditions.

TABLE 2
ALLOWABLE RANGES OF TEST QUANTITIES

HYDRAULIC PARAMETERS

	Alert Range			Required Action Range	
	Acceptable Range	Low Values	High Values	Low Values	High Values
P (Positive Displacement Pumps)	0.93 to 1.10 P_r	0.90 to <0.93 P_r	N/A	< .90 P_r	> 1.10 P_r
ΔP (Centrifugal Pump)	0.90 to 1.10 ΔP_r	N/A	N/A	< 0.90 ΔP_r	> 1.10 ΔP_r
ΔP (Vertical Line Shaft Pumps)	0.95 to 1.10 ΔP_r	0.93 to < 0.95 ΔP_r	N/A	< 0.93 ΔP_r	> 1.10 ΔP_r
Q (Centrifugal Pumps)	0.90 to 1.10 Q_r	N/A	N/A	< 0.90 Q_r	> 1.10 Q_r
Q (Positive Displacement and Vertical Line Shaft Pumps)	0.95 to 1.10 Q_r	0.93 to < 0.95 Q_r	N/A	< 0.93 Q_r	> 1.10 Q_r

1. V_r. ΔP_r. Q_r. P_r are reference values (specified in pump records).

2. Definitions:

   P_d - Pump discharge pressure
   ΔP - Pump differential pressure
   Q - Pump flow rate

TABLE 2
ALLOWABLE RANGES OF TEST QUANTITIES

VIBRATION PARAMETERS

	Alert Range			Required Action Range	
	Acceptable Range	Low Values	High Values	Low Values	High Values
Pump Type	Pump Speed	Test Parameter	Acceptable Range	Alert Range	Required Action Range
Centrifugal and Vertical Line Shaft (Note 2)	< 600 rpm	V_d or V_v	$\leq 2.5V_r$	> $2.5V_r$ to $6V_r$ or > 10.5 mils	> $6V_r$ or > 22 mils
Centrifugal and Vertical Line Shaft (Note 2)	≥ 600 rpm	V_v or V_d	$\leq 2.5V_r$	> $2.5V_r$ to $6V_r$ or > 0.325 in/sec	> $6V_r$ or > 0.70 in/sec
Reciprocating		V_d or V_v	$\leq 2.5V_r$	> $2.5V_r$ to $6V_r$	> $6V_r$

1. Definitions

   V_d - Vibration displacement peak-to-peak
   V_v - Vibration velocity peak
   V_r - Vibration reference value in selected units (mils or inch/sec)

2. For displacement limits for pumps with speeds ≥ 600rpm or velocity limits for pumps with speed < 600rpm, refer to the figure in Table 3, OMb-1989, Part 6. This figure was inadvertently omitted from OMa-1988, Part 6 where it is referenced in Table 3a as Figure 1.

TABLE 3

PUMP TEST TABLE

PUMP LISTING					MEASURED PARAMETERS					
SYSTEM	PUMP	SURV PROC NO	CLASS	FREQ	N	P	ΔP	Q	V	
Service Water	P7A	QO-14	3	Q	(1)	(3)	X	X	(2)RR9	e
	P7B	QO-14	3	Q	(1)	(3)	X	X	(2)RR9	
	P7C	QO-14	3	Q	(1)	(3)	X	X	(2)RR9	
Auxiliary Feedwater	P8A	MO-38	3	M	(1)	(3)	X	X	RR9	e
	P8B	MO-38	3	M	X	(3)	X	X	RR9	
	P8C	MO-38	3	M	(1)	(3)	X	X	RR9	
Component Cooling Water	P52A	QO-15	3	Q	(1)	(3)	X	X	RR9	e
	P52B	QO-15	3	Q	(1)	(3)	X	X	RR9	
	P52C	QO-15	3	Q	(1)	(3)	X	X	RR9	
Containment Spray	P54A	QO-16	2	Q	(1)	(3)	X	X	RR4/RR9	e
	P54B	QO-16	2	Q	(1)	(3)	X	X	RR4/RR9	
	P54C	QO-16	2	Q	(1)	(3)	X	X	RR4/RR9	
Chemical and Volume Control, Charging	P55A	QO-17	2	Q	X	X	X	X	RR4/RR9	e
	P55B	QO-17	2	Q	(1)	X	X	X	RR4/RR9	
	P55C	QO-17	2	Q	(1)	X	X	X	RR4/RR9	

TABLE 3

PUMP TEST TABLE

PUMP LISTING					MEASURED PARAMETERS				
SYSTEM	PUMP	SURV PROC NO	CLASS	FREQ	N	P	ΔP	Q	V
Chemical and Volume Control, Boric Acid	P56A	QO-18	2	Q	(1)	(3)	X	X	RR9
	P56B	QO-18	2	Q	(1)	(3)	X	X	RR9
High Pressure Safety Injection Pumps	P66A	QO-19	2	Q	(1)	(3)	X	X	RR9
	P66B	QO-19	2	Q	(1)	(3)	X	X	RR9
Low Pressure Safety Injection Pumps	P67A	QO-20	2	Q	(1)	(3)	X	X	RR4/RR9
	P67B	QO-20	2	Q	(1)	(3)	X	X	RR4/RR9
Diesel Jacket Water Cooling Pumps	P211A	MO-7A-1	3	M	RR7	(3)	RR7	RR7	RR7
	P211B	MO-7A-2	3	M	RR7	(3)	RR7	RR7	RR7

NOTE 1: Per Part 6, Table 2, Shaft Speed is not measured for pumps directly coupled to synchronous or induction type motors.

NOTE 2: The pump runs submerged. Therefore, only motor vibrations will be monitored.

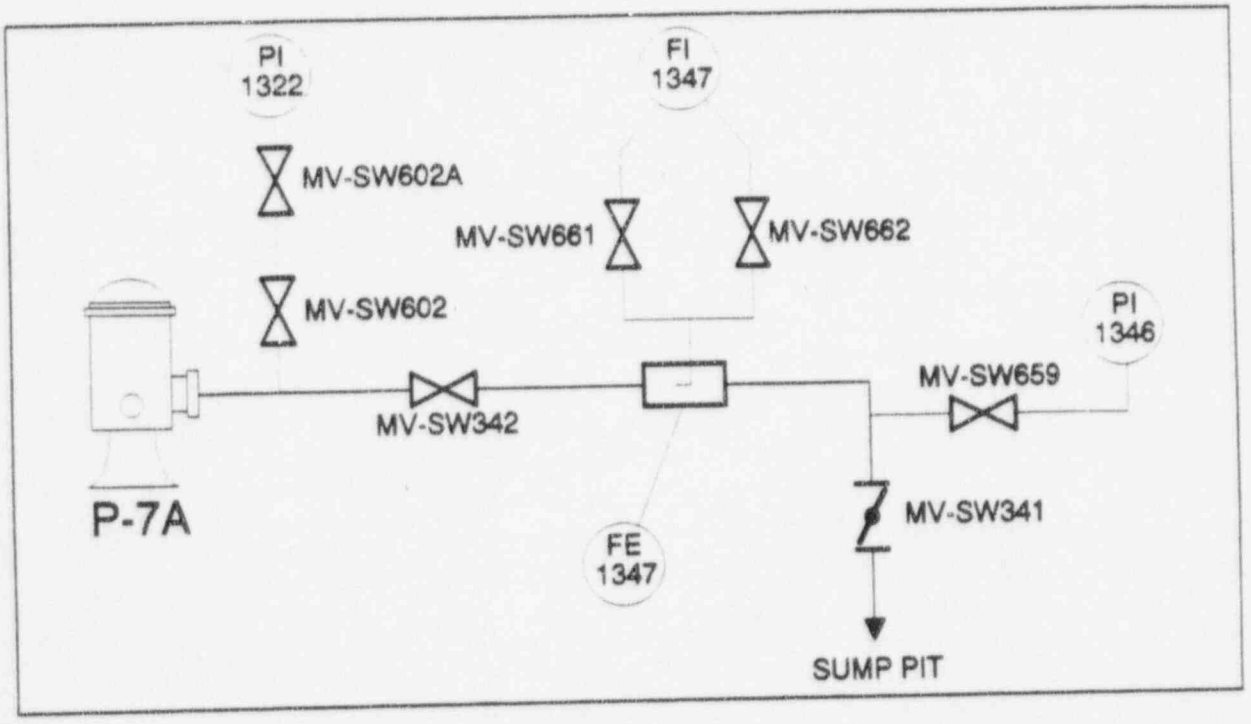
NOTE 3: Pump Outlet Pressure is required for positive displacement pumps only.

NOTE 4: Definitions

- N Pump Speed (variable Speed Pump only)
- P Discharge Pressure (Positive Displacement Pumps)
- ΔP Differential Pressure
- Q Flow Rate
- V Vibration (Displacement or Velocity as appropriate)

PUMP TEST HYDRAULIC CIRCUITS

SERVICE WATER SYSTEM TEST FLOWPATH		
PUMP P-7A	TEST PROC. NO. QO-14	P&ID: M-213/F3



SERVICE WATER PUMPS

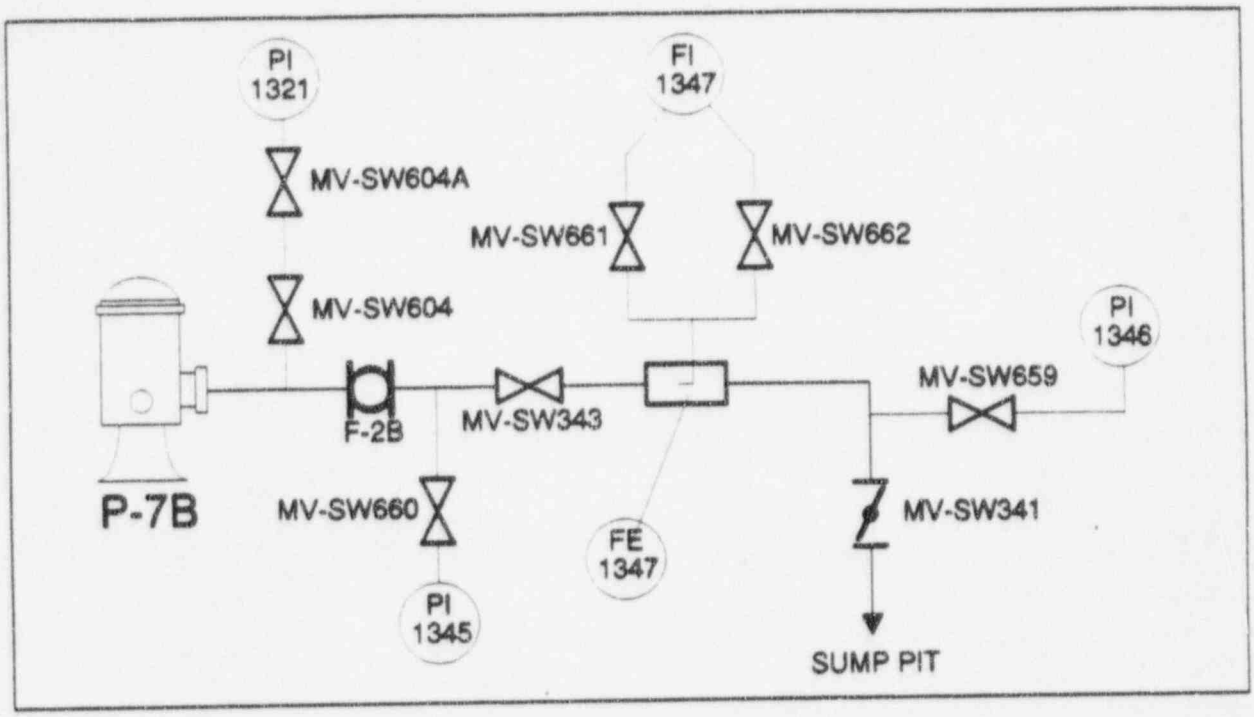
The Service Water Pumps have an active safety function to supply cooling water to essential loads during an accident as well as during normal Plant power operations. The SWS pumps start automatically upon receipt of a Safety Injection Signal (SIS). Each SWS pump delivers essentially 50% capacity. although one pump may be adequate during particular scenarios. The power supply to this pump is 2400 VAC bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	CALCULATED
DISCH PRESS (1)	VARIABLE PSI	PI-1322
DIFF PRESS	102 PSID	CALCULATED
FLOW RATE	2000 GPM	FI-1347
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

SERVICE WATER SYSTEM TEST FLOWPATH		
PUMP P-7B	TEST PROC. NO. QO-14	P&ID: M-213/F2



SERVICE WATER PUMPS

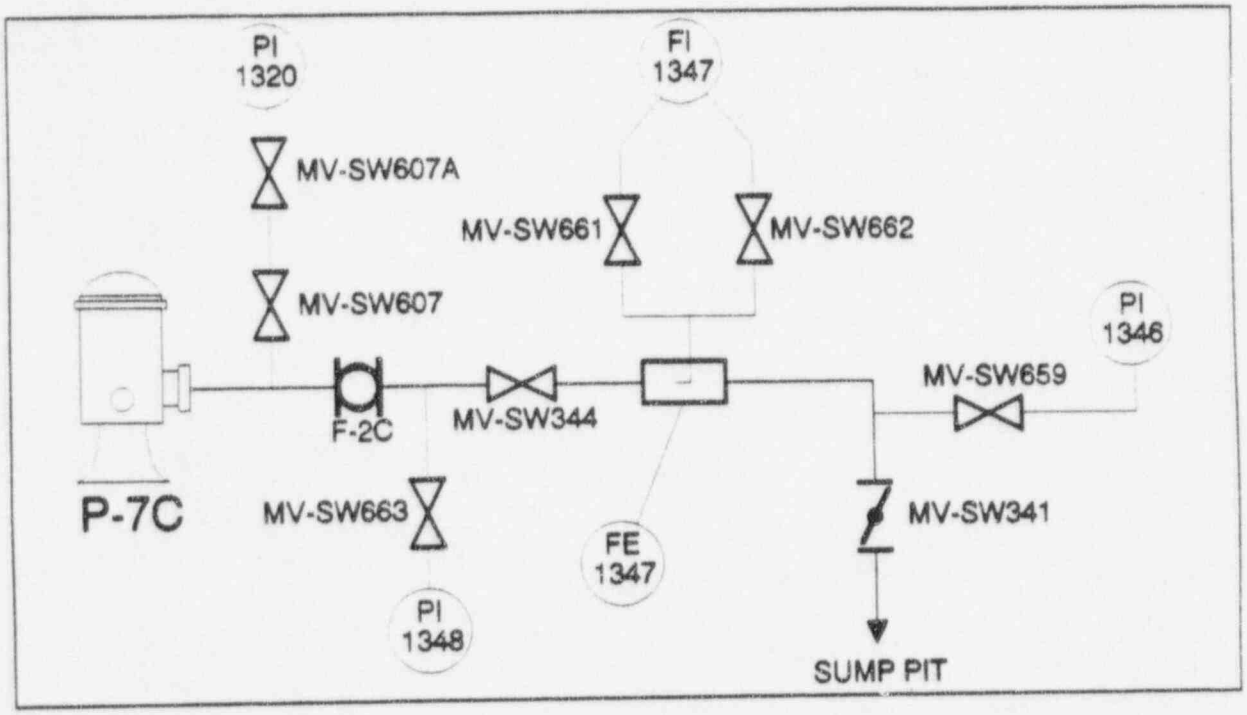
The Service Water Pumps have an active safety function to supply cooling water to essential loads during an accident as well as during normal Plant power operations. The SWS pumps start automatically upon receipt of a Safety Injection Signal (SIS). Each SWS pump delivers essentially 50% capacity, although one pump may be adequate during particular scenarios. The power supply to this pump is 2400 VAC bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	CALCULATED
DISCH PRESS (1)	VARIABLE PSI	PI-1321
DIFF PRESS	99 PSID	CALCULATED
FLOW RATE	2000 GPM	FI-1347
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

SERVICE WATER SYSTEM TEST FLOWPATH		
PUMP P-7C	TEST PROC. NO. QO-14	P&ID: M-213/F1



SERVICE WATER PUMPS

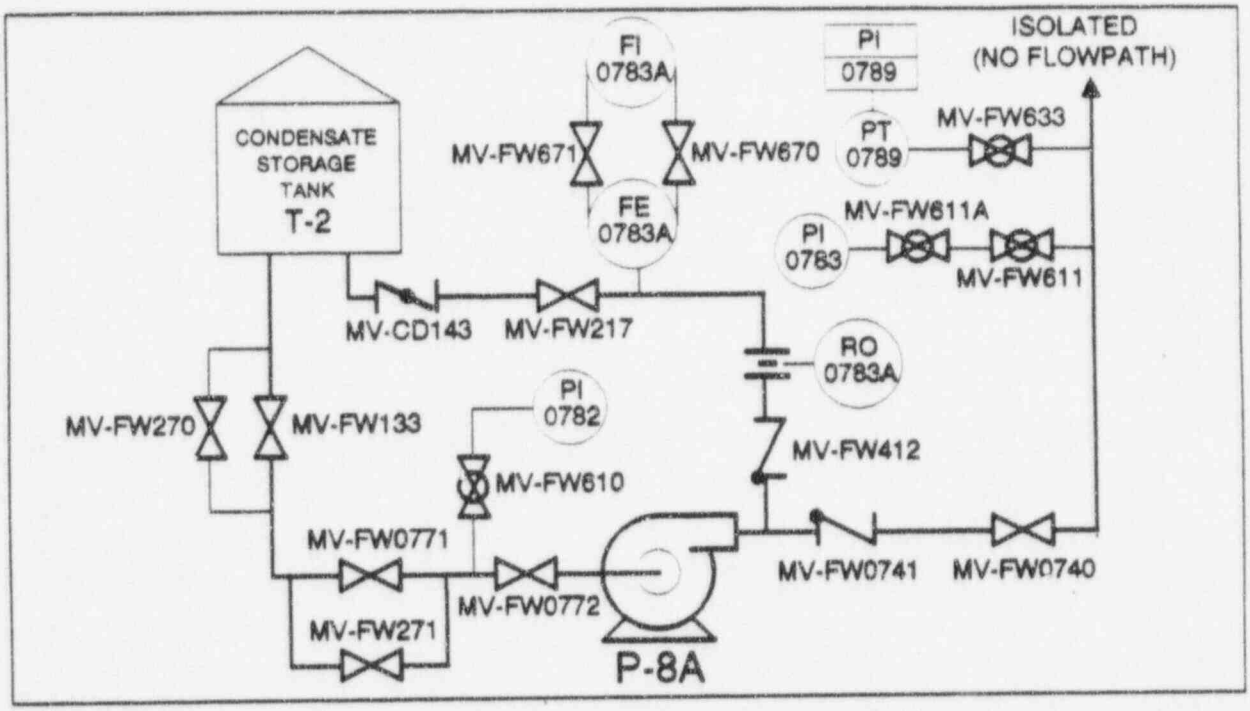
The Service Water Pumps have an active safety function to supply cooling water to essential loads during an accident as well as during normal Plant power operations. The SWS pumps start automatically upon receipt of a Safety Injection Signal (SIS). Each SWS pump delivers essentially 50% capacity. although one pump may be adequate during particular scenarios. The power supply to this pump is 2400 VAC bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	CALCULATED
DISCH PRESS (1)	VARIABLE PSI	PI-1320
DIFF PRESS	101 PSID	CALCULATED
FLOW RATE	2000 GPM	FI-1347
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

AUXILARY FEEDWATER SYSTEM TEST FLOWPATH		
PUMP P-8A	TEST PROC. NO. MO-38	P&ID: M-207-2/E6



AUXILIARY FEEDWATER PUMPS

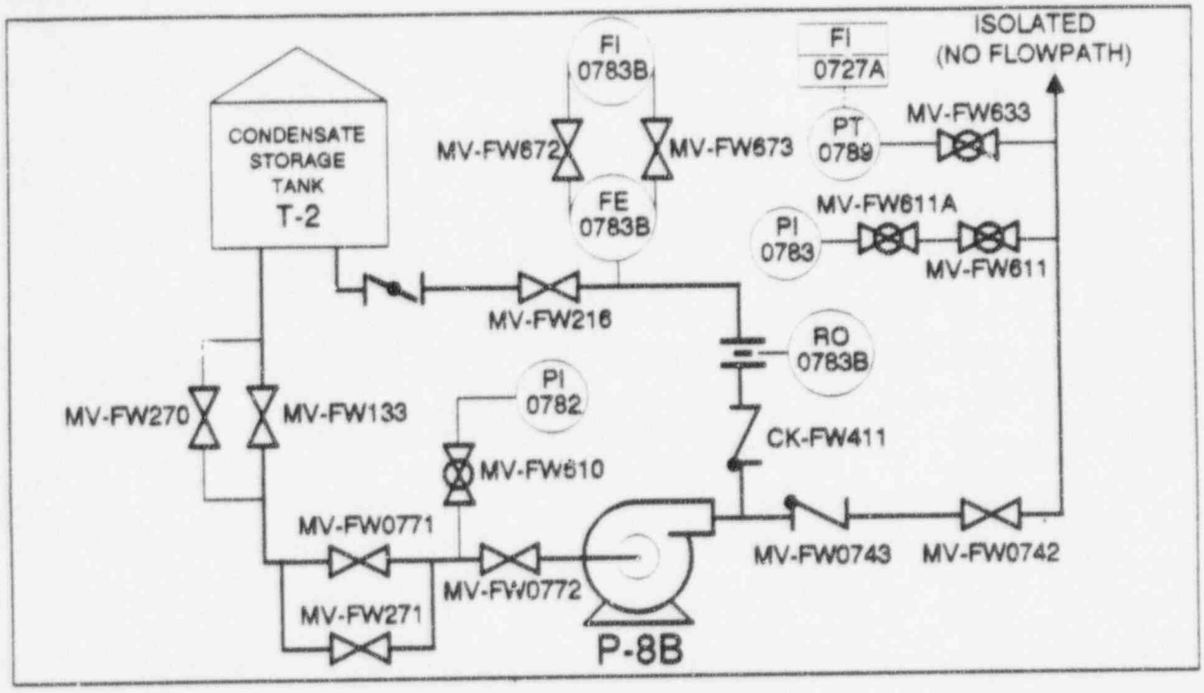
The Auxiliary Feedwater Pumps have an active safety function to supply 100% of the required AFW flow during accident and normal startup and shutdown conditions. AFW flow is required whenever the main feedwater system is unavailable following a loss of offsite power, main feed line break, or a steam line break. These pumps start automatically upon receipt of an Auxiliary Feedwater Actuation Signal (AFAS). Flow from these pumps can be directed to either or both Steam Generators. P-8A is powered from safety-related 2400 VAC bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	PI-0783
DISCH PRESS (1)	VARIABLE PSI	PI-0782
DIFF PRESS	1530 PSID	CALCULATED
FLOW RATE	78 GPM	FI-0783A
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

AUXILARY FEEDWATER SYSTEM TEST FLOWPATH		
PUMP P-8B	TEST PROC. NO. MO-38	P&ID: M-207-2/H6



AUXILIARY FEEDWATER PUMPS

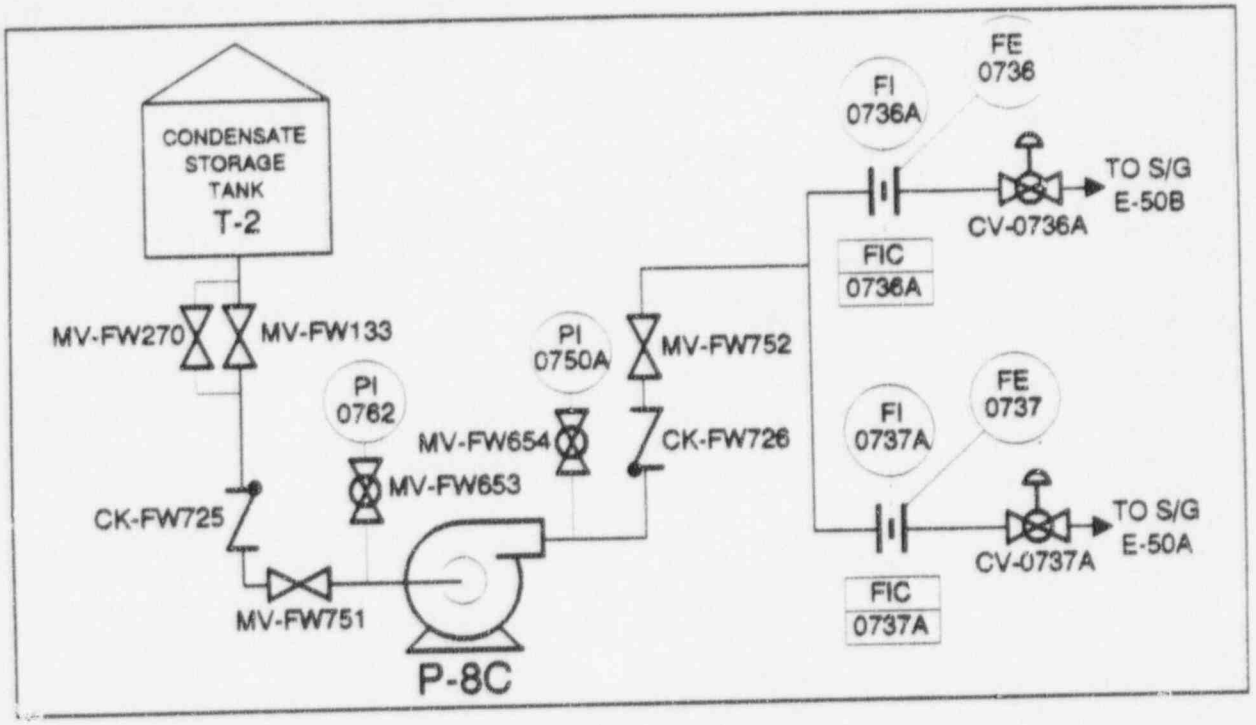
The Auxiliary Feedwater Pumps have an active safety function to supply 100% of the required AFW flow during accident and normal startup and shutdown conditions. AFW flow is required whenever the main feedwater system is unavailable following a loss of offsite power, main feed line break, or a steam line break. These pumps start automatically upon receipt of an Auxiliary Feedwater Actuation Signal (AFAS). Flow from these pumps can be directed to either or both Steam Generators. P-8B is turbine driven using steam from S/G E-50A or alternately S/G E-50B.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	3560 RPM	PORTABLE
INLET PRESS (1)	VARIABLE PSI	PI-0783
DISCH PRESS (1)	VARIABLE PSI	PI-0782
DIFF PRESS	1509 PSID	CALCULATED
FLOW RATE	65 GPM	FI-0783B
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

AUXILARY FEEDWATER SYSTEM TEST FLOWPATH		
PUMP P-8C	TEST PROC. NO. MO-38	P&ID: M-207-2/B6



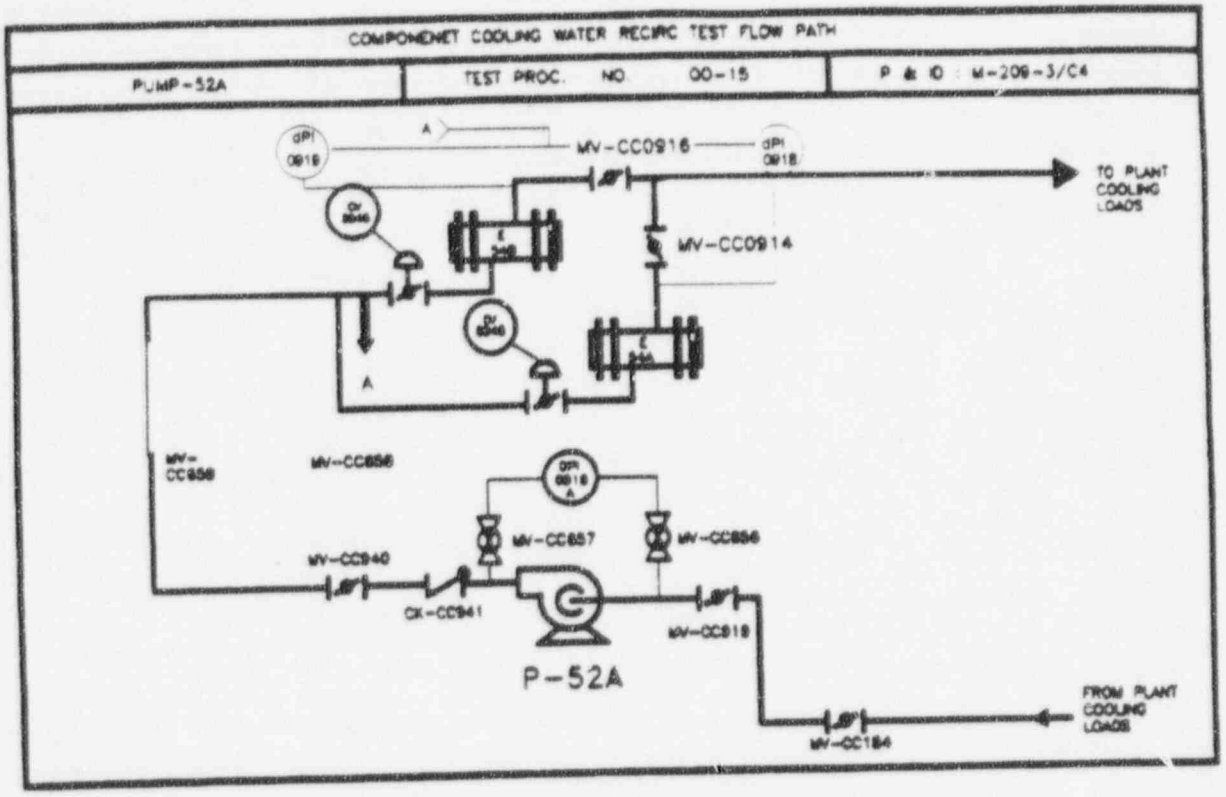
AUXILIARY FEEDWATER PUMPS

The Auxiliary Feedwater Pumps have an active safety function to supply 100% of the required AFW flow during accident and normal startup and shutdown conditions. AFW flow is required whenever the main feedwater system is unavailable following a loss of offsite power, main feed line break, or a steam line break. These pumps start automatically upon receipt of an Auxiliary Feedwater Actuation Signal (AFAS). Flow from these pumps can be directed to either or both Steam Generators. P-8C is powered from safety-related 2400 VAC bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	PI-0750A
DISCH PRESS (1)	VARIABLE PSI	PI-0762
DIFF PRESS	1040 PSID	CALCULATED
FLOW RATE	165 GPM	FI-0736A
	165 GPM	FI-0737A
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS



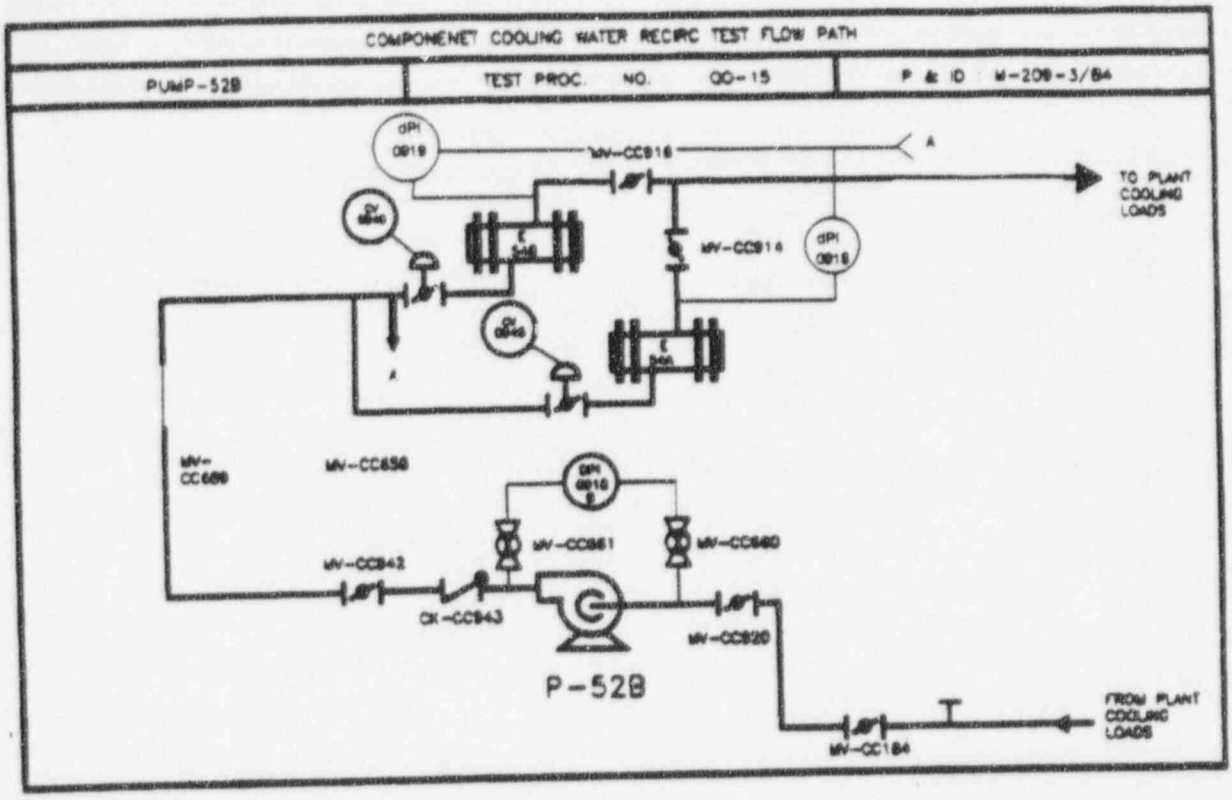
COMPONENT COOLING WATER PUMPS

The Component Cooling Water Pumps are designed to maintain Plant cooling loads during normal operation and accident conditions. These pumps provide adequate cooling capability for the Safety Injection and Containment Spray water when it is recirculated through the Shutdown Cooling Heat Exchangers and for cooling the glands of the Safety Injection, Charging and Containment Spray Pumps. This pump is provided with 2400 VAC emergency power from bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS		DPI-0918A
1 Pump Test	85.3 PSID	
2 Pump Test	91.1 PSID	
FLOW RATE (1)		DPI-0918/0919
1 Pump Test	6.0 PSID	
2 Pump Test	15 PSID	
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Flow rate is determined by setting heat exchanger E-54A and E-54B to a specified reference value.

PUMP TEST HYDRAULIC CIRCUITS



COMPONENT COOLING WATER PUMPS

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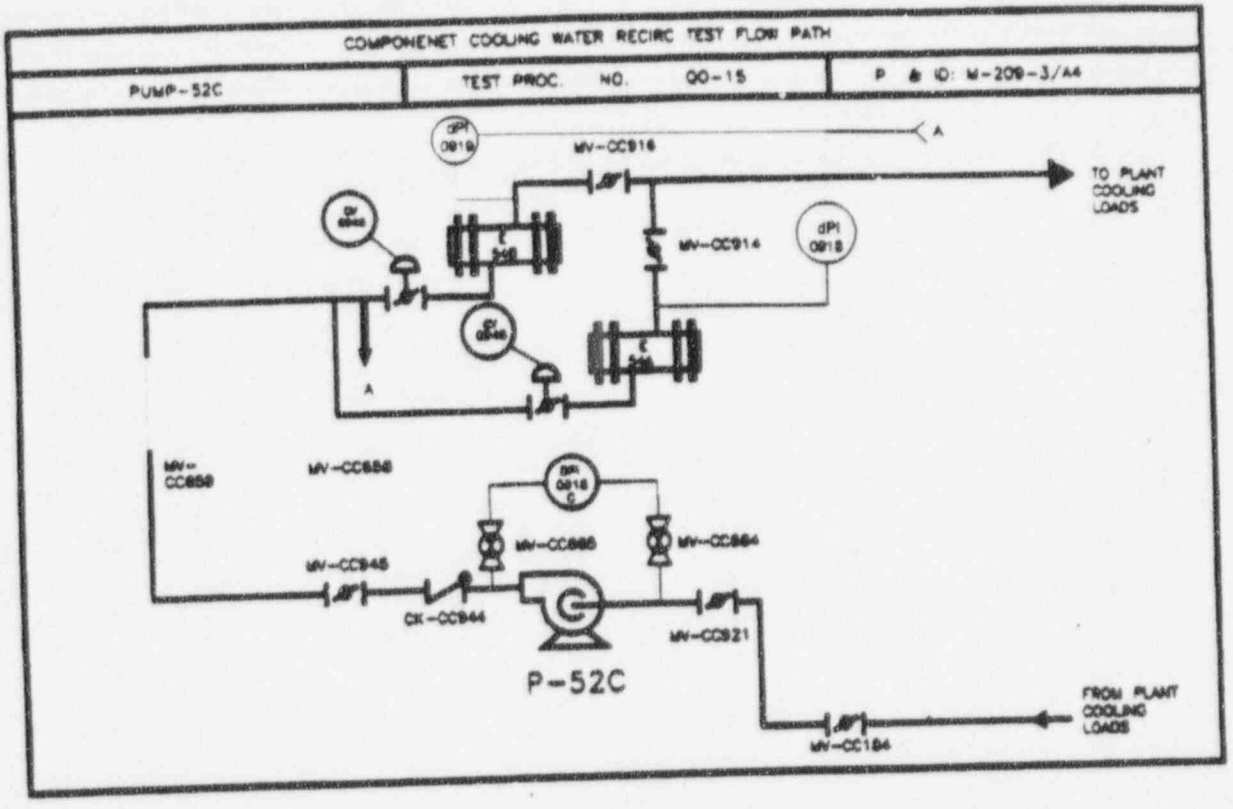
PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS		DPI-0918B
1 Pump Test	85.8 PSID	
2 Pump Test	91.4 PSID	
FLOW RATE (1)		DPI-0918/0919
1 Pump Test	6.0 PSID	
2 Pump Test	15 PSID	
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Flow rate is determined by setting heat exchanger E-54A and E-54B to a specified reference value.

PUMP TEST HYDRAULIC CIRCUITS



COMPONENT COOLING WATER PUMPS

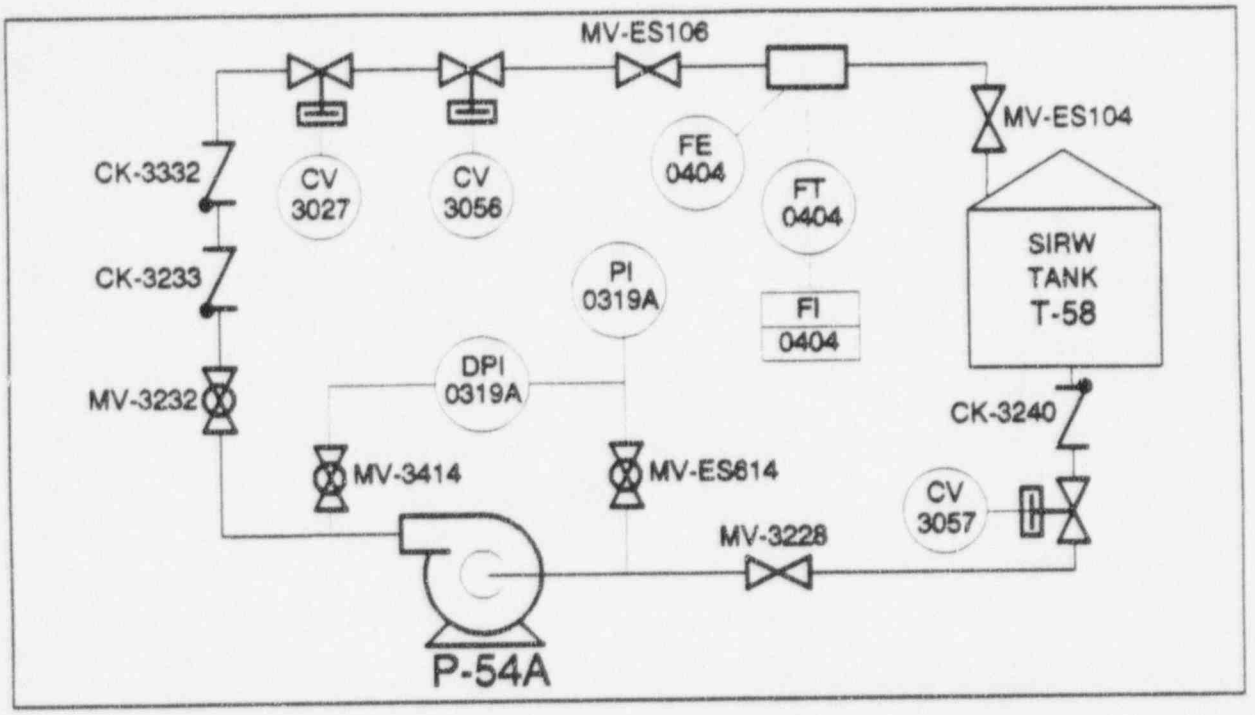
The Component Cooling Water Pumps are designed to maintain Plant cooling loads during normal operation and accident conditions. These pumps provide adequate cooling capability for the Safety Injection and Containment Spray water when it is recirculated through the Shutdown Cooling Heat Exchangers and for cooling the glands of the Safety Injection, Charging, and Containment Spray Pumps. This pump is provided with 2400 VAC emergency power from bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS		DPI-0918C
1 Pump Test	86.7 PSID	
2 Pump Test	90.3 PSID	
FLOW RATE (1)		DPI-0918/0919
1 Pump Test	6.0 PSID	
2 Pump Test	15 PSID	
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Flow rate is determined by setting heat exchanger E-54A and E-54B to a specified reference value.

PUMP TEST HYDRAULIC CIRCUITS

CONTAINMENT SPRAY SYSTEM TEST FLOWPATH		
PUMP P-54A	TEST PROC. NO. QO-16	P&ID: M-204-1A/D5



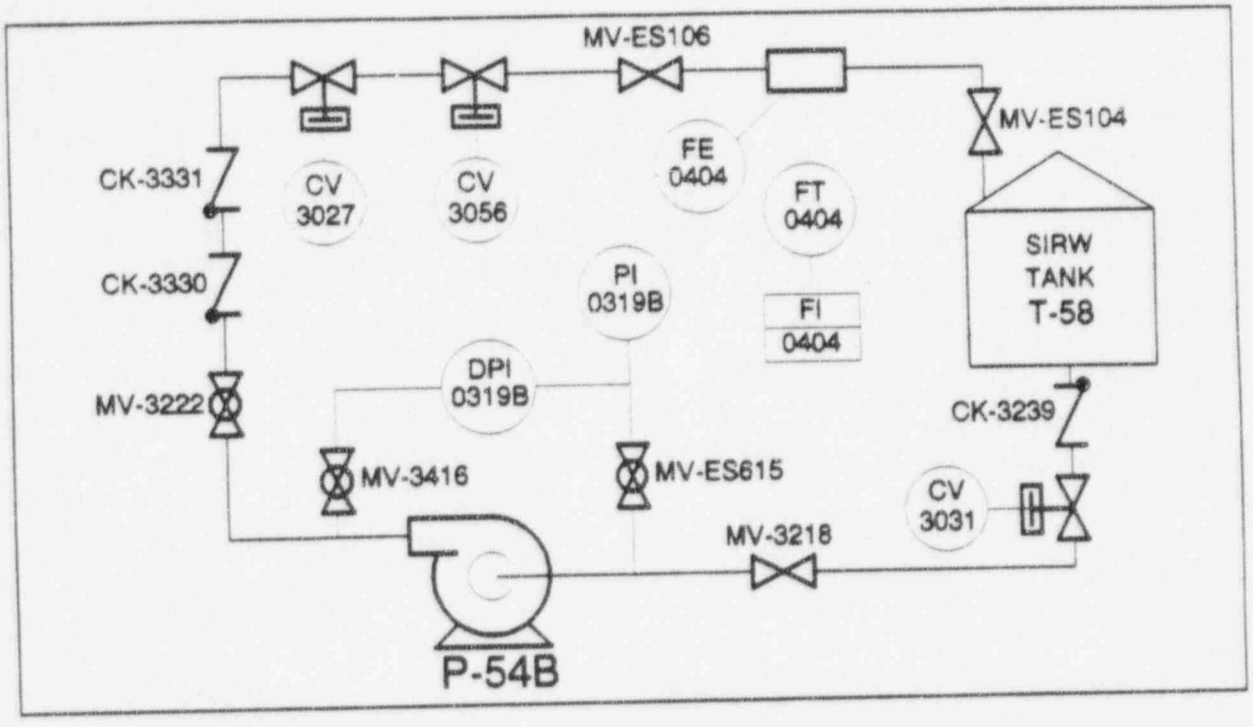
CONTAINMENT SPRAY PUMPS

The Containment Spray Pumps have an active safety function to supply water to the Containment Spray Headers. The water is used to depressurize the Containment following a LOCA or Main Steam Line Break. P-54A starts automatically upon receipt of a Containment High Pressure Signal (CHP). The Containment Spray Pumps are designed to provide 50% of the required Containment Spray flow each, which provides on redundant 50% capacity pump. Pump P-54A is powered from 2400 VAC safety-related bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS	227 PSID	DPI-0319A
FLOW RATE	260 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

CONTAINMENT SPRAY SYSTEM TEST FLOWPATH		
PUMP P-54B	TEST PROC. NO. QO-16	P&ID: M-204-1/B3



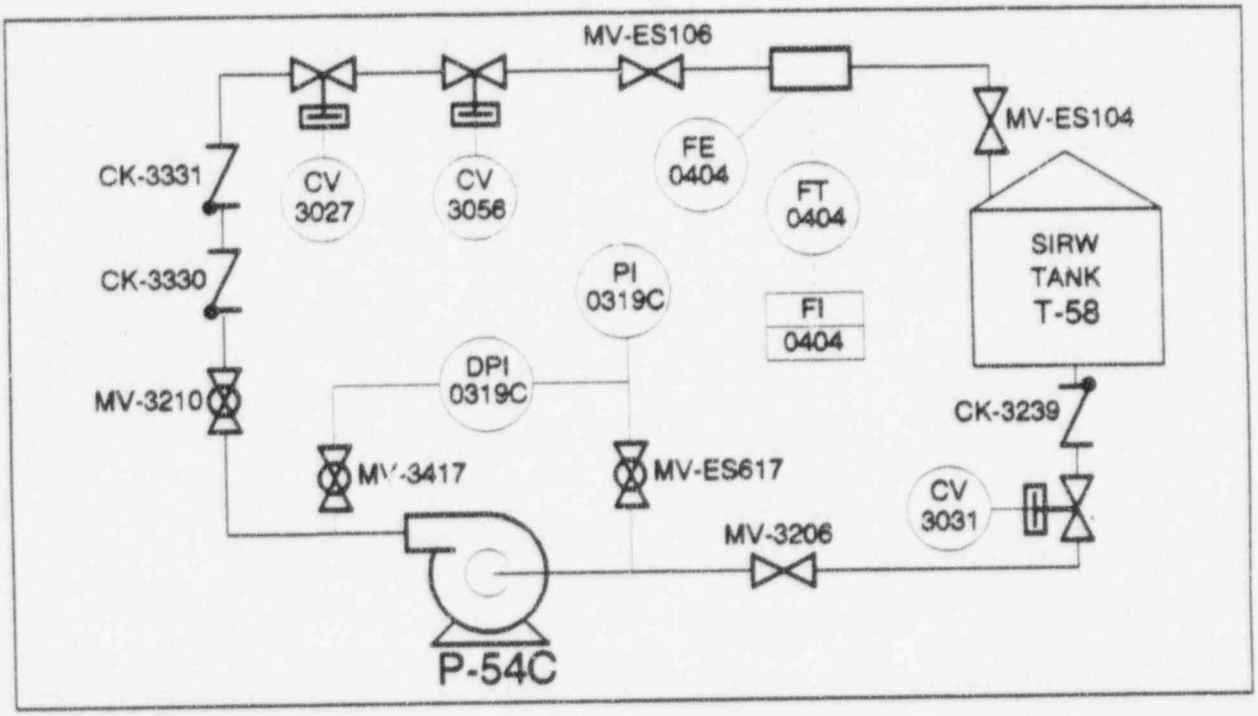
CONTAINMENT SPRAY PUMPS

The Containment Spray Pumps have an active safety function to supply water to the Containment Spray Headers. The water is used to depressurize the Containment following a LOCA or Main Steam Line Break. P-54B starts automatically upon receipt of a Containment High Pressure Signal (CHP). The Containment Spray Pumps are designed to provide 50% of the required Containment Spray flow each, which provides on redundant 50% capacity pump. Pump P-54B is powered from 2400 VAC safety-related bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS	225 PSID	DPI-0319B
FLOW RATE	260 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

CONTAINMENT SPRAY SYSTEM TEST FLOWPATH		
PUMP P-54C	TEST PROC. NO. QO-16	P&ID: M-204-1/D3

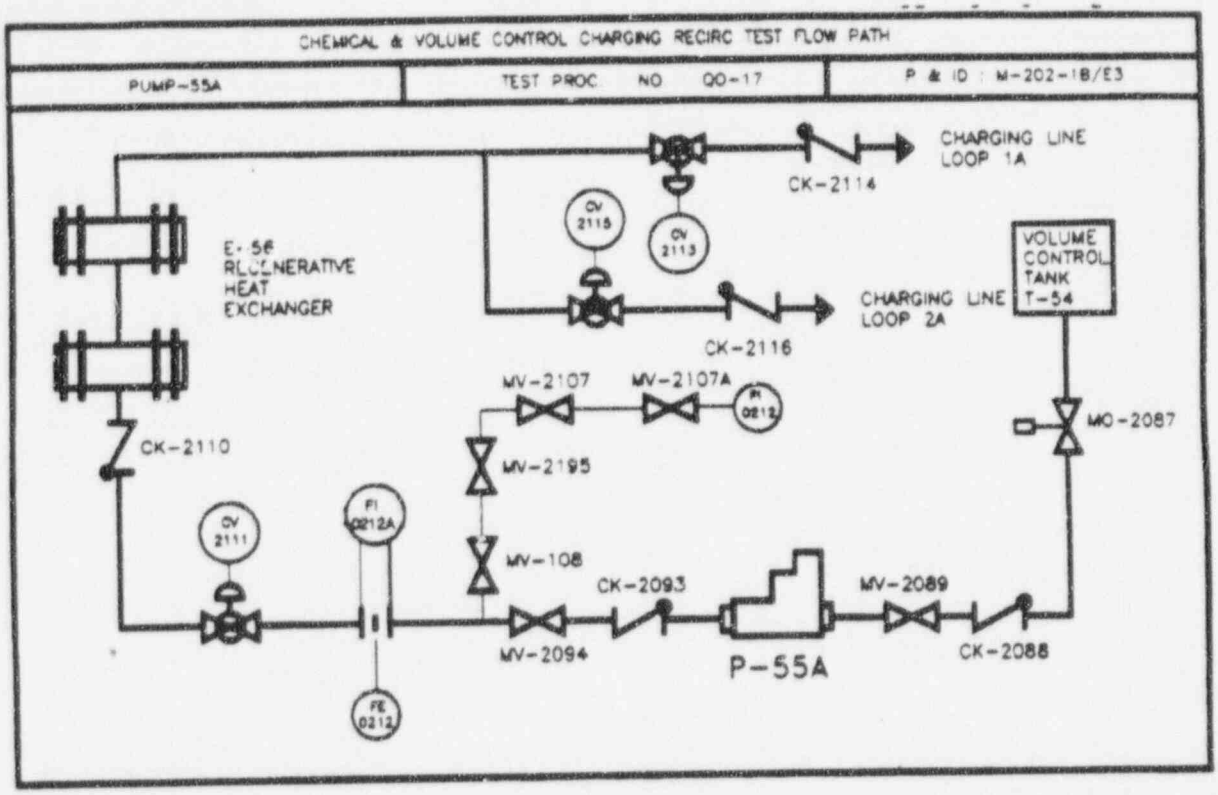


CONTAINMENT SPRAY PUMPS

The Containment Spray Pumps have an active safety function to supply water to the Containment Spray Headers. The water is used to depressurize the Containment following a LOCA or Main Steam Line Break. P-54C starts automatically upon receipt of a Containment High Pressure Signal (CHP). The Containment Spray Pumps are designed to provide 50% of the required Containment Spray flow each, which provides on redundant 50% capacity pump. Pump P-54C is powered from 2400 VAC safety-related bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS	225 PSID	DPI-0319C
FLOW RATE	260 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

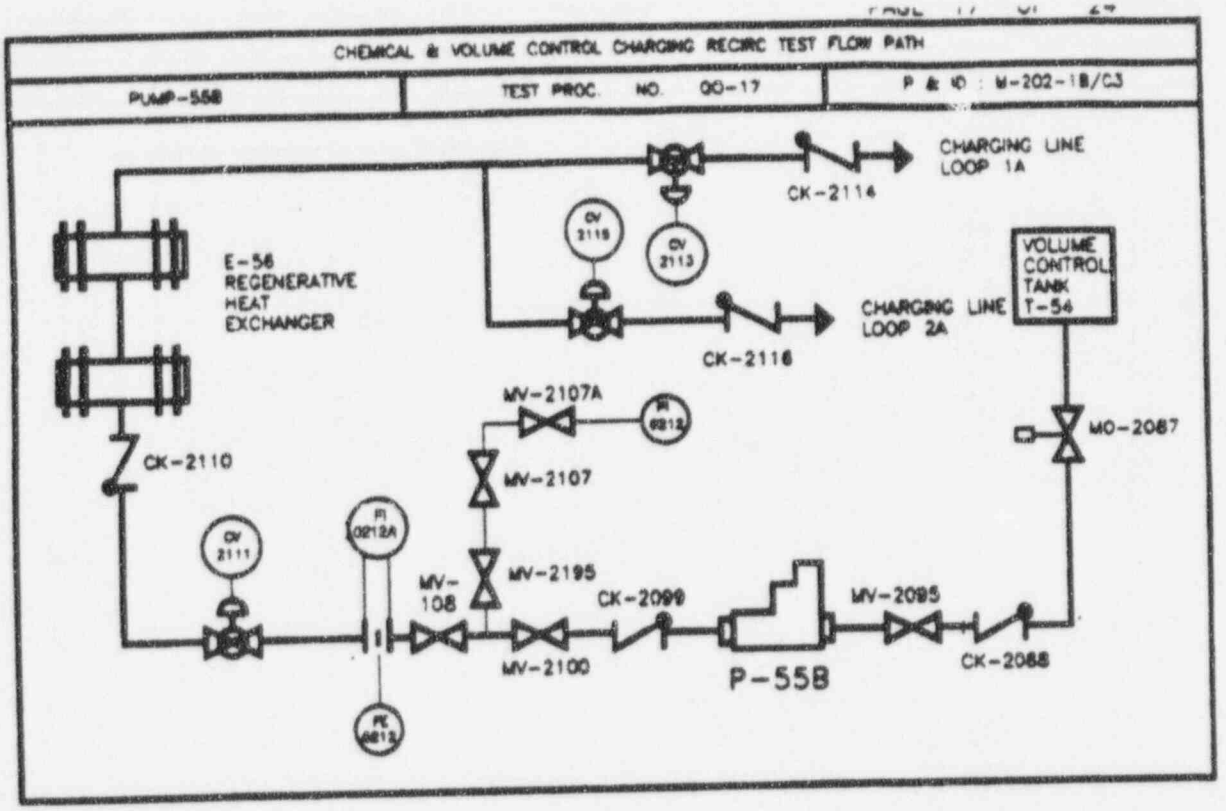


CHARGING PUMPS

P-55A is a variable speed positive displacement pump with an active safety function to provide boric acid to the Reactor Coolant System. This pump starts automatically upon receipt of a Safety Injection Signal (SIS). This pump has an additional safety function to provide auxiliary spray which is required during a S/G Tube Rupture accident. This pump is used for makeup purposes during Plant cooldown and has a capacity of 33 to 53 gpm. This injection rate is sufficient to maintain pressurizer level in an acceptable band during cooldown at the maximum rate of 75° F/hr when used in parallel with one of the other two charging pumps. P-55A is provided with emergency power from 480 VAC bus #12.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	620 RPM	PORTABLE
DISCH PRESS	VARIABLE PSI	PI-0212
FLOW RATE	50 GPM	FIA-0212
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

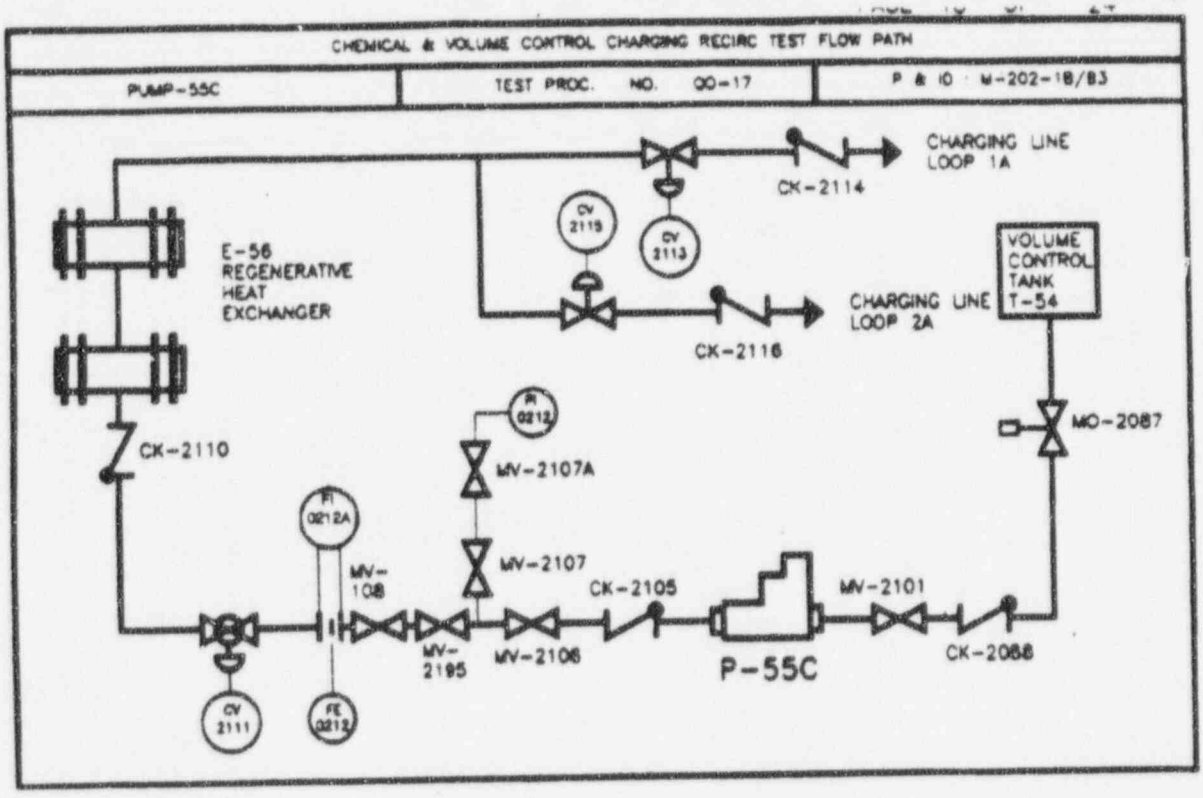


CHARGING PUMPS

P-55B is a constant speed positive displacement pump with an active safety function to provide boric acid to the Reactor Coolant System. This pump starts automatically upon receipt of a Safety Injection Signal (SIS). This pump has an additional safety function to provide auxiliary spray which is required during a S/G Tube Rupture accident. This pump is used for makeup purposes during Plant cooldown and has a capacity of 40 gpm. This injection rate is sufficient to maintain pressurizer level in an acceptable band during cooldown at the maximum rate of 75° F/hr when used in parallel with one of the other two charging pumps. P-55B is provided with emergency power from 480 VAC bus #12 or alternately bus #13.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DISCH PRESS	VARIABLE PSI	PI-0212
FLOW RATE	39 GPM	FIA-0212
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS



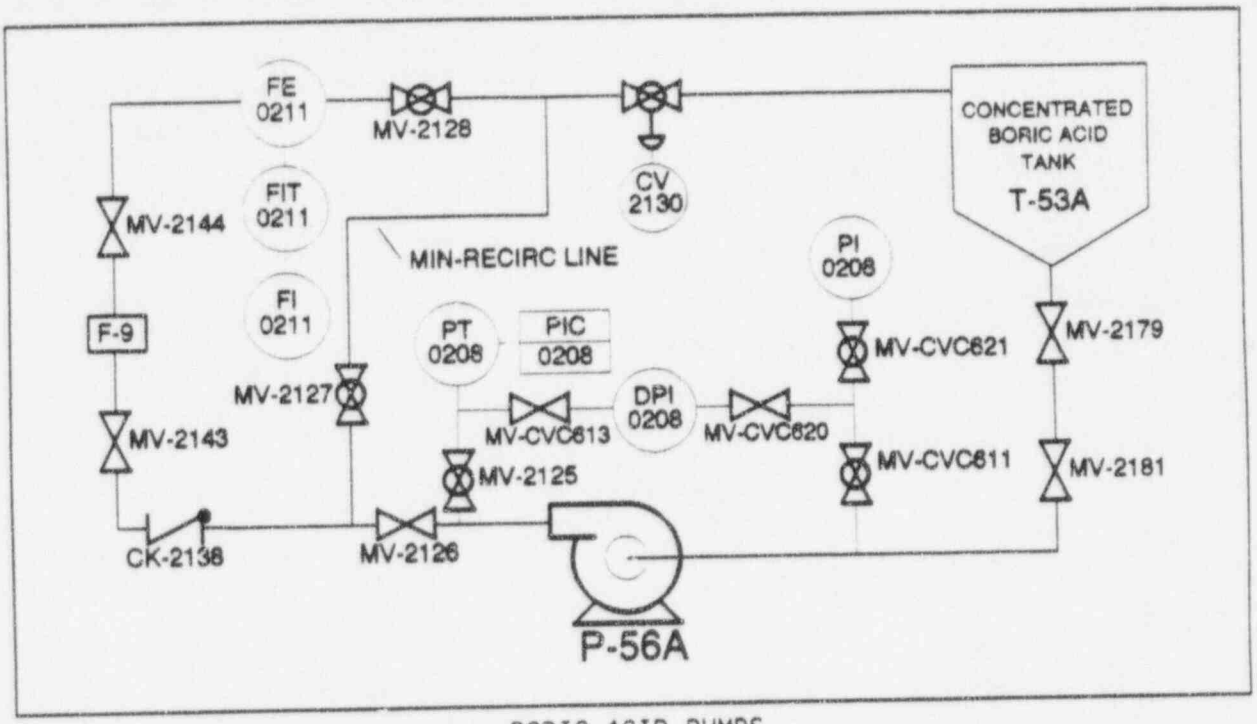
CHARGING PUMPS

P-55C is a constant speed positive displacement pump with an active safety function to provide boric acid to the Reactor Coolant System. This pump starts automatically upon receipt of a Safety Injection Signal (SIS). This pump has an additional safety function to provide auxiliary spray which is required during a S/G Tube Rupture accident. This pump is used for makeup purposes during Plant cooldown and has a capacity of 40 gpm. This injection rate is sufficient to maintain pressurizer level in an acceptable band during cooldown at the maximum rate of 75° F/hr when used in parallel with one of the other two charging pumps. P-55C is provided with emergency power from 480 VAC bus #11 or alternately from bus #12.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DISCH PRESS	VARIABLE PSI	PI-0212
FLOW RATE	39 GPM	FIA-0212
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

CHEMICAL & VOLUME CONTROL BORIC ACID RECIRC TEST FLOWPATHS		
PUMP P-56A	TEST PROC. NO. QO-18	P&ID: M-202-1A/B3



BORIC ACID PUMPS

The Boric Acid Pumps have an active safety function to provide boric acid from the concentrated boric acid tanks to the charging pumps during accident conditions. These pumps start automatically upon receipt of a Safety Injection Signal (SIS). P-56A has a design capacity of 143 gpm and a minimum design flow rate of 10 gpm recirculation flow. P-56A is powered from emergency 480 VAC MCC #2.

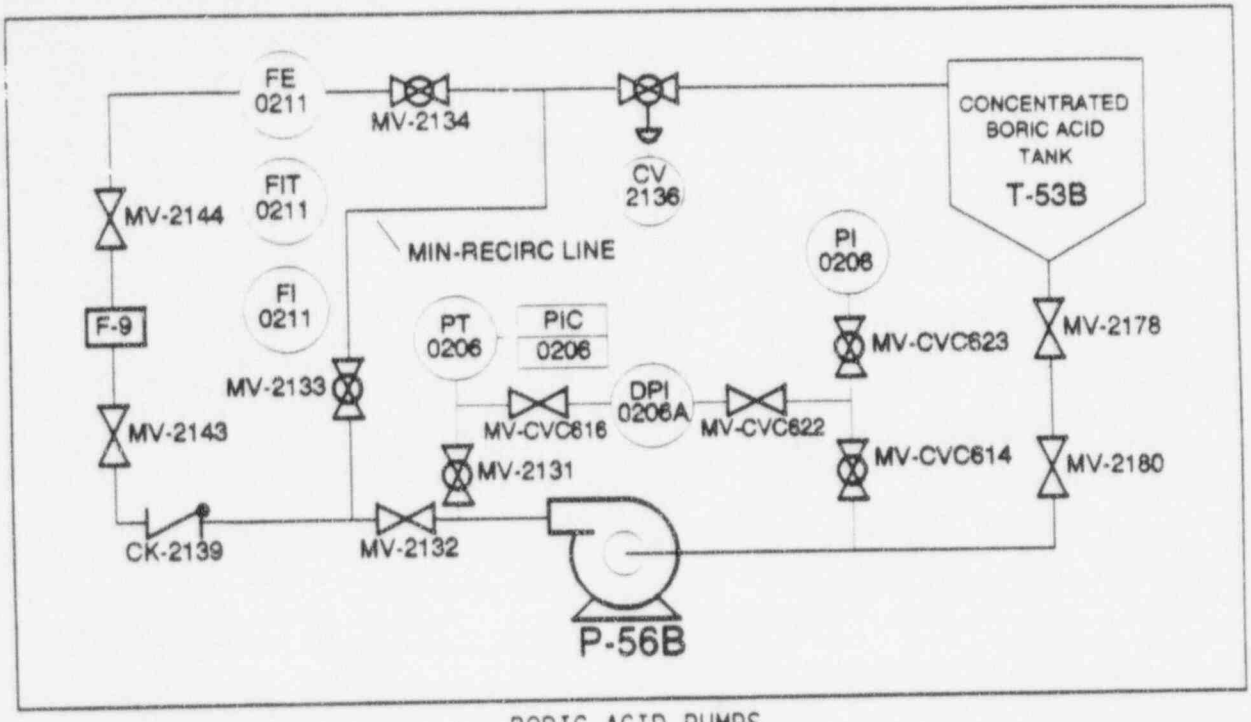
PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	CALCULATED
DISCH PRESS (1)	VARIABLE PSI	PIC-0208
DIFF PRESS(1)	108 PSID	CALCULATED
FLOW RATE (2)	MIN RECIRC	N/A
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure. DPI-0208 will replace this reading and calculation following resolution of problems and testing.

(2) The min-recirc flowpath is currently being used with no flow indication. Following repair and satisfactory testing of the FI-0211 loop. the flowpath through the F-9 filter will be used.

PUMP TEST HYDRAULIC CIRCUITS

CHEMICAL & VOLUME CONTROL BORIC ACID RECIRC TEST FLOWPATHS		
PUMP P-56B	TEST PROC. NO. QO-18	P&ID: M-202-1A/A3



BORIC ACID PUMPS

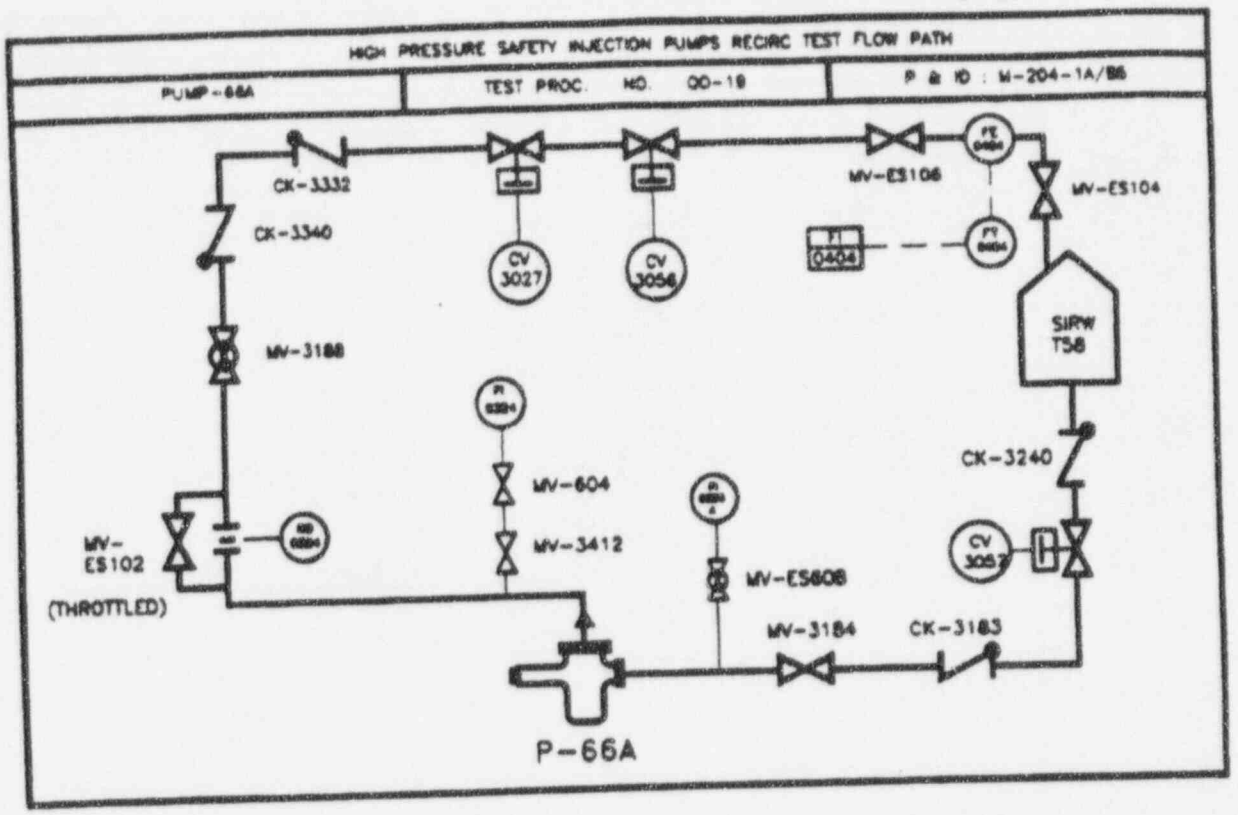
The Boric Acid Pumps have an active safety function to provide boric acid from the concentrated boric acid tanks to the charging pumps during accident conditions. These pumps start automatically upon receipt of a Safety Injection Signal (SIS). P-56B has a design capacity of 143 gpm and a minimum design flow rate of 10 gpm recirculation flow. P-56B is powered from emergency 480 VAC MCC #1.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	CALCULATED
DISCH PRESS (1)	VARIABLE PSI	PIC-0206
DIFF PRESS(1)	93 PSID	CALCULATED
FLOW RATE (2)	MIN RECIRC	N/A
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure. DPI-0206A will replace this reading and calculation following resolution of problems and testing.

(2) The min-recirc flowpath is currently being used with no flow indication. Following repair and satisfactory testing of the FI-0211 loop, the flowpath through the F-9 filter will be used.

PUMP TEST HYDRAULIC CIRCUITS



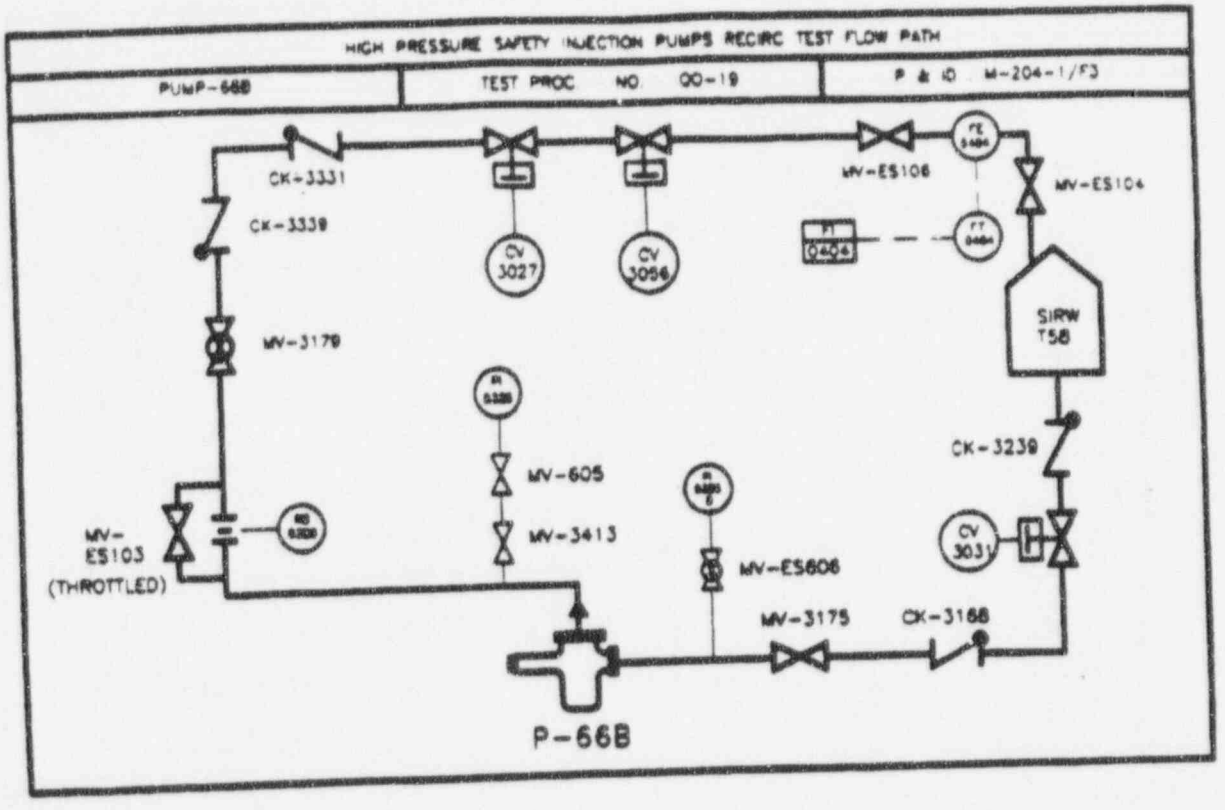
HIGH PRESSURE SAFETY INJECTION PUMPS

The High Pressure Safety Injection (HPSI) Pumps have an active safety function to supply primary makeup water in response to various accidents. The pumps start automatically upon receipt of a Safety Injection Signal (SIS) and may continue to operate to provide long term post accident cooling until Shutdown Cooling can be initiated. These pumps may be started manually by operators in response to a steam generator tube rupture. Each pump is designed to provide 100% of the required HPSI flow rate. The power supply to pump P-66A is safety-related 2400 VAC bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	PI-0326A
DISCH PRESS (1)	VARIABLE PSI	PI-0324
DIFF PRESS	1017 PSID	CALCULATED
FLOW RATE	400 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS



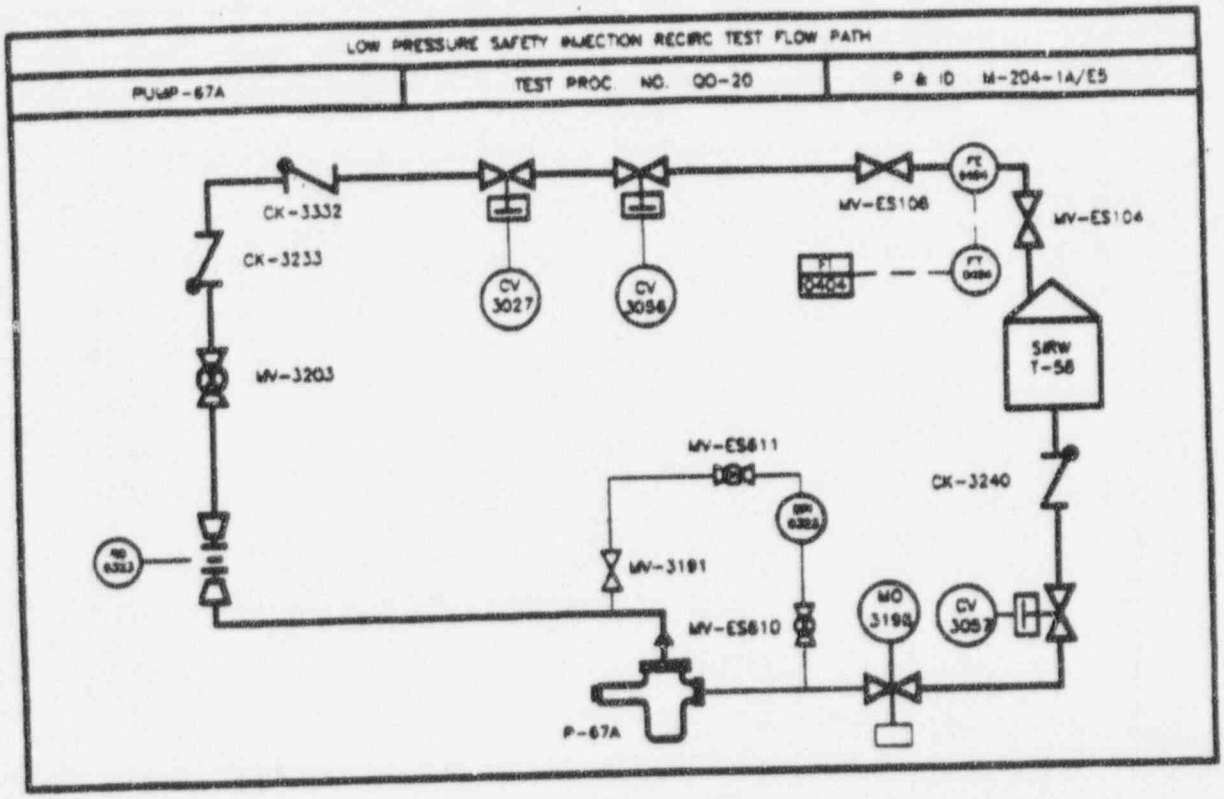
HIGH PRESSURE SAFETY INJECTION PUMPS

The High Pressure Safety Injection (HPSI) Pumps have an active safety function to supply primary makeup water in response to various accidents. The pumps start automatically upon receipt of a Safety Injection Signal (SIS) and may continue to operate to provide long term post accident cooling until Shutdown Cooling can be initiated. These pumps may be started manually by operators in response to a steam generator tube rupture. Each pump is designed to provide 100% of the required HPSI flow rate. The power supply to pump P-66B is safety-related 2400 VAC bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
INLET PRESS (1)	VARIABLE PSI	PI-0326B
DISCH PRESS (1)	VARIABLE PSI	PI-0325
DIFF PRESS	1006 PSID	CALCULATED
FLOW RATE	400 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

(1) Inlet and discharge pressure are only required for the calculation of pump differential pressure.

PUMP TEST HYDRAULIC CIRCUITS

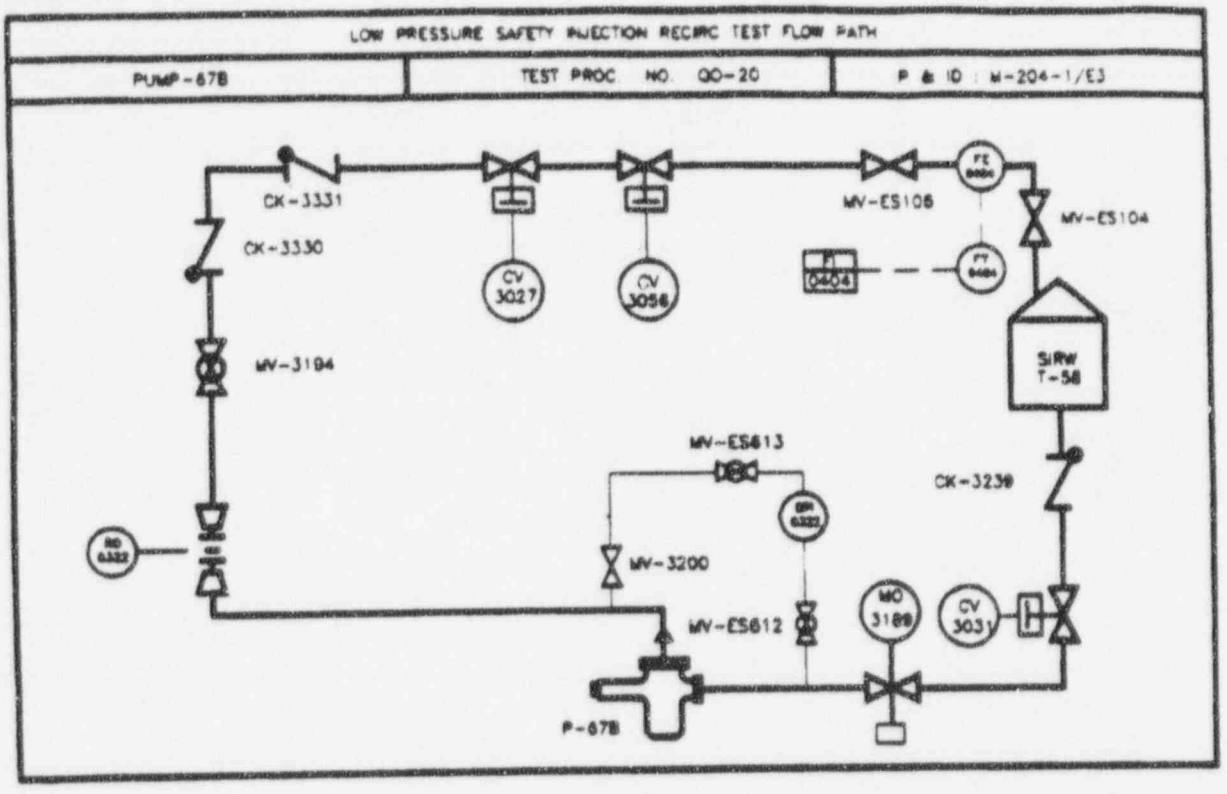


LOW PRESSURE SAFETY INJECTION PUMPS

The Low Pressure Safety Injection (LPSI) Pumps have an active safety function to supply primary makeup water in response to various accidents, as well as, provide cooling flow for either normal or post accident Shutdown Cooling. The pumps start automatically upon receipt of a Safety Injection Signal (SIS) or is started manually to enter Shutdown Cooling. The LPSI pumps are each designed to supply 100% of the required LPSI or Shutdown Cooling flow. The power supply to pump P-67A is safety-related 2400 VAC bus 1D.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DIFF PRESS	187 PSID	DPI-0323
FLOW RATE	190 GPM	FI-0404
VIBRATION	VARIABLE IPS-RMS	PORTABLE

PUMP TEST HYDRAULIC CIRCUITS



LOW PRESSURE SAFETY INJECTION PUMPS

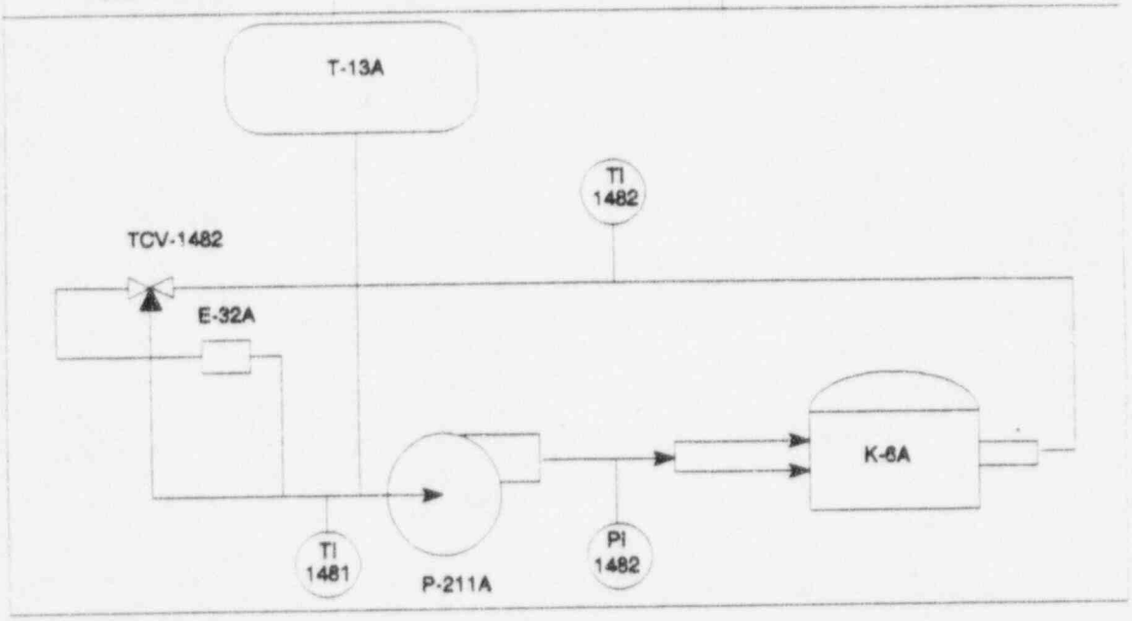
The Low Pressure Safety Injection (LPSI) Pumps have an active safety function to supply primary makeup water in response to various accidents, as well as, provide cooling flow for either normal or post accident Shutdown Cooling. The pumps start automatically upon receipt of a Safety Injection Signal (SIS) or is started manually to enter Shutdown Cooling. The LPSI pumps are each designed to supply 100% of the required LPSI or Shutdown Cooling flow. The power supply to pump P-67B is safety-related 2400 VAC bus 1C.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED DIFF PRESS FLOW RATE VIBRATION	CONSTANT RPM 186 PSID 190 GPM VARIABLE IPS-RMS	N/A DPI-0322 FI-0404 PORTABLE

PUMP TEST HYDRAULIC CIRCUITS

JACKET WATER COOLING PUMPS FLOW PATH

PUMP P-211A	TEST PROC. NO. MO-7A-1	P & ID M-214-1/45



DIESEL JACKET WATER COOLING PUMPS

The Diesel Jacket Water Cooling Pumps provide cooling water to the emergency diesel generators. Without this cooling water, the diesel generators would not be able to function in order to shut down the reactor or to mitigate the consequences of an accident as defined in the Palisades Nuclear Plant FSAR. These pumps are driven directly from the diesels.

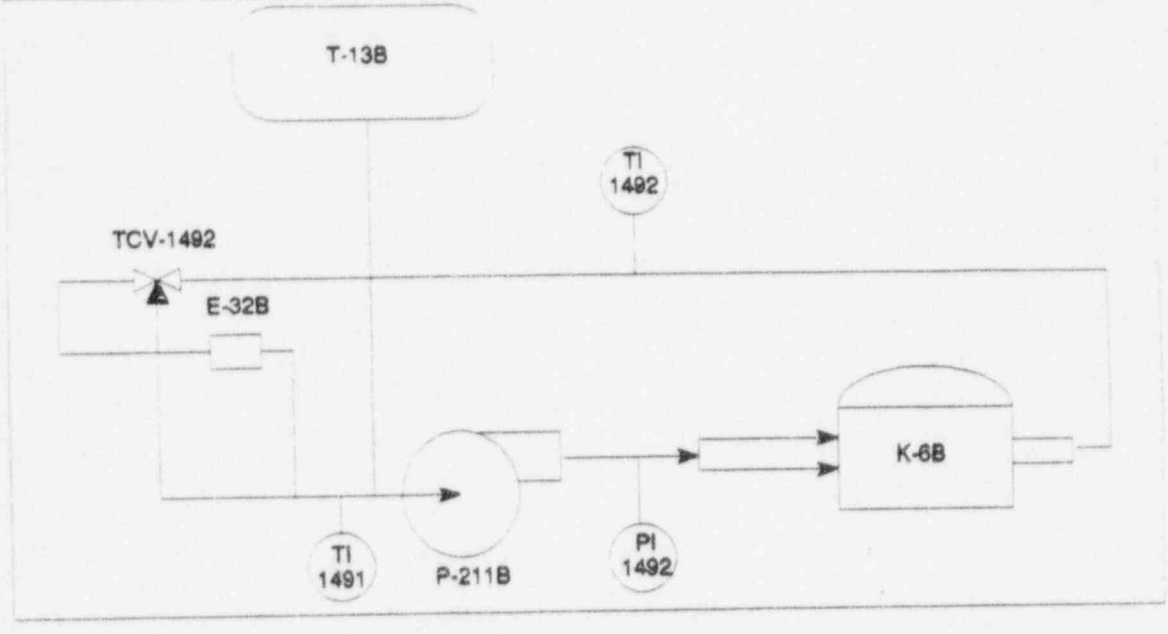
PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DISCH PRESS (1)	10 - 50 PSIG	PI-1482
TEMPERATURE	160 - 185 DEG F	TI-1482
	90 - 185 DEG F	TI-1481

(1) Discharge pressure and temperature are recorded in lieu of the requirements of OMa-1987, Part 6 in accordance with "Minutes of the Public Meeting on Generic Letter 89*04" published 10/25/89 by the NRC. Question 110. This philosophy is also endorsed by draft NUREG-1482s position of testing of skid mounted equipment.

PUMP TEST HYDRAULIC CIRCUITS

JACKET WATER COOLING PUMPS FLOW PATH

PUMP P-211B | TEST PROC. NO. MO-7A-2 | P & ID M-214-1/45



DIESEL JACKET WATER COOLING PUMPS

The Diesel Jacket Water Cooling Pumps provide cooling water to the emergency diesel generators. Without this cooling water, the diesel generators would not be able to function in order to shut down the reactor or to mitigate the consequences of an accident as defined in the Palisades Nuclear Pylant FSAR. These pumps are driven directly from the diesels.

PARAMETER	REFERENCE SET	INSTRUMENT
SPEED	CONSTANT RPM	N/A
DISCH PRESS (1)	10 - 50 PSIG	PI-1492
TEMPERATURE	160 -185 DEG F	TI-1492
	90 - 185 DEG F	TI-1491

(1) Discharge pressure and temperature are recorded in lieu of the requirements of OMa-1987, Part 6 in accordance with "Minutes of the Public Meeting on Generic Letter 89*04" published 10/25/89 by the NRC. Question 110. This philosophy is also endorsed by draft NUREG-1482s position of testing of skid mounted equipment.

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 1

Relief Request 1

Not

Required for Third Interval

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 2

Relief Request 2

Not

Required for Third Interval

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 3

Relief Request 3

Not

Required for Third Interval

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 4

SYSTEM: Containment Spray
Low Pressure Safety Injection

PUMP: Containment Spray Pumps (P-54A, P-54B, P-54C)
Low Pressure Safety Injection Pumps (P-67A, P-67B)

CLASS: Class 2

FUNCTION:

The safety-related Code pumps listed above perform a specific function in shutting down the reactor or mitigating the consequences of an accident as defined in the Palisades Nuclear Plant UFSAR.

TEST REQUIREMENT:

Pump vibration measurement acceptance criteria shall be in accordance with OMa-1988 Part 6, Table 3a.

RELIEF REQUESTED:

CPCo requests relief from the alert limits specified in OM-6 and proposes the following vibration acceptance criteria limits for the Containment Spray and Low Pressure Safety Injection Pumps.

The required action limits will be as specified in OM-6, Table 3a for all vibration locations and channels; the limit is "> .490 IPS-RMS" (corrected for RMS). Each pump and axis was examined individually for applicable alert limits using data from 1991 to mid-1995. For channels with reference values adequately below the OM-6 specified alert limit, "> .228 IPS-RMS" (corrected for RMS) was applied per Table 3a. If the channel was consistently close to or above .228 IPS-RMS, the mean value plus four standard deviations was used for the alert limit.

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 4

BASIS FOR RELIEF:

The Containment Spray Pumps and the Low Pressure Safety Injection Pumps are tested quarterly using flow circuits of limited capacity; no alternative flowpaths exist for on-line testing. As a result, the Containment Spray Pumps are tested at approximately 10% of rated capacity and the Low Pressure Safety Injection Pumps are tested at approximately 6% of rated capacity. For centrifugal pumps of this size, vibrations are excessively higher at lower flowrates than at normal operating flowrates due to energy dissipation, internal recirculation, and subsequent cavitation effects. The net effect of these reduced pump flowrates is the higher, yet consistent, vibration levels measured during surveillance testing. Correspondence from the vendor (Ingersoll-Rand), dated June 22, 1987 states that in order to obtain acceptable mechanical performance, a recirculation flowrate of 1140 gpm (~35% of rated capacity) should be used for Low Pressure Safety Injection Pump testing. Due to their similar design and capacity, flowrate of the same magnitude is assumed to be required for acceptable Containment Spray Pump performance.

Pump recirculation is further described in detail in McGraw-Hill's "Pump Handbook," 2nd edition. Operation of centrifugal pumps at reduced flowrates and associated problems is also addressed in Igor Karassik's "Centrifugal Pump Clinic," 2nd edition.

Results from two Containment Spray Pump special tests at 38% of rated capacity (2/11/91 and 4/7/92) and a Low Pressure Safety Injection Pump performance test (1/19/91-1/20/91) measured all vibration levels below the maximum alert limit specified in OM-6. The pumps were determined to be mechanically sound and operating acceptably following the performance of these tests. These higher flow tests confirm that reduced flowrate testing causes internal recirculation which in turn leads to higher vibration readings. Subsequent and bounding tests for all five pumps at the reduced flowrates (currently being used) measured vibrations in IPS-RMS that fall in the alert range per OM-6.

These higher vibrations have been trended since May of 1991 and show no signs of increase. Channel for channel, the vibrations are higher, but consistent with the vibrations recorded at higher flowrates. Detailed vibration signatures, taken following every RMS reading, do not indicate any pump degradation or problems per industry standards. Although there is significant "noise" typical of cavitation like disturbance, the levels across the spectrum are low enough such that any vibration symptom would be easily identified. Additionally, the vibration signatures have acceptable IPS-Peak values which indicates that the IPS-RMS values used for trending are complex combinations of many superimposed inputs.

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 4

Based on this discussion, the vibration levels at reduced flowrates are acceptable, expected, and do not prohibit useful predictive testing. However, application of the OM-6 alert limits for vibrations would inappropriately require these pumps to be regularly placed on alert and their test frequency doubled, or would require significant system redesign and modification. Any additional testing burden would not be warranted and would only contribute to pump degradation (due to low flowrate testing). Furthermore, no benefit can be expected from this additional testing or from any system modification. Therefore, in accordance with 10CFR50.55a(a)(3)(ii), implementation of the ">.325 IPS-Peak" or ">.228 IPS-RMS" (corrected for RMS) alert range limit for these specific pumps represents an undue hardship without a compensating increase in quality or safety. Additionally, it is impractical to meet the vibration alert requirements because the pumps must be tested at low flowrates through mini-recirc lines due to system design.

Ideally, three standard deviations should encompass 99.7% of all the vibration readings taken assuming identical conditions and no degradation. The additional standard deviation was added to prevent obvious data scatter from placing any unit on alert and causing unnecessary increased testing frequency. The resulting alert levels were examined for the degree of vibration permitted based on industry standards, as well as forewarning prior to reaching the required action range. It was determined that no unit would run into the "extreme" or "very rough" range as a result of the relaxed limits. Additionally, the alert limits are adequately below the required action ranges and will provide sufficient time to predict imminent failure and to schedule repair.

In addition to the quarterly inservice testing using the installed mini-recirc lines, the Containment Spray Pumps will be tested at a substantial flowrate beginning in the 1997 refueling outage; the Low Pressure Safety Injection Pumps are tested at a substantial flowrate per Special Test Procedure T-261. These tests will be/are scheduled at nominal 10 year intervals or following pump maintenance which may result in hydraulic or mechanical performance changes not detectable by the quarterly testing method. The testing schedule will coincide with plant refueling outages. Acceptable vibration performance will be reconfirmed during these tests.

e| NOTE: This relief request is approved per NRC Safety Evaluation dated 10/12/95 (UFI# G473/0299)

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 4

ALTERNATE VIBRATION REQUIREMENTS:

P-54A ALTERNATE VIBRATION REFERENCES AND RANGES

POINT ID	CHANNEL ID	REFERENCE VIBRATIONS (IPS-RMS)	ACCEPTABLE RANGE (IPS-RMS)	ALERT RANGE (IPS-RMS)	REQUIRED ACTION RANGE (IPS-RMS)
0922	1 (V)	230	VIBES ≤ 337	337 <VIBES≤ 490	VIBES > 490
	2 (A)	130	VIBES ≤ 228	228 <VIBES≤ 490	VIBES > 490
	3 (H)	250	VIBES ≤ 325	325 <VIBES≤ 490	VIBES > 490

P-54B ALTERNATE VIBRATION REFERENCES AND RANGES

POINT ID	CHANNEL ID	REFERENCE VIBRATIONS (IPS-RMS)	ACCEPTABLE RANGE (IPS-RMS)	ALERT RANGE (IPS-RMS)	REQUIRED ACTION RANGE (IPS-RMS)
0933	1 (V)	300	VIBES ≤ 331	331 <VIBES≤ 490	VIBES > 490
	2 (A)	200	VIBES ≤ 304	304 <VIBES≤ 490	VIBES > 490
	3 (H)	340	VIBES ≤ 416	416 <VIBES≤ 490	VIBES > 490

P-54C ALTERNATE VIBRATION REFERENCES AND RANGES

POINT ID	CHANNEL ID	REFERENCE VIBRATIONS (IPS-RMS)	ACCEPTABLE RANGE (IPS-RMS)	ALERT RANGE (IPS-RMS)	REQUIRED ACTION RANGE (IPS-RMS)
0930	1 (V)	190	VIBES ≤ 256	256 <VIBES≤ 490	VIBES > 490
	2 (A)	160	VIBES ≤ 228	228 <VIBES≤ 490	VIBES > 490
	3 (H)	300	VIBES ≤ 352	352 <VIBES≤ 490	VIBES > 490

P-67A ALTERNATE VIBRATION REFERENCES AND RANGES

POINT ID	CHANNEL ID	REFERENCE VIBRATIONS (IPS-RMS)	ACCEPTABLE RANGE (IPS-RMS)	ALERT RANGE (IPS-RMS)	REQUIRED ACTION RANGE (IPS-RMS)
0118	1 (V)	180	VIBES ≤ 271	271 <VIBES≤ 490	VIBES > 490
	2 (A)	100	VIBES ≤ 228	228 <VIBES≤ 490	VIBES > 490
	3 (H)	210	VIBES ≤ 400	400 <VIBES≤ 490	VIBES > 490

P-67B ALTERNATE VIBRATION REFERENCES AND RANGES

POINT ID	CHANNEL ID	REFERENCE VIBRATIONS (IPS-RMS)	ACCEPTABLE RANGE (IPS-RMS)	ALERT RANGE (IPS-RMS)	REQUIRED ACTION RANGE (IPS-RMS)
0936	1 (V)	170	VIBES ≤ 242	242 <VIBES≤ 490	VIBES > 490
	2 (A)	110	VIBES ≤ 228	228 <VIBES≤ 490	VIBES > 490
	3 (H)	190	VIBES ≤ 359	359 <VIBES≤ 490	VIBES > 490

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 5

Relief Request 5

Not

Required for Third Interval

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 6

Relief Request 6

Not

Required for Third Interval

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 7

SYSTEM: Diesel Jacket Water Cooling System

PUMP: P-211 A & B (Diesel Jacket Water Cooling Pumps)

CLASS: Class 3

FUNCTION:

The diesel jacket water pumps provide cooling water to the emergency diesel generators. Without this cooling water, the diesel generators would not be able to function in order to shut down the reactor or to mitigate the consequences of an accident as defined in the Palisades Nuclear Plant UFSAR.

TEST REQUIREMENT:

OMa-1988, Part 6, Table 3 requires the following parameters to be measured or observed:

*Differential pressure
*Flow rate
*Vibration amplitude

BASIS FOR RELIEF:

Relief is requested from the requirements of OMa-1988, Part 6, Table 3a parameters, while testing the above mentioned pumps. These pumps are mounted on the diesel generator's skid. These pumps only have discharge pressure and system temperature instrumentation installed. It is our interpretation that the NRC doesn't require skid mounted components to be tested per Subsection IWP. This is supported by the "Minutes of the Public Meeting on Generic Letter 89*04" published 10/25/89 by the NRC. Question 110 is applicable.

This response was reaffirmed in NUREG-1482 for Inservice Testing at Nuclear Power Plants, Draft Report for Comment. The position stated in NUREG-1482, in part, is as follows: "Until the scope of components for 10 CFR, Section 50.55a, is expanded to include all safety-related pumps and valves, and until the OM codes and standards specifically address skid-mounted components, the staff has determined that the testing of the major components is an acceptable means for verifying the operational readiness of the skid-mounted and component subassemblies."

ALTERNATE TESTING:

The diesel jacket water cooling pumps operability will be determined by the performance of the monthly diesel surveillances, Technical Specification Surveillance Procedures MO-7A-1, "Emergency Diesel Generator 1-1 (K-6A)," and MO-7A-2, "Emergency Diesel Generator 1-2 (K-6B)." During these surveillances, the jacket water temperature and pressure will be measured and compared to acceptance criteria to determine system operability. This is sufficient to determine the operability of the jacket water cooling system.

e NOTE: This relief request is considered approved in accordance with Generic Letter 89-04, Question 110.

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 8

SYSTEM: Chemical and Volume Control System

PUMP: P-55A (Variable Speed Charging Pump)
P-55B (Constant Speed Charging Pump)
P-55C (Constant Speed Charging Pump)

CLASS: Class 2

FUNCTION:

The Charging Pumps have an active safety function to provide boric acid to the Primary Coolant System. Additionally, they provide auxiliary spray during a Steam Generator Tube Rupture accident. During normal plant operations, they provide makeup to the Primary Coolant System.

TEST REQUIREMENT:

OMa-1988 to OM-1987, Part 6, Paragraph 4.6.1.6 states, "The frequency response range of vibration measuring transducers and their readout system shall be from one-third minimum pump shaft rotational speed to at least 1000 Hz.

BASIS FOR RELIEF:

Relief is requested on the basis that imposition of the OMa-1988 requirements for vibration frequency response range would not provide a compensating increase in nuclear safety. Obtaining vibration data in the correct frequency range is impractical using existing test equipment. The following information is applicable for the Palisades Charging Pumps:

Pump ID	Motor Speed	Pump Crankshaft Speed
P-55A	1786 rpm	115.5 rpm
P-55B	1790 rpm	203.2 rpm
P-55C	1790 rpm	203.2 rpm

A vibration monitoring system for pump P-55A would require the low end of the frequency response range to be 0.64 Hz. For Pumps P-55B and P-55C, the lower limit would be 1.13 Hz. The calibrated frequency response range of the vibration monitoring system employed at Palisades is 10 Hz to 1000 Hz. Vibration accuracy meets the Code required ± 5% over this entire range. This frequency response range is acceptable for rotational speeds of 1786 rpm and above.

A review of maintenance history did not reveal any instances of failure of Charging Pump crank shafts, connecting rods, or plungers. Failure or degradation of these components would be indicated in the lower frequency vibration ranges. Interviews with Systems Engineering and Maintenance Personnel confirms the lack of these types of failure.

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 8

ALTERNATE TESTING:

For the Charging Pumps, Palisades shall perform vibration monitoring of the pumps, unit gear housings, and motors. Pump readings in units of IPS-RMS shall be evaluated during the performance of testing to determine unit operability. Vibration signatures for the pumps, gear housings, and motors shall be reviewed on a quarterly basis. This review is intended to discover degradation of bearings, gears, and other components where degradation is indicated by vibration changes at frequencies greater than 10 Hz.

Additionally, Palisades will perform periodic Charging Pump inspections in accordance with the Periodic Maintenance Program. These inspections are designed to discover degradation of pump, gear box, and accumulator components.

The Charging Pumps are located in an accessible area of the Plant Auxiliary Building. Operator rounds are performed on a shift basis. Operators would note any unusual noises associated with degradation of low frequency Charging Pump components.

e NOTE: This relief request requires NRC review and approval. Implementation prior to NRC review and approval is allowed in accordance with the provisions of 10CFR50.55a(f)(5)(iii).

RELIEF REQUESTS

RELIEF REQUEST BASIS
NUMBER 9

SYSTEM: Auxiliary Feedwater
Boric Acid
Charging
Component Cooling Water
Containment Spray
High Pressure Safety Injection
Low Pressure Safety Injection
Service Water
Spent Fuel Pool Cooling

PUMP: Auxiliary Feedwater Pumps (P-8A, P-8B, P-8C)
Boric Acid Pumps (P-56A, P-56B)
Charging Pump (P-55A, P-55B, P55C)
Component Cooling Water Pumps (P-52A, P-52B, P-52C)
Containment Spray Pumps (P-54A, P-54B, P-54C)
High Pressure Safety Injection Pumps (P-66A, P-66B)
Low Pressure Safety Injection Pumps (P-67A, P-67B)
Service Water Pumps (P-7A, P-7B, P-7C)
Spent Fuel Pool Cooling Pumps (P-51A, P-51B)

CLASS: Class 2 and 3

FUNCTION:

The safety-related Code pumps listed above perform a specific function in shutting down the reactor or mitigating the consequences of an accident as defined in the Palisades Nuclear Plant UFSAR.

TEST REQUIREMENT:

Velocity vibration measurements shall be obtained in IPS-Peak per OMa-1988 Part 6, Paragraph 5.2(d).

BASIS FOR RELIEF:

Changing Palisades' vibration measurement program used for surveillance testing to obtain direct readings in IPS-Peak would require an effort without a compensating increase in nuclear safety. Obtaining vibration data in units of IPS-Peak has been determined to be impractical based on test equipment limitations. Direct vibration readings are taken and trended for IST in IPS-RMS due to the hardware configuration of the portable measuring equipment. Changing the unit to read out in IPS-Peak would require adjustment of all historical data contained in the IST Program or re-baselining all vibration reference values. Conversion is typically accomplished by applying an RMS conversion factor to peak dominating frequency values, however, this simplistic approach is not always applicable and can be misleading and incorrect. Obtaining IPS-Peak values by downloading the portable equipment and processing data would greatly extend the time before operability could be fully evaluated; currently, an immediate operability determination can be made.

RELIEF REQUESTS

RELIEF REQUEST BASIS NUMBER 9

Historical performance indicates that vibration readings taken in IPS-RMS are indeed indicative of change and have repeatedly detected problems. Detailed vibration signatures recorded simultaneously with the same portable measuring equipment (in IPS-Peak) are routinely used to examine the slightest change in IPS-RMS trends.

ALTERNATE TESTING:

CPCo proposes the following alternative to the IPS-Peak requirement and acceptance criteria limits. Vibration measurements for IST will be taken and trended in IPS-RMS. Detailed vibration signatures (taken in IPS-Peak) will also be taken during testing and available for review in the event that a problem or change is detected by the IPS-RMS measurements. Additionally, alert range and required action range IPS-Peak limits specified in OM-6 Table 3a, will be reduced 30% to account for the RMS measurements, however, the 2.5V$_r$ and 6V$_r$ limits will apply when more conservative. Peak velocity vibration limits for centrifugal and vertical line shaft pumps (≥ 600 rpm) will be as follows:

Alert Range Limit: > 228 IPS-RMS (or > 2.5V$_r$)

Required Action Range Limit: > 490 IPS-RMS (or > 6V$_r$)

NOTE: This Relief Request does not require NRC approval prior to implementation. It is provided only to document the approach being taken to correlate the OM-6 limits (provided in peak units) with the RMS values obtained during field vibration measurements. Paragraph 5.4 of NUREG-1482 highlights the need for this conversion. This approach was also recognized as acceptable in an NRC letter dated October 12, 1995 which related to vibration measurements on Containment Spray and Low Pressure Safety Injection pumps.

ENCLOSURE 3

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

EGAD-EP-01
INSERVICE TEST PROGRAM VALVE TEST TABLE
AND
VALVE REFERENCE FLOW RATES

Procedure No EGAD-EP-01
Revision 7
Issued Date 1/25/96

NUCLEAR ENGINEERING AND CONSTRUCTION ORGANIZATION (NECO)
ENGINEERING AID
ENGINEERING PROGRAMS

TITLE: INSERVICE TEST PROGRAM
VALVE TEST TABLE AND VALVE REFERENCE FLOW RATE

Edward R. Williams 1/23/96
Procedure Sponsor Date

BWHohman / 11/30/95
Technical Reviewer Date

/ /
User Reviewer Date Rev #

IST VALVE TABLE REFERENCE

USER ALERT
INFORMATION USE PROCEDURE

The activities covered by this procedure may be performed from memory.

This table is maintained as an "Engineering Aid" in accordance with Administrative Procedure 10.41, "Procedure Initiation and Revision." See the ISI Section for details.

VALVE IDENTIFICATION AND IST REQUIREMENTS

System P&ID: The system and P&ID numbers are located in the top left-hand corner of the program table. This identifies the valve's associated system and P&ID.

Valve Number:
The valve unique number.

Safety Class: The IST safety classification of valve.

Valve Category:

The valve category based on OM-10 Paragraph 1.4 definitions. Four (4) separate categories and combinations of these categories may be used to describe a valve in the IST Program.

Category A: Valves for which seat leakage is limited to a specific amount in the closed position for fulfillment of their required function(s).

Category B: Valves for which seat leakage in the closed position is inconsequential for fulfillment of their required function(s).

Category C: Valves which are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves), for fulfillment of their required function.

Category D: Valves which are activated by an energy source capable of only one operation, such as rupture disks or explosively actuated valves.

IST VALVE TABLE REFERENCE

Valve Type: The type of valve is indicated by the following abbreviations:

Angle	AG
Ball	BA
Butterfly	BF
Check	CK
Gate	GA
Globe	GL
Relief	RV

Actuator Type: The type of valve actuator is indicated by the following abbreviations:

Air Operator	AO
Manual	MA
Motor Operator	MO
Self Actuated	SA
Solenoid Actuated	SO

Valve Operation: The operation of the valve is indicated by the first group of letters of the equipment identification number, and is indicated by the following abbreviations:

Check Valve	CK
Control Valve	CV
Motor Operated Valve	MO
Manual Valve	MV
Pressure Control Valve	PCV
Pressure Relief Valve	PRV
Relief Valve	RV
Solenoid Valve	SV

Size: The nominal size of the valve in inches.

Normal Position: The position of the valve during normal Plant operation, specified as follows:

Normally Open	O
Normally Closed	C
Open or Closed	O/C
Locked Open	LO
Locked Closed	LC
Electrically Locked Open	ELO
Electrically Locked Closed	ELC

IST VALVE TABLE REFERENCE

Safety Position: The position to support the valves required safety function(s), specified as follows:

Safety Position Open	O
Safety Position Closed	C
Safety Position Open or Closed	O/C

Valve Function: The valve function is either active or passive.

Active: A Valves which are required to change position to perform a specific function.

Passive: P Valves which are not required to change position to perform a specific function.

Test Type: The tests that will be performed to fulfill the requirements of OMa-1988, Part 10. The test types and abbreviations are specified as follows:

AT Valve seat leakage test per Appendix J of 10CFR50. Containment Isolation Valves.

BT Category A and B valve full stroke exercise test including stroke timing.

CT-O Check valve exercise to full open stroke direction.

CT-C Check valve exercise to close stroke direction.

FST Fail Safe Test of valves with fail safe actuators.

PIT Position Indication Test of valves with remote position indication.

PS Partial stroke exercise test. Applies to check valve exercise testing.

RT Relief and safety relief valve set point verification test.

LT Valve seat leakage test per OM-10, Section 4.2.2.

CV-C Check valve verification to close. Verifies check valve is closed, but does not exercise valve.

IST VALVE TABLE REFERENCE

Test Frequency: The test frequency at which the above mentioned tests will be performed to fulfill the requirements of OMa-1988, Part 10. The test frequencies and abbreviations are specified as follows:

QO Test performed quarterly (at least once per every 92 days) during any operational condition.

CS Test performed during cold shutdown.

HS Test performed during hot shutdown.

RO Test performed during reactor refueling outage (head removed with the intent to load fuel).

18MO Test performed once per 18-month interval. Applies to Position Indication Test.

24MO Test performed once per 24-month interval. Applies to Class 1 relief valve tests.

2Y Test performed at least once every two years. Applies to seat leakage tests.

48MO Test performed once per 48-month interval. Applies to Class 2 and 3 relief valve tests.

5Y Test performed at least once every five years. Applies to Class 1 and Main Steam relief valve tests.

10Y Test performed once per 10 years. Applies to Class 2 and 3 relief valve tests.

SAM Sampling plan technique. Applies to check valve inspection to verify valve full stroke capability. Inspection may include on-line non-intrusive testing, and/or disassembly at least once every six years.

DIS Disassemble check valve each refueling outage to verify valve full stroke capability.

MO Test performed monthly during any operational condition.

IST VALVE TABLE REFERENCE

SO Test performed every nine months during any operational condition.

Test Procedure: The Palisades Nuclear Plant procedure in which the specified valve test is performed.

Relief Request: The applicable relief request or cold shutdown basis for valve testing.

Function: The specific valve safety function. More than one function is delineated by a slash (/).

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-1
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3410	C3	1	C	CK	SA	2.0	C	O/C	A	CT-O CV-C PS	RO QO CS	RO-65 QO-19 QO-8B	RO-1
	FUNCTION:			Provide Flowpath From HPSI to Hot Leg/Prevent PCS Backflow to HPSI.									
CV-0101	G5	2	B	GL	AO	0.5	C	C	P				
	FUNCTION:			Vessel Flange Leak Detection Isolation to Primary System Drain Tank.									
CV-3084	B3	1	B	GL	AO	1.0	C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION:			Hot Leg Drain Valve Isolation to Primary System Drain Tank.									
CV-3085	B3	2	B	GL	AO	1.0	C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-1
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
FUNCTION: Hot Leg Drain Valve Isolation to Primary System Drain Tank.													
MV-PC1021B	F-1	1	B	GL	MA	2.0	C	C	P				
MV-PC1021C	F-1	1	B	GL	MA	2.0	C	C	P				
MV-PC1022B	D-1	1	B	GL	MA	2.0	C	C	P				
MV-PC1022C	D-1	1	B	GL	MA	2.0	C	C	P				
MV-PC1032B	A-8	1	B	GL	MA	2.0	C	C	P				
MV-PC1032C	A-8	1	B	GL	MA	2.0	C	C	P				
MV-PC1033A	F-8	1	B	GL	MA	2.0	C	C	P				
MV-PC1033B	F-8	1	B	GL	MA	2.0	C	C	P				
MV-PC1094B	B-4	1	B	GL	MA	2.0	C	C	P				
MV-PC1094C	B-4	1	B	GL	MA	2.0	C	C	P				

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-2
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-PC155B	G7	2	AC	CK	SA	2.0	C	C	P	AT	RO	RO3242	
	FUNCTION:	Clean Demin Water to Quench Tank Check Valve/Provide Containment Isolation.											
CV-0155	G7	2	A	GL	AO	2.0	C	C	A	AT BT PIT FST	RO QO 18MO QO	RO3242 QO-05 QO-05 QO-05	
	FUNCTION:	Clean Demin Water to Quench Tank Isolation Valve/Provide Containment Isolation.											
MO-1042A	D6	1	B	GA	MO	4.0	C	O/C	A	BT PIT	CS 18MO	QO-06 QO-06	CS-24
	FUNCTION:	Provide Isolation for PRV's/Provide Flowpath for Feed and Bleed of Pressurizer.											
MO-1043A	D7	1	B	GA	MO	4.0	C	O/C	A	BT PIT	CS 18MO	QO-06 QO-06	CS-24
	FUNCTION:	Provide Isolation for PRV's/Provide Flowpath for Feed and Bleed of Pressurizer.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-2
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-1039	D5	1	C	RV	SA	3.0	C	O/C	A	RT	5Y	RT-41	
	FUNCTION: Pressurizer Relief Valve.												
RV-1040	D5	1	C	RV	SA	3.0	C	O/C	A	RT	5Y	RT-41	
	FUNCTION: Pressurizer Relief Valve.												
RV-1041	D4	1	C	RV	SA	3.0	C	O/C	A	RT	5Y	RT-41	
	FUNCTION: Pressurizer Relief Valve.												
PRV-1042B	E6	1	B	GL	SO	4.0	C	O/C	A	BT PIT FST	CS 18MO CS	QO-06 RI-115 QO-06	CS-22 CS-22
	FUNCTION: Provide Primary System Overpressure Protection.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-2
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
PRV-1043B	E7	1	B	GL	SO	4.0	C	O/C	A	BT	CS	QO-06	CS-22
										PIT	18MO	RI-115	
										FST	CS	QO-06	CS-22
	FUNCTION:			Provide Primary System Overpressure Protection.									
PRV-1067	A6	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1
	FUNCTION:			Reactor Vessel Vent Valves.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-2
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
PRV-1068	A6	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1
	FUNCTION:			Reactor Vessel Vent Valves.									
PRV-1069	A7	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1
	FUNCTION:			Reactor Vessel Vent Valves.									
PRV-1070	A7	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1
	FUNCTION:			Reactor Vessel Vent Valves.									
PRV-1071	B8	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1
	FUNCTION:			Reactor Vessel Vent Valves.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 201-2
SYSTEM: Primary Coolant

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
PRV-1072	B7	1	B	GL	SO	1.0	C	O/C	A	BT	CS	QO-06	CS-1
										PIT	18MO	RO-112	
										FST	CS	QO-06	CS-1

FUNCTION: Reactor Vessel Vent Valves.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-2009	E8	2	A	GL	AO	2.5	0	C	A	AT	RO	RO3236	
										BT	CS	QO-06	CS-4
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-4
	FUNCTION: Letdown Flow Isolation Valve - Provide Containment Isolation.												
CV-2083	G4	2	A	GL	AO	0.75	0	C	A	AT	RO	RO3244	
										BT	CS	QO-06	CS-2
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-2
	FUNCTION: Primary Coolant Pump Seal Leakoff Isolation - Provide Containment Isolation.												
CV-2099	G4	2	A	GL	AO	0.75	0	C	A	AT	RO	RO3244	
										BT	CS	QO-06	CS-2
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-2
	FUNCTION: Primary Coolant Pump Seal Leakoff Isolation - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1A
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CVC2088	D7	2	C	CK	SA	4.0	O	N/A	P	CT-C	CS	QO-27	CS-34
	FUNCTION:	Volume Control Tank T-54 Discharge Check Valve.											
CK-CVC2124	B6	2	C	CK	SA	0.5	C	N/A	P				
	FUNCTION:	Metering Pump P-57 Discharge Check Valve.											
CK-CVC2138	B4	2	C	CK	SA	3.0	C	O/C	A	CT-O CT-C	QO QO	QO-18 QO-18	
	FUNCTION:	Provide Flowpath From Boric Acid Injection to Charging Pump Suction/Prevent Backflow.											
CK-CVC2139	B4	2	C	CK	SA	3.0	C	O/C	A	CT-O CT-C	QO QO	QO-18 QO-18	
	FUNCTION:	Provide Flowpath From Boric Acid Injection to Charging Pump Suction/Prevent Backflow.											
CK-CVC2141	C7	2	C	CK	SA	3.0	C	O	A	CT-O	CS	QO-27	CS-26
	FUNCTION:	Provide Flowpath From Boric Acid Injection to Charging Pump Suction.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1A
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CVC2161	D7	2	C	CK	SA	3.0	C	0	A	CT-0	CS	QO-27	CS-26
	FUNCTION:			Provide Flowpath From SIRW to Charging Pump Suction.									
CK-CVC2171	C7	2	C	CK	SA	4.0	C	0	A	CT-0	CS	QO-27	CS-26
	FUNCTION:			Provide Flowpath From Boric Acid Injection Tanks to Charging Pump Suction.									
CV-2130	F2	2	B	GL	A0	2.0	0	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Boric Acid Pump Recirc Valve - Prevent Backflow From Boric Acid Pump to Boric Acid Tank.									
CV-2136	F4	2	B	GL	A0	2.0	0	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Boric Acid Pump Recirc Valve - Prevent Backflow From Boric Acid Pump to Boric Acid Tank.									
CV-2155	E7	2	B	AG	A0	3.0	C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Boric Acid to Charging Pump Throttle Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1A
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-2087	E7	2	B	GA	M0	4.0	0	C	A	BT PIT	CS 18MO	QO-06 QO-06	CS-5
	FUNCTION: Volume Control Tank Outlet Isolation Valve.												
MO-2140	C5	2	B	GA	M0	3.0	C	O	A	BT PIT	QO 18MO	QO-05 QO-05	
	FUNCTION: Provide Flowpath For Boric Acid Pumps/Prevent Flow Divergence.												
MO-2160	D6	2	B	GA	M0	3.0	C	0	A	BT PIT	CS 18MO	QO-06 QO-06	CS-6
	FUNCTION: SIRW Tank to Charging Pump Suction Isolation Valve.												
MO-2169	D2	2	B	GA	M0	4.0	C	0	A	BT PIT	CS 18MO	QO-06 QO-06	CS-6
	FUNCTION: Provide Boric Acid Gravity Feed Flowpath to Charging Pumps/Maintain Boric Acid Tank Level.												
MO-2170	D3	2	B	GA	M0	4.0	C	0	A	BT PIT	CS 18MO	QO-06 QO-06	CS-6
	FUNCTION: Provide Boric Acid Gravity Feed Flowpath to Charging Pumps/Maintain Boric Acid Tank Level.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1A
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-CVC2157	D-6	2	B	GL	MA	3.0	O/C	C	A	BT		LATER	
MC-CVC2167	C-5	2	B	GL	MA	1.5	C	LC	P				
RV-2230	C-4	2	C	RV	SA		C	C	P				RR-28
	Function:			Thermal Relief									
RV-2231	C-1	2	C	RV	SA		C	C	P				RR-28
	Function:			Thermal Relief									
RV-2232	C-3	2	C	RV	SA		C	C	P				RR-28
	Function:			Thermal Relief									
RV-2233	B-4	2	C	RV	SA		C	C	P				RR-28
	Function:			Thermal Relief									
RV-2234	F-4	2	C	RV			C	C	P				RR-28
	Function:			Thermal Relief									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1A
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-2235	F-4	2	C	RV	SA		C	C	P				RR-28
	Function:		Thermal Relief										
RV-2236	E4	2	C	RV	SA	0.5	C	O	A	RT	48MO	RT-116	
	FUNCTION:		Boric Acid Pumps to VCT Header Relief Valve (Thermal Relief Valve).										
RV-2237	E5	2	C	RV	SA	0.5	C	C	P				RR-28
	FUNCTION:		Boric Acid Pumps to VCT Header Relief Valve (Thermal Relief Valve).										
RV-2238	E5	2	C	RV	SA	0.75	C	C	P				RR-28
	FUNCTION:		Boric Acid Pumps to VCT Header Relief Valve (Thermal Relief Valve).										
RV-2239	E6	2	C	RV	SA	0.5	C	C	P				RR-28
	FUNCTION:		Boric Acid Pumps to VCT Header Relief Valve (Thermal Relief Valve).										
RV-2240	E6	2	C	RV	SA	0.5	C	C	P				RR-28
	FUNCTION:		Boric Acid Pumps to VCT Header Relief Valve (Thermal Relief Valve).										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CVC2093	E3	2	C	CK	SA	2.0	C	0	A	CT-0	QO	QO-17	
	FUNCTION:	Charging Pump P-55A Discharge Check Valve - Provide Flowpath.											
CK-CVC2099	C3	2	C	CK	SA	1.5	C	0	A	CT-0	SAM	QO-17	
	FUNCTION:	Charging Pump P-55B Discharge Check Valve - Provide flowpath.											
CK-CVC2105	B3	2	C	CK	SA	1.5	C	0	A	CT-0	SAM	QO-17	
	FUNCTION:	Charging Pump P-55C Discharge Check Valve - Provide flowpath.											
CK-CVC2110	E5	2	C	CK	SA	2.0	0/C	0	A	CT-O PS	CS QO	QO-27 QO-17	
	FUNCTION:	Charging Pump Header Check Valve - Provide Flowpath for Charging Pump.											
CK-CVC2112	C7	1	C	CK	SA	2.0	C	C	P	CT-C CT-O	RT RT	QO-33	
	FUNCTION:	Charging Line Control Valve Bypass Check Valve. Regenerative Heat Exchanger Thermal Relief Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CVC2114	C7	1	C	CK	SA	2.0	0	O/C	A	CT-O CT-C PS	QO SAM QO	QO-33 RT-122 QO-17	RO-13
	FUNCTION:			Charging Line to Loop 1A Injection Check Valve.									
CK-CVC2116	B7	1	C	CK	SA	2.0	0	O/C	A	CT-O CT-C PS	QO SAM QO	QO-33 RT-122 QO-17	RO-13
	FUNCTION:			Charging Line to Loop 2A Injection Check Valve.									
CK-CVC2118	A7	1	C	CK	SA	2.0	C	O/C	A	CT-O CT-C	RO SAM	LATER RT-122	RO-13
	FUNCTION:			Pressurizer Aux Spray Injection Check Valve - Provide Flowpath for Aux Spray/Prevent backflow.									
CV-2001	C7	1	B	GL	A0	2.0	0	C	A	BT PIT FST	QO 18MO QO	QO-06 QO-06 QO-06	
	FUNCTION:			Loop 2B to Regenerative Heat Exchanger Isolation Valve.									
CV-2002	E8	1	B	GL	A0	1.5	C	C	P	PIT	18MO	QO-06	
	FUNCTION:			Regen Heat Exchanger to Letdown Heat Exchanger Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-2003	E7	1	B	GL	A0	1.0	O/C	C	A	BT	QO	QO-06	
										PIT	18MO	QO-06	
										FST	QO	QO-06	
	FUNCTION:			Regen Heat Exchanger to Letdown Heat Exchanger Isolation Valve.									
CV-2004	E7	1	B	GL	A0	1.0	O/C	C	A	BT	QO	QO-06	
										PIT	18MO	QO-06	
										FST	QO	QO-06	
	FUNCTION:			Regen Heat Exchanger to Letdown Heat Exchanger Isolation Valve.									
CV-2005	E6	1	B	GL	A0	1.0	O/C	C	A	BT	QO	QO-06	
										PIT	18MO	QO-06	
										FST	QO	QO-06	
	FUNCTION:			Regen Heat Exchanger to Letdown Heat Exchanger Isolation Valve.									
CV-2111	E5	2	B	GL	A0	2.0	0	0	P	PIT	18MO	QO-06	
	FUNCTION:			Charging Pump Header Isolation Valve									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-2113	B7	1	B	GL	A0	2.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-33 QO-33 QO-33	
	FUNCTION:			Charging Line Loop 1A Isolation Valve.									
CV-2115	B7	1	B	GL	A0	2.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-33 QO-33 QO-33	
	FUNCTION:			Charging Line Loop 2A Isolation Valve.									
CV-2117	A7	1	B	AG	A0	2.0	C	O/C	A	BT PIT FST	QO 18MO QO	QO-06 QO-06 QO-06	CS-36 CS-36
	FUNCTION:			Charging Line to Pressurizer Auxiliary Spray Isolation Valve.									
RV-2006	G7	3	C	RV	SA	2.0	C	O/C	A	RT	48MO	RT-116	
	FUNCTION:			Letdown Line Relief Valve (Flowpath is isolated during an accident).									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-2090	F2	2	C	RV	SA	0.5	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	Charging Pump P-55A Suction Relief Valve (Thermal Relief).											
RV-2092	F3	2	C	RV	SA	1.5	C	O/C	A	RT	48MO	RT-116	
	FUNCTION:	Charging Pump P-55A Discharge Relief Valve.											
RV-2096	D2	2	C	RV	SA	0.5	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	Charging Pump P-55B Suction Relief Valve (Thermal Relief).											
RV-2098	D3	2	C	RV	SA	0.75	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	Charging Pump P-55B Discharge Relief Valve.											
RV-2102	C2	2	C	RV	SA	0.5	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	Charging Pump P-55C Suction Relief Valve (Thermal Relief).											
RV-2104	B3	2	C	RV	SA	0.75	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	Charging Pump P-55C Discharge Relief Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 202-1B
SYSTEM: Chemical and Volume Control

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-2255	D1	2	C	RV	SA	0.5	C	O/C	P				RR-28

FUNCTION: Charging Pump Suction Header Relief Valve (Thermal Relief).

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3101	C7	1	AC	CK	SA	12.0	C	O/C	A	LT	SO	SO-9	
										CT-O	RO	RO-105	RO-12
										CT-C	RO	RO-105	
										CT-C	QO	GOP-13	
										PS	CS	QO-8B	
	FUNCTION:		Cold Leg Loop 1A Injection/Prevent Backflow of PCS.										
CK-ES3102	D7	1	C	CK	SA	12.0	C	O/C	A	CT-O	RO	RO-105	RO-10
										CT-C	QO	SHO-1	
										CT-C	RO	RO-105	
	FUNCTION:		SIT T-82A Discharge Check Valve/Prevent Backflow of SI Header.										
CK-ES3116	B7	1	AC	CK	SA	12.0	C	O/C	A	LT	SO	SO-9	
										CT-O	RO	RO-105	R0-12
										CT-C	RO	RO-105	
										CT-C	QO	GOP-13	
										PS	CS	QO-8B	
	FUNCTION:		Cold Leg Loop 1B Injection/Prevent Backflow of PCS.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3117	D5	1	C	CK	SA	12.0	C	O/C	A	CT-O CT-C CT-C	RO QO RO	RO-105 SHO-1 RO-105	RO-10
	FUNCTION:			Sit T-82B Discharge Check Valve/Prevent Backflow of SI Header.									
CK-ES3131	B7	1	AC	CK	SA	12.0	C	O/C	A	LT CT-O CT-C CT-C PS	SO RO RO QO CS	SO-9 RO-105 RO-105 GOP-13 QO-8B	R0-12
	FUNCTION:			Cold Leg Loop 2A Injection/Prevent Backflow of PCS.									
CK-ES3132	D4	1	C	CK	SA	12.0	C	O/C	A	CT-O CT-C CT-C	RO QO RO	RO-105 SHO-1 RO-105	RO-10
	FUNCTION:			SIT T-82C Discharge Check Valve/Prevent Backflow of SI Header.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3146	B7	1	AC	CK	SA	12.0	C	O/C	A	LT CT-O CT-C CT-C PS	SO RO RO QO CS	SO-9 RO-105 RO-105 GOP-13 QO-8B	RO-12
	FUNCTION:			Cold Leg Loop 2B Injection/Prevent Backflow of PCS.									
CK-ES3147	D2	1	C	CK	SA	12.0	C	O/C	A	CT-O CT-C CT-C	RO QO RO	RO-105 SHO-1 RO-105	RO-10
	FUNCTION:			SIT T-82D Discharge Check Valve/Prevent Backflow of SI Header.									
CV-3038	D3	1	B	GL	AO	1.0	O/C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION:			SIT T-82D Pressure Control.									
CV-3040	G7	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION:			Nitrogen Supply to SIT T-82A.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3042	D7	1	B	GL	AO	1.0	O/C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION:			SIT T-82A Pressure Control.									
CV-3044	G5	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION:			Nitrogen Supply to SIT T-82B.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3046	D6	1	B	GL	AO	1.0	O/C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION: SIT T-82B Pressure Control.												
CV-3047	D4	1	B	GL	AO	1.0	O/C	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION: SIT T-82C Pressure Control.												
CV-3048	G4	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: Nitrogen Supply to SIT T-82C.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3050	G2	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: Nitrogen Supply to SIT T-82D.												
CV-3051	F3	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: SIT T-82D Vent to Radwaste Treatment System.												
CV-3063	F4	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: SIT T-82C Vent to Radwaste Treatment System.												
CV-3065	F6	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: SIT T-82B Vent to Radwaste Treatment System.												
CV-3067	F7	2	B	GL	AO	1.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: SIT T-82A Vent to Radwaste Treatment System.												
CV-3069	C8	3	B	GL	AO	2.0	O	C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: SIT Drain Line Header to Primary System Drain Tank.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-3041	E7	2	B	GA	MO	12.0	ELO	O	P	PIT	18MO	RO-105	
	FUNCTION: SIT T-82A Discharge Isolation Valve.												
MO-3045	E5	2	B	GA	MO	12.0	ELO	O	P	PIT	18MO	RO-105	
	FUNCTION: SIT T-82B Discharge Isolation Valve.												
MO-3049	E4	2	B	GA	MO	12.0	ELO	O	P	PIT	18MO	RO-105	
	FUNCTION: SIT T-82C Discharge Isolation Valve.												
MO-3052	E2	2	B	GA	MO	12.0	ELO	O	P	PIT	18MO	RO-105	
	FUNCTION: SIT T-82D Discharge Isolation Valve.												
RV-3113	G7	2	C	RV	SA	1.0	C	O/C	A	RT	10Y	RT-116	
	FUNCTION: SIT T-82A Relief Valve.												
RV-3128	G6	2	C	RV	SA	1.0	C	O/C	A	RT	10Y	RT-116	
	FUNCTION: SIT T-82B Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-3143	G4	2	C	RV	SA	1.0	C	O/C	A	RT	10Y	RT-116	
	FUNCTION: SIT T-82C Relief Valve.												
RV-3158	G2	2	C	RV	SA	1.0	C	O/C	A	RT	10Y	RT-116	
	FUNCTION: SIT T-82D Relief Valve.												
RV-3161	C-6	2	C	RV	SA	2.0	C	C	P				
	Function: Thermal Relief												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3103	F8	1	AC	CK	SA	6.0	C	O/C	A	LT	SO	SO-9	
										CT-O	CS	QO-8B	CS-9
										CV-C	QO	QO-32	
										CT-C	CS	QO-8B	CS-9
	FUNCTION:			Provide LPSI Flowpath to PCS Loop 1A/Prevent Backflow of PCS, SIT, and HPSI.									
CK-ES3104	G8	1	AC	CK	SA	2.0	C	O/C	A	LT	SO	SO-9	
										CT-O	RO	RO-65	RO-2
										CV-C	QO	QO-32	
										PS	CS	QO-8B	
	FUNCTION:			Provide HPSI Flowpath to PCS Loop 1A/Prevent Backflow of PCS, SIT, and LPSI.									
CK-ES3118	D8	1	AC	CK	SA	6.0	C	O/C	A	LT	SO	SO-9	
										CT-O	CS	QO-8B	CS-9
										CV-C	QO	QO-32	
										CT-C	CS	QO-8B	CS-9
	FUNCTION:			Provide LPSI Flowpath to PCS Loop 1B/Prevent Backflow of PCS, SIT, and HPSI.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3119	F8	1	AC	CK	SA	2.0	C	O/C	A	LT CT-O CV-C PS	SO RO QO CS	SO-9 RO-65 QO-32 QO-8B	RO-2
	FUNCTION:			Provide HPSI Flowpath to PCS Loop 1B/Prevent Backflow of PCS, SIT, and LPSI.									
CK-ES3133	C8	1	AC	CK	SA	6.0	C	O/C	A	LT CT-O CV-C CT-C	SO CS QO CS	SO-9 QO-8B QO-32 QO-8B	CS-9 CS-9
	FUNCTION:			Provide LPSI Flowpath to PCS Loop 2A/Prevent Backflow of PCS, SIT, and HPSI.									
CK-ES3134	D8	1	AC	CK	SA	2.0	C	O/C	A	LT CT-O CV-C PS	SO RO QO CS	SO-9 RO-65 QO-32 QO-8B	RO-2
	FUNCTION:			Provide HPSI Flowpath to PCS Loop 2A/Prevent Backflow of PCS, SIT, and LPSI.									
CK-ES3148	A8	1	AC	CK	SA	6.0	C	O/C	A	LT CT-O CV-C CT-C	SO CS QO CS	SO-9 QO-8B QO-32 QO-8B	CS-9 CS-9

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
	FUNCTION:		Provide LPSI Flowpath to PCS Loop 2B/Prevent Backflow of PCS, SIT, and HPSI.										
CK-ES3149	B8	1	AC	CK	SA	2.0	C	O/C	A	LT CT-O CV-C PS	SO RO QO CS	SO-9 RO-65 QO-32 QO-8B	RO-2
	FUNCTION:		Provide HPSI Flowpath to PCS Loop 2B/Prevent Backflow of PCS, SIT, and LPSI.										
CK-ES3216	B3	2	C	CK	SA	8.0	C	O	A	CT-O PS	SAM CS	RT-122 QO-10	RR-3
	FUNCTION:		Provide Containment Spray Flowpath.										
CK-ES3226	C3	2	C	CK	SA	8.0	C	O	A	CT-O PS	SAM CS	RT-122 QO-10	RR-3
	FUNCTION:		Provide Containment Spray Flowpath.										
CK-ES3250	G8	1	C	CK	SA	2.0	C	O/C	A	CT-O CV-C PS	RO QO CS	RO-65 QO-32 QO-8B	RO-3
	FUNCTION:		Provide HPSI Train 2 Flowpath/Prevent Backflow of PCS-SIT-LPSI-HPSI Water.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3251	E8	1	C	CK	SA	2.0	C	O/C	A	CT-O CV-C PS	RO QO CS	RO-65 QO-32 QO-8B	RO-3
	FUNCTION:	Provide HPSI Train 2 Flowpath/Prevent Backflow of PCS-SIT-LPSI-HPSI Water.											
CK-ES3252	C8	1	C	CK	SA	2.0	C	O/C	A	CT-O CV-C PS	RO QO CS	RO-65 QO-32 QO-8B	RO-3
	FUNCTION:	Provide HPSI Train 2 Flowpath/Prevent Backflow of PCS-SIT-LPSI-HPSI Water.											
CK-ES3253	B8	1	C	CK	SA	2.0	C	O/C	A	CT-O CV-C PS	RO QO CS	RO-65 QO-32 QO-8B	RO-3
	FUNCTION:	Provide HPSI Train 2 Flowpath/Prevent Backflow of PCS-SIT-LPSI-HPSI Water.											
CK-ES3408	E5	1	A/C	CK	SA	2.0	C	O/C	A	LT CT-O CT-C PS	RO RO RO QO	RO-65 RO-65 RO-65 QO-19	 RO-5 RO-5
	FUNCTION:	HPSI Train 1 Hot Leg Injection/Prevent Backflow of PCS Water											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3409	E5	1	C	CK	SA	2.0	C	O/C	A	CT-O	RO	RO-65	RO-5
										CT-C	RO	RO-65	RO-5
										PS	QO	QO-19	
FUNCTION: HPSI Train 2 Hot Leg Injection/Prevent Backflow of PCS Water.													
CV-3001	C3	2	B	GL	AO	6.0	C	O/C	A	BT	CS	QO-06	CS-8
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-8
FUNCTION: Containment Spray Isolation Valve/Provide Flowpath for Containment Spray.													
CV-3002	B3	2	B	GL	AO	6.0	C	O/C	A	BT	CS	QO-06	CS-8
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-8
FUNCTION: Containment Spray Isolation Valve/Provide Flowpath for Containment Spray.													
MO-3007	G8	2	B	GL	MO	2.0	C	O/C	A	BT	QO	QO-05	
										PIT	18MO	QO-06	
FUNCTION: HPSI to Loop 1A Isolation Valve (Provide HPSI Flowpath).													

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-3008	F7	2	B	GL	MO	6.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
FUNCTION: LPSI to Loop 1A Isolation Valve (Provide LPSI Flowpath).													
MO-3009	F7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
FUNCTION: HPSI to Loop 1B Isolation Valve (Provide HPSI Flowpath).													
MO-3010	D7	2	B	GL	MO	6.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
FUNCTION: LPSI to Loop 1B Isolation Valve (Provide LPSI Flowpath).													
MO-3011	D7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
FUNCTION: HPSI to Loop 2A Isolation Valve (Provide HPSI Flowpath).													
MO-3012	C7	2	B	GL	MO	6.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
FUNCTION: LPSI to Loop 2A Isolation Valve (Provide LPSI Flowpath).													

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-3013	B7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION:		HPSI to Loop 2B Isolation Valve (Provide HPSI Flowpath).										
MO-3014	A7	2	B	GL	MO	6.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION:		LPSI to Loop 2B Isolation Valve (Provide LPSI Flowpath).										
MO-3062	B7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION:		HPSI Train 2 to Loop 2B Isolation Valve.										
MO-3064	C7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION:		HPSI Train 2 to Loop 2A Isolation Valve.										
MO-3066	E7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION:		HPSI Train 2 to Loop 1B Isolation Valve.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-3068	G7	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: HPSI Train 2 to Loop 1A Isolation Valve.												
MO-3080	G5	2	B	GA	MO	6.0	ELO	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: HPSI Train 2 to Loop No 1 Hot Leg Isolation Valve.												
MO-3081	G5	2	B	GA	MO	6.0	ELO	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: HPSI to Loop No 1 Hot Leg Isolation Valve.												
MO-3082	F5	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: HPSI Train 2 to Loop No 1 Hot Leg Isolation Valve.												
MO-3083	F5	2	B	GL	MO	2.0	C	O/C	A	BT PIT	QO 18MO	QO-05 QO-06	
	FUNCTION: HPSI to Loop No 1 Hot Leg Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 203-2
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-3162	E6	2	C	RV	SA	2.0	C	O/C	A	RT	48MO	RT-116	RR-31
	FUNCTION: LPSI Header Relief Valve.												
RV-3165	H6	2	C	RV	SA	0.5	C	O/C	A	RT	10Y	RT-116	
	FUNCTION: HPSI Header Relief Valve.												
RV-3264	G6	2	C	RV	SA	0.5	C	O/C	A	RT	48MO	RT-116	
	FUNCTION: HPSI Header Train 2 Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3177	G4	2	C	CK	SA	3.0	C	O	A	PS CT-O	RO SAM	RO-65 QO-19	RO-4
	FUNCTION:			Provide HPSI Flowpath. Valve is Not Safety-Related to Close Due to Train Separation.									
CK-ES3192	E4	2	C	CK	SA	10.0	C	O/C	A	CT-O CT-C CV-C	CS QO QO	QO-8B QO-8B QO-20	CS-11
	FUNCTION:			Provide Flowpath for LPSI-SDC/Prevent Backflow Through P-67B.									
CK-ES3208	D4	2	C	CK	SA	8.0	C	O/C	A	CT-O CT-C	CS CS	QO-10 QO-10	CS-3 CS-3
	FUNCTION:			Provide Containment Spray and SDC Flowpath/Prevent Backflow Through P-54C.									
CK-ES3220	B4	2	C	CK	SA	8.0	C	O/C	A	CT-O CT-C	CS CS	QO-10 QO-10	CS-3 CS-3
	FUNCTION:			Provide Containment Spray and SDC Flowpath/Prevent Backflow Through P-54B.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3330	F2	2	C	CK	SA	3.0	C	O	A	CT-O	QO	QO-20	
	FUNCTION:			Provide Recirc Flowpath From SI Pumps to SIRW Tank.									
CK-ES3331	H2	2	C	CK	SA	4.0	C	O	A	CT-O	QO	QO-19	
	FUNCTION:			Provide Recirc Flowpath From SI Pumps to SIRW Tank.									
CK-ES3332	H2	2	C	CK	SA	4.0	C	O	A	CT-O	QO	QO-19	
	FUNCTION:			Provide Recirc Flowpath From SI Pumps to SIRW Tank.									
CK-ES3339	G3	2	C	CK	SA	2.0	C	O	A	CT-O	QO	QO-19	
	FUNCTION:			Provide Recirc Flowpath From P-66B to SIRW Tank.									
CV-3006	A6	2	B	GL	AO	12.0	ELO	O/C	A	BT FST	CS CS	QO-39 QO-39	CS-31 CS-31
	FUNCTION:			Provide Flowpath for LPSI/SDC Heat Exchanger Bypass.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3025	B7	2	B	GL	AO	10.0	ELC	O/C	A	BT	CS	QO-39	CS-31
										PIT	18MO	QO-39	CS-31
										FST	CS	QO-39	
	FUNCTION: Provide Flowpath for Shutdown Cooling.												
CV-3055	C5	2	B	GA	AO	12.0	ELC	O/C	A	BT	CS	QO-39	CS-31
										PIT	18MO	QO-39	
										FST	CS	QO-39	CS-31
	FUNCTION: SDC Isolation Valve.												
CV-3070	H6	2	B	GA	AO	4.0	ELC	O/C	A	BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: HPSI Pump P-66B Subcooling Isolation Valve.												
CV-3212	B6	2	B	GA	AO	10.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: SDC-Component Cooling Heat Exchanger E-60B Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3213	D6	2	B	GA	AO	10.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: Heat Exchanger E-60B Isolation Valve.												
CV-3223	G6	2	B	GA	AO	10.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: SDC Heat Exchanger E-60A Isolation Valve.												
CV-3224	E6	2	B	GA	AO	10.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: SDC Heat Exchanger E-60A Isolation Valve.												
MO-3015	G1	1	B	GA	MO	12.0	ELC	O/C	A	BT PIT	CS 18MO	QO-39	CS-32
	FUNCTION: SDC Suction Header Isolation From Primary Loops.												
MO-3016	F1	1	B	GA	MO	12.0	ELC	O/C	A	BT PIT	CS 18MO	QO-39	CS-32
	FUNCTION: SDC Suction Header Isolation From Primary Loops.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MO-3190	D2	2	B	GA	MO	14.0	ELC	O/C	A	BT PIT	CS 18MO	QO-39 QO-39	CS-30
	FUNCTION:	Provide SDC Flowpath for LPSI Pump P-67B.											
RV-0401	G1	1	C	RV	SA	0.75	C	O/C	A	RT	24MO	RT-116	RR-30
	FUNCTION:	SDC Suction Header Relief Valve/Not Used When System is In Service (Thermal Relief).											
RV-0402	G6	2	C	RV	SA	0.75	C	C	P				RR-28
	FUNCTION:	SDC Heat Exchanger Relief Valve/Not Used When System is in Service (Thermal Relief).											
RV-0403	B6	2	C	RV	SA	0.75	C	C	P				RR-28
	FUNCTION:	SDC Heat Exchanger Relief Valve/Not Used When System is in Service (Thermal Relief).											
RV-3164	E1	2	C	RV	SA	1.5	C	O/C	A	RT	48MO	RT-116	RR-31
	FUNCTION:	SDC Suction Header Relief Valve.											
MV-3234	H8	2	A	GA	MA	2.0	C	C	P	AT	RO	RO3233	
	FUNCTION:	Safety Injection Tank Recirc to SIRW Manual Isolation - Provide Containment Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-3234A	H8	2	A	GA	MA	2.0	C	C	P	AT	RO	RO3233	

FUNCTION: Safety Injection Tank Recirc to SIRW Manual Isolation - Provide Containment Isolation.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1A
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3166	D3	2	C	CK	SA	24.0	C	O/C	A	CT-O CT-C	CS CS	QO-38 QO-38	CS-37
	FUNCTION:	Containment Sump Discharge Check Valve - Provide Flowpath for ES Pumps/Prevent Backflow.											
CK-ES3181	E3	2	C	CK	SA	24.0	C	O/C	A	CT-O CT-C	QO QO	QO-38 QO-38	CS-37
	FUNCTION:	Containment Sump Discharge Check Valve - Provide Flowpath for ES Pumps/Prevent Backflow.											
CK-ES3183	C4	2	C	CK	SA	6.0	C	O	A	PS CT-O	RO SAM	RO-65 QO-19	RO-4
	FUNCTION:	HPSI Pump P-66A Suction Check Valve - Provide Flowpath for HPSI.											
CK-ES3186	C6	2	C	CK	SA	3.0	C	O	A	CT-O PS	RO QO	RO-65 QO-19	RO-4
	FUNCTION:	Provide HPSI Flowpath. Valve is Not Safety-Related to Close Due to Train Separation.											
CK-ES3201	E6	2	C	CK	SA	10.0	C	O/C	A	CT-O CT-C CV-C	CS QO QO	QO-8B QO-8B QO-20	CS-11
	FUNCTION:	Provide Flowpath for LPSI Pump P-67A/Prevent Backflow.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1A
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3230	D5	2	C	CK	SA	8.0	C	O/C	A	CT-O CT-C	CS CS	QO-10 QO-10	CS-3 CS-3
	FUNCTION:			Provide Flowpath for Containment Spray Pump P-54A/Prevent Backflow.									
CK-ES3233	F4	2	C	CK	SA	3.0	C	O	A	CT-O	QO	QO-20	
	FUNCTION:			Provide Minimum Flow and Recirc Flowpath.									
CK-ES3340	C4	2	C	CK	SA	2.0	C	O	A	CT-O	QO	QO-19	
	FUNCTION:			Provide Minimum Flowpath and Recirc Flowpath for P-66A.									
CK-ES3411	C6	2	C	CK	SA	3.0	C	O	A	PS CT-O	RO SAM	RO-65 QO-19	RO-4
	FUNCTION:			Provide Flowpath for Redundant HPSI Train.									
CV-3018	D7	2	B	GA	AO	4.0	ELC	C	P	PIT	18MO	QO-06	
	FUNCTION:			Provide HPSI Train 1 Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1A
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3029	E3	2	B	GA	AO	24.0	C	O/C	A	BT PIT	CS 18MO	QO-02 QO-02	CS-14
	FUNCTION: Containment Sump Isolation Valve - Provide Flowpath to ESS Pumps.												
CV-3030	D3	2	B	GA	AO	24.0	C	O/C	A	BT PIT	CS 18MO	QO-02 QO-02	CS-14
	FUNCTION: Containment Sump Isolation Valve - Provide Flowpath to ESS Pumps.												
CV-3036	C6	2	B	GA	AO	3.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: Provide Redundant HPSI Flowpath From P-66A.												
CV-3037	C6	2	B	GA	AO	3.0	ELC	C	P	PIT	18MO	QO-06	
	FUNCTION: Redundant HPSI Isolation Valve.												
CV-3059	D6	2	B	GA	AO	4.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION: HPSI P-66B Discharge Header Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1A
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3071	B4	2	B	GA	AO	4.0	ELC	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			High Pressure Safety Injection P-66A Subcooling Valve.									
MO-3072	C8	2	B	GL	MO	2.0	ELC	O/C	P	PIT	18MO	QO-06	
	FUNCTION:			Charging Pump to Redundant HPSI Header Isolation Valve.									
MO-3189	F4	2	B	GA	MO	14.0	ELO	O/C	A	BT PIT	CS 18MO	QO-39 QO-39	CS-30
	FUNCTION:			LPSI Pump P-67B Suction From Containment Sump or SIRW Tank.									
MO-3198	G4	2	B	GA	MO	14.0	ELO	O/C	A	BT PIT	CS 18MO	QO-39 QO-39	CS-30
	FUNCTION:			LPSI Pump P-67A Suction From Containment Sump or SIRW Tank.									
MO-3199	F4	2	B	GA	MO	14.0	ELO	O/C	A	BT PIT	CS 18MO	QO-39 QO-39	CS-30
	FUNCTION:			LPSI Pump P-67A Suction From Shutdown Cooling Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1A
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-3266	E6	2	C	RV	SA	0.5	C	O/C	P	RT	10Y	RT-116	
	FUNCTION:	HPSI Header Relief Valve.											
RV-3267	C6	2	C	RV	SA	0.5	C	O/C	A	RT	10Y	RT-116	
	FUNCTION:	HPSI Pump P-66A Discharge Relief Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1B
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-ES3168	C7	2	C	CK	SA	8.0	C	O	A	PS CT-O	RO SAM	RO-65 QO-19	RO-4
	FUNCTION:			High Pressure Pump P-66B Intake Check.									
CK-ES3239	D6	2	C	CK	SA	18.0	C	O/C	A	CT-O CT-C PS PS LT	SAM SAM CS QO 2Y	RT-122 RT-122 QO-10 QO-19 RT-71L	RR-7 RR-7
	FUNCTION:			Provide Flowpath From SIRW Tank to ESS Pump/Prevent Backflow of Containment Sump Water.									
CK-ES3240	D6	2	C	CK	SA	18.0	O	O/C	A	CT-O CT-C PS PS LT	SAM SAM CS QO 2Y	RT-122 RT-122 QO-10 QO-19 RT-71L	RR-7 RR-7
	FUNCTION:			Provide Flowpath From SIRW Tank to ESS Pump/Prevent Backflow of Containment Sump Water.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 204-1B
SYSTEM: Safety Injection, Containment Spray & Shutdown Cooling

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-3027	G7	2	A	GA	AO	6.0	O	O/C	A	LT BT PIT	2Y CS 18MO	RO-119 QO-02 QO-02	CS-10
	FUNCTION: SIRW Tank Minimum Recirculation Isolation Valve (E-PAL-90-035E).												
CV-3031	D6	2	B	GA	AO	18.0	O	O/C	A	BT PIT	CS 18MO	QO-02 QO-02	
	FUNCTION: SIRW Tank Outlet Isolation Valve.												
CV-3056	G7	2	A	GA	AO	6.0	O	O/C	A	LT BT PIT	2Y CS 18MO	RO-119 QO-02 QO-02	CS-10
	FUNCTION: SIRW Tank Minimum Recirculation Isolation Valve (E-PAL-90-035E).												
CV-3057	C6	2	B	GA	AO	18.0	O	O/C	A	BT PIT	CS 18MO	QO-02 QO-02	
	FUNCTION: SIRW Tank Outlet Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 205-1
SYSTEM: Main Steam, and Auxiliary Feedwater Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0501	G8	2	B	CK	AO	30.0	O	C	A	BT	CS	QO-37	CS-15
										PIT	18MO	QO-37	
										FST	CS	QO-37	CS-15
	FUNCTION:			Main Steam Isolation Valve.									
CV-0510	G7	2	B	CK	AO	30.0	O	C	A	BT	CS	QO-37	CS-15
										PIT	18MO	QO-37	
										FST	CS	QO-37	CS-15
	FUNCTION:			Main Steam Isolation Valve.									
MO-0501	G7	2	B	GA	MO	3.0	C	C	A	BT	CS	QO-37	CS-35
										PIT	18MO	QO-37	
	FUNCTION:			Main Steam Line Bypass.									
MO-0510	G7	2	B	GA	MO	3.0	C	C	A	BT	CS	QO-37	CS-35
										PIT	18MO	QO-37	
	FUNCTION:			Main Steam Line Bypass.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 205-2
SYSTEM: Main Steam, and Auxiliary Turbine Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-MS401	F8	3	C	CK	SA	4.0	C	O/C	A	CT-O CT-C PS	SAM SAM QO	RT-122 RT-122 MO-38	R0-15 R0-15
	FUNCTION:			Provide Flowpath From SG E-50B to Auxiliary Feedwater Pump Turbine/Prevent Backflow.									
CK-MS402	F8	3	C	CK	SA	4.0	C	O/C	A	CT-O CT-C PS	SAM SAM QO	RT-122 RT-122 QO-21	R0-15 R0-15
	FUNCTION:			Provide Flowpath From SG E-50A to Auxiliary Feedwater Pump Turbine/Prevent Backflow.									
CV-0521	G8	3	B	GA	AO	4.0	O	O/C	A	BT PIT FST	QO 18MO QO	QO-21 RO-127 QO-21	
	FUNCTION:			Main Steam From SG E-50B to Auxiliary Feedwater Pump Turbine Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 205-2
SYSTEM: Main Steam, and Auxiliary Turbine Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0522A	G4	2	B	GL	AO	4.0	C	O/C	A	BT PIT FST	QO 18MO QO	QO-21 RO-127 QO-21	
	FUNCTION:			Main Steam From SG E-50B to Auxiliary Feedwater Pump Turbine Isolation Valve									
CV-0522B	F7	2	B	GL	AO	4.0	C	O/C	A	BT PIT FST	QO 18MO QO	QO-21 RO-127 QO-21	
	FUNCTION:			Main Steam From SG E-50A to Auxiliary Feedwater Pump Turbine Isolation Valve.									
CV-0525	H6	3	B	GL	AO	1.0	C	C	P	PIT	18MO	RO-127	
	FUNCTION:			Auxiliary Feedwater Pump Turbine Steam Bypass Isolation Valve - Vent.									
RV-0521	E8	3	C	RV	SA	3.0	C	O/C	A	RT	48MO	RT-116	
	FUNCTION:			Auxiliary Feedwater Pump Turbine Steam Supply Header Relief Valve.									
MV-FW211	D-8	3	B	3-WAY	MA	1.0	N	E	A	BT	-	LATER	

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0779	F4	2	B	GL	AO	8.0	C	O/C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-29
	FUNCTION:			Main Steam Line Atmospheric Dump Valves.									
CV-0780	F4	2	B	GL	AO	8.0	C	O/C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-29
	FUNCTION:			Main Steam Line Atmospheric Dump Valves.									
CV-0781	F5	2	B	GL	AO	8.0	C	O/C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-29
	FUNCTION:			Main Steam Line Atmospheric Dump Valves.									
CV-0782	F5	2	B	GL	AO	8.0	C	O/C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-29
	FUNCTION:			Main Steam Line Atmospheric Dump Valves.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-0701	H3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0702	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0703	H6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0704	H6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0705	H6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0706	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-0707	H3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0708	H3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0709	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0710	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0711	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0712	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-0713	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									
RV-0714	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									
RV-0715	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									
RV-0716	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									
RV-0717	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									
RV-0718	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION:			Main Steam Safety Relief Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-0719	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0720	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0721	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0722	G3	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0723	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												
RV-0724	G6	2	C	RV	SA	6.0	C	O/C	A	RT	5Y	RM-29	
	FUNCTION: Main Steam Safety Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1A
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-FW701	G5	2	C	CK	SA	18.0	0	C	A	CT-C	HS	QO-24	CS-7
	FUNCTION: Main Feedwater Check Valve.												
CK-FW702	G6	2	C	CK	SA	18.0	0	C	A	CT-C	HS	QO-24	CS-7
	FUNCTION: Main Feedwater Check Valve.												
CV-0701	C6	N	B	AG	AO	12.0	O	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	CS-23 CS-23
	FUNCTION: Feedwater to Steam Generator Isolation Valve.												
CV-0703	C5	N	B	AG	AO	12.0	O	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	CS-23 CS-23
	FUNCTION: Feedwater to Steam Generator Isolation Valve.												
CV-0734	D5	N	B	GL	AO	6.0	O/C	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	CS-23 CS-23
	FUNCTION: Feedwater Bypass Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1A
SYSTEM: Feedwater and Condensate Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0735	D6	N	B	GL	AO	6.0	O/C	C	A	BT	CS	QO-06	CS-23
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-23

FUNCTION: Feedwater Bypass Isolation Valve.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-1B
SYSTEM: Feedwater and Condensate System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0729	B3	3	B	GL	A0	6.0	C	C	P				
	FUNCTION: Hotwell to Condensate Storage Tank Make-Up Isolation Valve.												
CV-0731	C3	3	B	GL	A0	4.0	C	C	P				
	FUNCTION: Hotwell to Condensate Storage Tank Make-Up Isolation Valve.												
CV-0732	C3	3	B	GL	A0	3.0	C	C	P				
	FUNCTION: Hotwell to Condensate Storage Tank Make-Up Isolation Valve.												
CV-0733	C3	3	B	GA	A0	12.0	C	C	P				
	FUNCTION: Hotwell to Condensate Storage Tank Make-Up Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-2
SYSTEM: Auxiliary Feedwater System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-FW411	G8	3	C	CK	SA	2.0	C	O	A	CT-0	QO	M0-38	
	FUNCTION:	Auxiliary Feedwater Pump P-8B Minimum Flow Check Valve - Provide Minimum Flowpath.											
CK-FW412	E6	3	C	CK	SA	2.0	C	O	A	CT-0	QO	M0-38	
	FUNCTION:	Auxiliary Feedwater Pump P-8A Minimum Flow Check Valve - Provide Minimum Flowpath.											
CK-FW703	C3	2	C	CK	SA	6.0	C	O/C	A	PS CT-O CT-C	QO CS RO	QO-21 QO-28 RT-122	 RO-11
	FUNCTION:	Auxiliary Feedwater Injection Check Valve - Provide Flowpath to SG/Prevent Backflow.											
CK-FW704	B3	2	C	CK	SA	6.0	C	O/C	A	PS CT-O CT-C	QO CS RO	QO-21 QO-28 RT-122	 RO-11
	FUNCTION:	Auxiliary Feedwater Injection Check Valve - Provide Flowpath to SG/Prevent Backflow.											
CK-FW725	B7	3	C	CK	SA	6.0	C	0	A	CT-0	QO	QO-21	
	FUNCTION:	Auxiliary Feedwater Pump P-8C Suction Check Valve - Provide Flowpath From CST to Pump											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-2
SYSTEM: Auxiliary Feedwater System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-FW726	B5	3	C	CK	SA	6.0	C	0	A	CT-0	QO	QO-21	
	FUNCTION:	Auxiliary Feedwater Pump P-8C Discharge Check Valve - Provide Flowpath From Pump to SG.											
CK-FW727	C5	3	C	CK	SA	2.0	C	0	A	CT-0	QO	M0-38	
	FUNCTION:	Auxiliary Feedwater Pump P-8C Min Flow Check Valve - Provide Minimum Flowpath.											
CK-FW728	E2	2	C	CK	SA	4.0	C	O/C	A	PS CT-O CT-C	QO CS RO	QO-21 QO-28 RT-122	 RO-11
	FUNCTION:	Auxiliary Feedwater Pump Injection Check Valve - Provide Flowpath to SG/Prevent Backflow.											
CK-FW729	D3	2	C	CK	SA	4.0	C	O/C	A	PS CT-O CT-C	QO CS RO	QO-21 QO-28 RT-122	 RO-11
	FUNCTION:	Auxiliary Feedwater Pump Injection Check Valve - Provide Flowpath to SG/Prevent Backflow.											
CK-FW741	E6	3	C	CK	SA	6.0	C	O/C	A	CT-O CT-C	QO QO	QO-21 QO-21	
	FUNCTION:	Auxiliary Feedwater Pump P-8A Discharge Check Valve - Provide Flowpath to SG/Prevent Backflow											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-2
SYSTEM: Auxiliary Feedwater System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-FW743	H6	3	C	CK	SA	6.0	C	O/C	A	CT-O CT-C	QO QO	QO-21 QO-21	
	FUNCTION:			Auxiliary Feedwater Pump P-8B Discharge Check Valve - Provide Flowpath to SG/Prevent Backflow.									
CV-0727	G4	2	B	GL	A0	4.0	C	O/C	A	BT PIT FST	QO 18MO QO	QO-21 QO-21 QO-21	RR-18 RR-18
	FUNCTION:			Auxiliary Feedwater Flow Control Valve - Provide Flow Control of Auxiliary Feedwater to SG.									
CV-0736	C4	2	B	GL	A0	1.5	C	C	A	BT	QO	QO-21	
	FUNCTION:			Auxiliary Feedwater Bypass Valve.									
CV-0736A	C4	2	B	GL	A0	4.0	C	O/C	A	BT PIT FST	QO 18MO QO	QO-21 QO-21 QO-21	RR-18 RR-18
	FUNCTION:			Auxiliary Feedwater Flow Control Valve - Provide Flow Control of Auxiliary Feedwater to SG.									
CV-0737	A4	2	B	GL	A0	1.5	C	C	A	BT	QO	QO-21	
	FUNCTION:			Auxiliary Feedwater Bypass Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-2
SYSTEM: Auxiliary Feedwater System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0737A	A4	2	B	GL	A0	4.0	C	O/C	A	BT	QO	QO-21	RR-18
										PIT	18MO	QO-21	
										FST	QO	QO-21	RR-18
	FUNCTION:			Auxiliary Feedwater Flow Control Valve - Provide Flow Control of Auxiliary Feedwater to SG.									
CV-0749	E4	2	B	GL	A0	4.0	C	O/C	A	BT	QO	QO-21	RR-18
										PIT	18MO	QO-21	
										FST	QO	QO-21	RR-18
	FUNCTION:			Auxiliary Feedwater Flow Control Valve - Provide Flow Control of Auxiliary Feedwater to SG.									
MV-FW504	H8	3	B	GA	MA	1.0	O	C	A	BT	-	LATER	
	FUNCTION:			Service Water to Auxiliary Feedwater Pump P-8B Manual Isolation Valve.									
MV-FW750	A7	3	B	GA	MA	4.0	LC	0/C	A	BT	-	LATER	
	FUNCTION:			Service Water to Auxiliary Feedwater Pump P-8C Suction Manual Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 207-2
SYSTEM: Auxiliary Feedwater System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-FW750A	B7	3	B	GA	MA	4.0	LC	O/C	A	BT	-	LATER	
	FUNCTION:	Service Water to Auxiliary Feedwater Pump P-8C Suction Manual Isolation Valve.											
MV-FW759	B7	3	B	GL	MA	4.0	O	C	A	BT	-	LATER	
	FUNCTION:	Service Water to Auxiliary Feedwater Pump 8-C Manual Isolation Valve.											
MV-FW774	H7	3	B	GA	MA	4.0	LC	O/C	A	BT	-	LATER	
	FUNCTION:	Fire System to Auxiliary Feedwater Pump Suction Isolation Valve.											
MV-FW775	H7	NC	B	GA	MA	4.0	LC	O/C	A	BT	-	LATER	
	FUNCTION:	Fire System to Auxiliary Feedwater Pump Suction Isolation Valve.											
RV-0783	F5	3	C	RV	SA	2.5	C	O/C	A	RT	48MO	RT-116	
	FUNCTION:	Auxiliary Feedwater Pumps P-8A&B Discharge Header Relief Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1A
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0821	B7	3	B	GL	A0	4.0	O	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-21
	FUNCTION:			CC Water Heat Exchanger Outlet Bypass Valve.									
CV-0822	A7	3	B	GL	A0	4.0	O	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-21
	FUNCTION:			CC Water Heat Exchanger Outlet Bypass Valve.									
CV-0823	B7	3	B	BF	A0	16.0	O	O	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-21
	FUNCTION:			CC Water Heat Exchanger Outlet Isolation Valve.									
CV-0825	E6	3	B	GA	A0	3.0	O	O	P	PIT	18MO	QO-O6	
	FUNCTION:			Service Water to Engineered Safeguards Room Cooler Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1A
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0826	A7	3	B	BF	A0	16.0	O	O	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	RR-21
	FUNCTION:			CC Water Heat Exchanger Outlet Isolation Valve.									
CV-0844	G4	3	B	BF	A0	24.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	RR18 RR18
	FUNCTION:			Critical Service Water Header "B" Isolation Valve.									
CV-0845	F5	3	B	BF	A0	24.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	RR18 RR18
	FUNCTION:			Critical Service Water Header "A" Isolation Valve.									
CV-0846	A5	3	B	BF	A0	24.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Critical Service Water Crosstie Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1A
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0857	A5	3	B	BF	A0	24.0	0	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION: Critical Service Water Crosstie Isolation Valve.												
CV-0876	F4	3	B	BF	A0	6.0	0	0	P	PIT	18MO	QO-06	
	FUNCTION: Service Water to Diesel Generator K-6B Isolation Valve.												
CV-0877	F4	3	B	BF	A0	6.0	O	O	P	PIT	18MO	QO-06	
	FUNCTION: Service Water to Diesel Generator K-6A Isolation Valve.												
CV-0878	C5	3	B	GA	A0	3.0	O	O	P	PIT	18MO	QO-06	
	FUNCTION: Service Water to Engineered Safeguards Room Cooler Isolation Valve.												
CV-0879	E5	3	B	GA	A0	4.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: Service Water to ESS Pump Seal Cooling Isolation Valve.												
CV-0880	D6	3	B	GA	A0	4.0	C	C	P	PIT	18MO	QO-06	
	FUNCTICN: Service Water to ESS Pump Seal Cooling Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1A
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0884	G3	3	B	BF	A0	6.0	C	0	A	BT FST	MO MO	MO-7A-1 MO-7A-1	RR-10
	FUNCTION:	Service Water to Diesel Generator K-6A Isolation Valve.											
CV-0885	F3	3	B	BF	A0	6.0	C	0	A	BT FST	MO MO	MO-7A-1 MO-7A-1	RR-10
	FUNCTION:	Service Water to Diesel Generator K-6B Isolation Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1B
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-SW407	F5	3	C	CK	SA	8.0	0	0	A	CT-O	RO	RT-122	RO-6
	FUNCTION:	Containment Air Cooler VHX-1 Outlet Check Valve - Provide Flowpath for Service Water.											
CK-SW408	B5	3	C	CK	SA	8.0	0	0	A	CT-O	RO	RT-122	RO-6
	FUNCTION:	Containment Air Cooler VHX-2 Outlet Check Valve - Provide Flowpath for Service Water.											
CK-SW409	B7	3	C	CK	SA	8.0	0	0	A	CT-O	RO	RT-122	RO-6
	FUNCTION:	Containment Air Cooler VHX-3 Outlet Check Valve - Provide Flowpath for Service Water.											
CV-0824	D4	2	B	BF	A0	16.0	ELO	O/C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06CS-20 CS-20	
	FUNCTION:	Service Water Return Header Isolation Valve.											
CV-0843	F7	3	B	GL	AO	4.0	O	N/A	P				
	FUNCTION:	Containment Air Cooler VHX-4 Outlet Temperature Control Isolation Valve.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1B
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0847	C2	2	B	BF	A0	16.0	ELO	O/C	A	BT	CS	QO-06	CS-20
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-20
	FUNCTION: Service Water Header B Supply Isolation Valve.												
CV-0861	F5	3	B	BF	A0	8.0	C	0	A	BT	QO	QO-05	
										PIT	18MO	QO-06	
										FST	QO	QO-05	
	FUNCTION: Containment Air Cooler VHX-1 Outlet Isolation Valve.												
CV-0862	E6	3	B	BF	A0	8.0	ELO	0	P	PIT	18MO	QO-06	
	FUNCTION: Containment Air Cooler Inlet Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1B
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0864	A5	3	B	BF	A0	8.0	C	O	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION:			Containment Air Cooler VHX-2 Outlet Isolation Valve.									
CV-0865	C6	3	B	BF	A0	8.0	ELO	O	P	PIT	18MO	QO-06	
	FUNCTION:			Containment Air Cooler VHX-2 Inlet Isolation Valve.									
CV-0867	F7	3	B	BF	A0	8.0	C	C	P	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
	FUNCTION:			Containment Air Cooler VHX-4 Outlet Isolation Valve.									
CV-0869	D7	3	B	BF	A0	8.0	O	O	P				
	FUNCTION:			Containment Air Cooler Inlet Isolation Valve.									
CV-0870	D7	3	B	BF	A0	8.0	O	O	P	PIT	18MO	QO-06	
	FUNCTION:			Containment Air Cooler VHX-3 Inlet Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 208-1B
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0873	B7	3	B	BF	A0	8.0	C	0	A	BT PIT FST	QO 18MO QO	QO-05 QO-06 QO-05	
FUNCTION: Containment Air Cooler VHX-3 Outlet Isolation Valve.													
CV-1655	G2	3	B	GL	AO	3.0	O	O	P	PIT	18MO	QO-06	
FUNCTION: Condensing Unit VC-11 Service Water Control.													
CV-1656	G2	3	B	GL	AO	3.0	O	O	P	PIT	18MO	QO-06	
FUNCTION: Condensing Unit VC-10 Service Water Control.													

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-1
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CC910	E1	3	A/C	CK	SA	10.0	0	C	A	AT	RO	R03214	CS-17
										CT-C	CS	QO-06	
	FUNCTION: CC Water Supply Header Check Valve - Provide Flowpath for CC/Provide Containment Isolation.												
CV-0910	E2	2	A	BF	A0	10.0	0	C	A	AT	RO	R03214	
										BT	CS	QO-06	CS-17
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-17
	FUNCTION: CC Water Supply Header Isolation Valve - Provide Containment Isolation.												
CV-0911	B2	2	A	BF	A0	10.0	0	C	A	AT	RO	R03215	
										BT	CS	QO-06	CS-17
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-17
	FUNCTION: CC Water Return Header Isolation Valve - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-1
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0940	B1	3	A	BF	A0	10.0	0	C	A	AT	RO	R03215	
										BT	CS	QO-06	CS-17
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-17
	FUNCTION: CC Water Return Header Isolation Valve - Provide Containment Isolation.												
CK-CC401	C7	3	C	CK	SA	3.0	C	O	A	CT-O	QO	QO-19	
	FUNCTION: ES Pumps Component Cooling Water Check Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-2
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CC402	B7	3	C	CK	SA	3.0	C	0	A	CT-0	QO	QO-19	
	FUNCTION: ES Pumps Component Cooling Water Check Valve.												
CV-0913	F3	3	B	GL	A0	4.0	O	O	P	PIT	18MO	QO-06	
	FUNCTION: ES Pumps CC Water Supply Isolation Valve.												
CV-0947	E4	3	B	GL	A0	3.0	EL0	0	P	PIT	18MO	QO-06	
	FUNCTION: ES Pumps CC Water Supply Isolation Valve.												
CV-0948	B4	3	B	GL	A0	3.0	EL0	0	P	PIT	18MO	QO-06	
	FUNCTION: ES Pumps CC Water Supply Isolation Valve.												
CV-0949	D3	3	B	GL	A0	4.0	EL0	0	P	PIT	18MO	QO-06	
	FUNCTION: ES Pumps CC Water Supply Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-2
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0950	D7	3	B	GA	A0	4.0	O	O	P	PIT	QO	QO-06	
	FUNCTION: ES Pumps CC Water Return Isolation Valve.												
CV-0951	C7	3	B	GA	A0	4.0	C	C	P	PIT	QO	QO-06	
	FUNCTION: ES Pumps Service Water Return Isolation Valve.												
RV-0954	G6.7	3	C	RV	SA	1.0	C	C	P				RR-28
	FUNCTION: SDC Heat Exchanger E-60A/Thermal Relief Valve.												
RV-0955	F6.7	3	C	RV	SA	1.0	C	C	P				RR-28
	FUNCTION: SDC Heat Exchanger E-60B/Thermal Relief Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-3
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CC941	B4	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C PS	SAM QO QO	QO-15 QO-15 QO-15	RO-14
	FUNCTION:			CC Pump Discharge Check Valve - Provide Flowpath/Prevent Backflow.									
CK-CC943	B4	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C PS	SAM QO QO	QO-15 QO-15 QO-15	RO-14
	FUNCTION:			CC Pump Discharge Check Valve - Provide Flowpath/Prevent Backflow.									
CK-CC944	A4	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C PS	SAM QO QO	QO-15 QO-15 QO-15	RO-14
	FUNCTION:			CC Pump Discharge Check Valve - Provide Flowpath/Prevent Backflow.									
CV-0915	H4	3	B	GL	A0	2.0	0	C	A	BT PIT FST	QO 18MO QO	HP6.8 HP6.8	RR-20
	FUNCTION:			CC Surge Tank Three Way Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-3
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0918	G3	3	B	GL	A0	2.0	C	N/A	P				
	FUNCTION:	Primary System Makeup to CC Surge Tank Isolation Valve.											
CV-0937	G7	3	B	BF	A0	18.0	C	0	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:	CC Water Heat Exchanger Outlet Isolation Valve.											
CV-0938	G7	3	B	BF	A0	18.0	C	0	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:	CC Water Heat Exchanger Outlet Isolation Valve.											
CV-0944	E8	3	B	BF	A0	10.0	0	C	A	BT PIT FST	QO 18MO QO	QO-01 QO-01 QO-01	RR-12
	FUNCTION:	CC Water Isolation Valve to Radwaste Evaporators.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 209-3
SYSTEM: Component Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FAIL A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0944A	E7	3	B	BF	A0	14.0	0	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			CC Water to Spent Fuel Pool Heat Exchanger Isolation Valve.									
CV-0945	F4	3	B	BF	A0	16.0	0	0	P	PIT	18MO	QO-06	
	FUNCTION:			CC Water to CC Heat Exchanger Isolation Valve.									
CV-0946	F5	3	B	BF	A0	16.0	0	0	P	PIT	18MO	QO-06	
	FUNCTION:			CC Water to CC Heat Exchanger Isolation Valve.									
CV-0977B	C1	3	B	BF	A0	10.0	0	C	A	BT PIT FST	QO 18MO QO	QO-01 QO-01 QO-01	RR-12
	FUNCTION:			CC Water Isolation Valve From Radwaste Evaporators.									
RV-0915	G3	3	C	RV	SA	2.0	C	C	A	RT	48MO	RT-116	
	FUNCTION:			CC Surge Tank Relief Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-1A
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CRW407	H8	2	AC	CK	SA	3.0	O/C	C	A	AT CT-C	RO QO	RO3241 QO-11	
	FUNCTION:	Degasifier Pump Discharge Check Valve - Provide Containment Isolation											
CK-CRW408	B5	2	AC	CK	SA	3.0	O/C	C	A	AT CT-C	RO QO	RO3267 QO-11	
	FUNCTION:	Rec Tank Circulating Pump Discharge Check Valve - Provide Containment Isolation.											
CV-1004	H8	2	A	GL	AO	3.0	O/C	C	A	AT BT PIT FST	RO QO 18MO QO	RO3241 QO-05 QO-05 QO-05	
	FUNCTION:	Degasifier Pump Discharge Header Isolation Valve.											
CV-1036	B6	2	A	GL	AO	6.0	O	C	A	AT BT PIT FST	RO QO 18MO QO	RO3249 QO-05 QO-05 QO-05	
	FUNCTION:	Receiver Tanks to Pump Suction Isolation Valve - Provide Containment Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-1A
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1037	B4	2	A	GL	AO	3.0	O	C	A	AT	RO	RO3267	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Rec Tank Circulating Pump Discharge Isolation Valve - Provide Containment Isolation.									
CV-1038	B7	2	A	GL	AO	6.0	O	C	A	AT	RO	RO3249	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Rec Tank Circulating Pump Suction Isolation Valve - Provide Containment Isolation.									
CV-1064	F2	2	A	GL	AO	2.0	O	C	A	AT	RO	R03225	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Receiver Tank Vent to Stack Header Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-1A
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1065	F1	2	A	GL	AO	2.0	O	C	A	AT	RO	R03225	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	

FUNCTION: Receiver Tank Vent to Stack Header Isolation Valve - Provide Containment Isolation.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-1B
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1044	F1	2	A	GL	AO	4.0	0	C	A	AT	RO	R03269	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Clean Waste Rec Tank Pump Suction Isolation Valve - Provide Containment Isolation.									
CV-1045	G1	2	A	GL	AO	4.0	0	C	A	AT	RO	R03269	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Clean Waste Rec Tank Pump Suction Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-2
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CRW403	E5	2	AC	CK	SA	1.5	0	C	A	AT CT-C	RO QO	R03237 QO-11	
	FUNCTION:			Primary System Drain Tank Pumps Discharge Check Valve - Provide Containment Isolation.									
CV-1001	E5	2	A	GL	A0	1.5	0/C	C	A	AT BT PIT FST	RO QO 18MO QO	R03237 QO-05 QO-05 QO-05	
	FUNCTION:			Primary System Drain Tank Pumps Discharge Header Isolation Valve - Provide Containment Isolation.									
CV-1002	C7	2	A	GL	A0	4.0	0	C	A	AT BT PIT FST	RO QO 18MO QO	R03247 QO-05 QO-05 QO-05	
	FUNCTION:			Primary System Drain Tank Pumps Discharge Header Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 210-2
SYSTEM: Clean Radioactive Waste Treatment System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1007	B7	2	A	GL	A0	4.0	0	C	A	AT	RO	R03247	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	

FUNCTION: Primary System Drain Tank Pumps Discharge Header Isolation Valve - Provide Containment Isolation

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 211-1
SYSTEM: Dirty Waste and Gaseous Waste Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1103	F7	2	A	BA	A0	4.0	O/C	C	A	AT	RO	R03252	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Sump Drain To Dirty Waste Drain Tank Isolation Valve - Provide Containment Isolation.												
CV-1104	F7	2	A	BA	A0	4.0	O/C	C	A	AT	RO	R03252	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Sump Drain To Dirty Waste Drain Tank Isolation Valve - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 211-2
SYSTEM: Dirty Waste and Gaseous Waste Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1101	G7	2	A	GL	A0	4.0	0	C	A	AT	RO	R03246	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:		Containment Ventilation Header Isolation Valve - Provide Containment Isolation.										
CV-1102	G6	2	A	GL	A0	4.0	0	C	A	AT	RO	R03246	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:		Containment Ventilation Header Isolation Valve - Provide Containment Isolation.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 212-1
SYSTEM: Service and Instrument Air Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-CA122	A3	2	A	GA	MA	2.0	C	C	P	AT	RO	R03210	
	FUNCTION: Service Air to Containment Manual Isolation Valve - Provide Containment Isolation.												
MV-CA728	A3	2	A	GA	MA	2.0	C	C	P	AT	RO	R03210	
	FUNCTION: Service Air to Containment Manual Isolation Valve - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 212-4
SYSTEM: Instrument Air System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CA400	E2	2	A/C	CK	SA	2.0	O	C	A	AT	RO	R03265	
										CT-C	RO	R03265	RO-9
	FUNCTION:			Instrument Air to Containment Check Valve - Provide Containment Isolation.									
CV-1211	E2	2	A	GL	A0	2.0	O	C	A	AT	RO	R03265	
										BT	CS	QO-06	CS-18
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-18
	FUNCTION:			Instrument Air to Containment Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 213
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
*CK-SW401	F4	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C	SAM QO	QO-14 QO-14	RO-8
	FUNCTION:	Service Water Pump P-7A Discharge Check Valve - Provide Flowpath/Prevent Backflow.											
*CK-SW402	F3	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C	SAM QO	QO-14 QO-14	RO-8
	FUNCTION:	Service Water Pump P-7B Discharge Check Valve - Provide Flowpath/Prevent Backflow.											
*CK-SW403	F2	3	C	CK	SA	16.0	O/C	O/C	A	CT-O CT-C	SAM QO	QO-14 QO-14	RO-8
	FUNCTION:	Service Water Pump P-7C Discharge Check Valve - Provide Flowpath/Prevent Backflow.											

* Part Stroking CK-SW401, CK-SW402, and CK-SW403 is performed continuously during power operations.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 213
SYSTEM: Service Water System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1318	G4	3	B	BF	AO	24.0	ELO	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Service Water Pump Header Isolation Valve.									
CV-1319	G3	3	B	BF	AO	24.0	ELO	O/C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Service Water Pump Header Isolation Valve.									
CV-1359	G5	3	B	BF	AO	24.0	ELO	C	A	BT PIT FST	CS 18MO CS	QO-06 QO-06 QO-06	CS-33 CS-33
	FUNCTION:			Service Water Pump Header Isolation Valve.									
MV-FP130	H1	3	B	GA	MA	12.0	C	C	P	BT	RO	RO-52	
	FUNCTION:			Service Water - Fire System Crosstie Manual Isolation.									
MV-FP131	G4	3	B	GA	MA	12.0	C	C	P	BT	RO	RO-52	
	FUNCTION:			Service Water - Fire System Crosstie Manual Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 215
SYSTEM: Plant Heating System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1501	G2	2	A	GL	A0	2.0	C	C	P	AT PIT	RO 18MO	R03238 QO-05	
	FUNCTION:			Containment Heating Steam Return Isolation Valve - Provide Containment Isolation.									
CV-1502	G3	2	A	GL	A0	2.0	C	C	P	AT PIT	RO 18MO	R03238 QO-05	
	FUNCTION:			Containment Heating Steam Return Isolation Valve - Provide Containment Isolation.									
CV-1503	H2	2	A	GL	A0	4.0	C	C	P	AT PIT	RO 18MO	R03239 QO-05	
	FUNCTION:			Containment Heating Steam Supply Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1805	D6	2	A	BF	A0	8.0	O/C	C	A	AT	RO	R03201A	RR-30
										BT	CS	QO-06	CS-19
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-19
	FUNCTION:			Containment Purge Air Exhaust Isolation Valve - Provide Containment Isolation.									
CV-1806	D6	2	A	BF	A0	8.0	O/C	C	A	AT	RO	R03201A	RR-30
										BT	CS	QO-06	CS-19
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-19
	FUNCTION:			Containment Purge Air Exhaust Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1807	D6	2	A	BF	A0	8.0	O/C	C	A	AT	RO	R03201C	RR-30
										BT	CS	QO-06	CS-19
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-19
	FUNCTION:			Containment Purge Air Exhaust Isolation Valve - Provide Containment Isolation.									
CV-1808	D6	2	A	BF	A0	8.0	O/C	C	A	AT	RO	R03201C	RR-30
										BT	CS	QO-06	CS-19
										PIT	18MO	QO-06	
										FST	CS	QO-06	CS-19
	FUNCTION:			Containment Purge Air Exhaust Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1813	C3	2	A	BF	A0	12.0	ELC	C	P	AT	RO	R03268	
	FUNCTION:	Containment Purge Isolation Valve - Provide Containment Isolation.											
CV-1814	B3	2	A	BF	A0	12.0	ELC	C	P	AT	RO	R03268	
	FUNCTION:	Containment Purge Isolation Valve - Provide Containment Isolation.											
MO-P1	E1	2	A	BF	M0	6.0	C	C	P	AT	RO	R03227	
	FUNCTION:	Integrated Leak Rate Test Fill Line Isolation Valve - Provide Containment Isolation.											
MV-VA-L-6	F1	2	A	GA	MA	1.0	LC	C	P	AT	RO	R03266	
	FUNCTION:	ILRT Instrument Line Manual Isolation Valve - Provide Containment Isolation.											
MV-VA100	D5	2	A	GA	MA	4.0	LC	C	P	AT	RO	R03201B	
	FUNCTION:	Purge Exhaust to Exhaust Plenum Manual Isolation Valve - Provide Containment Isolation.											
MV-VA101	D5	2	A	GA	MA	4.0	LC	C	P	AT	RO	R03201B	
	FUNCTION:	Purge Exhaust to Exhaust Plenum Manual Isolation Valve - Provide Containment Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA601	F2	2	A	GA	MA	1.5	LC	C	P	AT	RO	R03266	
	FUNCTION:		ILRT Instrument Line Manual Isolation Valve - Provide Containment Isolation.										
MV-VA1801	E4	2	B	GL	MA	0.5	0	0	P				
	FUNCTION:		Containment Pressure Instrumentation Line Manual Isolation Valve.										
MV-VA1801A	E4	2	B	GL	MA	0.5	O	0	P				
	FUNCTION:		Containment Pressure Instrumentation Line Manual Isolation Valve.										
MV-VA1801B	E4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:		Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA1801C	F4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1802	G5	2	B	GL	MA	0.5	O	O	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation Valve.											
MV-VA1802A	G4	2	B	GL	MA	0.5	O	O	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation Valve.											
MV-VA1802B	G5	2	A	GL	MA	0.5	0	0	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation Valve.											
MV-VA1802C	G4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217B	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1803	E5	2	B	GL	MA	0.75	LO	O	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA1803A	F4	2	B	GL	MA	0.5	LO	O	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1803B	E5	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1803C	F4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1804	G4	2	B	GL	MA	0.75	LO	O	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1804A	G4	2	B	GL	MA	0.5	O	O	P	AT	RO	RO3217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1804B	G4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA1804C	G4	2	A	GA	MA	0.5	C	C	P	AT	RO	R03217	
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.												
MV-VA1805	E4	2	B	GL	MA	0.5	0	O	P				
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.												
MV-VA1805A	E4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.												
MV-VA1805B	E4	2	B	GL	MA	0.5	0	0	P				
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.												
MV-VA1805C	E4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.												
MV-VA1812	G4	2	B	GL	MA	0.5	0	O	P				
FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA1812A	G5	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1812B	G4	2	B	GL	MA	0.5	0	0	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1812C	G4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1814	G4	2	B	GL	MA	0.5	0	0	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1814A	F4	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1814B	H5	2	A	GL	MA	0.5	C	C	P	AT	RO	R03217	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 218-2
SYSTEM: Containment Building Heating, Ventilation & Air Conditioning System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA1815	E4	2	B	GL	MA	0.5	0	0	P				
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation.											
MV-VA1815A	E5	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											
MV-VA1815B	F5	2	A	GL	MA	0.5	C	C	P	AT	RO	R03248	
	FUNCTION:	Containment Pressure Instrumentation Line Manual Isolation - Provide Containment Isolation.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 219-1B
SYSTEM: Process Sampling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-1901	G3	1	B	GL	A0	0.5	O	O	P				
	FUNCTION: Pressurizer Vapor Phase Sample Isolation Valve.												
CV-1902	G8	1	B	GL	AO	0.5	C	N/A	P				
	FUNCTION: Pressurizer Liquid Phase Sample Isolation Valve.												
CV-1903	G7	1	B	GL	AO	0.5	C	N/A	P				
	FUNCTION: Primary Coolant Loop 2 Hot Leg Sample Isolation Valve.												
CV-1910	C8	2	A	GL	A0	0.5	0	O/C	A	AT	RO	R03240	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Primary Coolant Sample System Isolation Valve - Provide Containment Isolation.												
CV-1911	B8	2	A	GL	A0	0.5	0	O/C	A	AT	RO	R03240	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Primary Coolant Sample System Isolation Valve - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 220-1
SYSTEM: Makeup, Domestic Water & Chemical Injection Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CD407	B4	3	C	CK	SA	3.0	O	C	A	CT-C	SAM	RT-122	RO-7
	FUNCTION: S/G Recirc Line to Condensate Storage Tank T-2.												
CV-2010	E3	3	B	GL	A0	3.0	C	C	P	PIT	18MO	QO-06	
	FUNCTION: Makeup to Condensate Storage Tank Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 221-1
SYSTEM: **Shield Cooling System**

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-CD401	D2	2	AC	CK	SA	1.5	0	C	A	AT	RO	R03211	
										CT-C	QO	QO-11	
	FUNCTION:			Condensate to Shield Cooling Surge Tank Check Valve - Provide Containment Isolation.									
CV-0939	D2	2	A	GA	A0	1.5	0	C	A	AT	RO	R03211	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION:			Condensate to Shield Cooling Surge Tank Isolation Valve - Provide Containment Isolation.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 221-2
SYSTEM: Spent Fuel Pool Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-SFP117	C2	2	A	GA	MA	8.0	C	C	P	AT	RO	R03272	
	FUNCTION: Reactor Cavity Drain and Recycle Manual Insolation Valve.												
MV-SFP118	C4	2	A	GA	MA	8.0	C	C	P	AT	RO	R03272	
	FUNCTION: Reactor Cavity Drain and Recycle Manual Insolation Valve.												
MV-SFP120	C2	2	A	GA	MA	6.0	C	C	P	AT	RO	R03264	
	FUNCTION: Reactor Cavity Fill and Recycle Manual Isolation Valve.												
MV-SFP121	C2	2	A	GA	MA	6.0	C	C	P	AT	RO	R03264	
	FUNCTION: Reactor Cavity Fill and Recycle Manual Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 221-2
SYSTEM: Spent Fuel Pool Cooling System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
RV-2109	D8	3	C	RV	SA	1.0	C	N/A	P				RR-28
	FUNCTION: Spent Fuel Pool Heat Exchanger E-53A and B Relief.												
CK-SFP930	B5	3	C	CK	SA	8.0	O/C	N/A	P				
	FUNCTION: Spent Fuel Pool Recirc P-51B Discharge.												
CK-SFP400	B5	3	C	CK	SA	8.0	O/C	N/A	P				
	FUNCTION: Spent Fuel Pool Recirc Pump P-51A Discharge.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 222-2
SYSTEM: **Miscellaneous Gas Supply System**

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CK-$N_2$400	D3	2	AC	CK	SA	1.0	C	C	A	AT	RO	R03226	
FUNCTION: Nitrogen Supply to Containment Check Valve - Provide Containment Isolation.													
CV-1358	D3	2	A	GL	A0	1.0	C	C	A	AT	RO	R03226	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
FUNCTION: Nitrogen Supply to Containment Isolation Valve - Provide Containment Isolation.													

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 224-1
SYSTEM: Gas Analyzing System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA140	E7	2	B	GA	MA	0.5	LO	O	P				
	FUNCTION: Containment Air Sample Line Manual Isolation Valve.												
MV-VAS141	E7	2	A	GL	MA	0.5	C	C	P	AT	RO	R03228	
	FUNCTION: Containment Air Sample Line Manual Isolation Valve - Provide Containment Isolation.												
MV-VAS142	E7	2	A	GL	MA	0.5	C	C	P	AT	RO	R03228	
	FUNCTION: Containment Air Sample Line Manual Isolation Valve - Provide Containment Isolation.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 224-2
SYSTEM: Containment Hydrogen Monitoring System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
SV-2412A	C8	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03240B	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Inlet Isolation Valve.												
SV-2412B	C7	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03240B	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Inlet Isolation Valve.												
SV-2413A	F8	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03221A	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Inlet Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 224-2
SYSTEM: Containment Hydrogen Monitoring System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
SV-2413B	F7	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03221A	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Inlet Isolation Valve.												
SV-2414A	D8	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03240A	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Outlet Isolation Valve.												
SV-2414B	D7	2	A	GL	S0	0.5	C	O/C	A	AT	RO	R03240A	
										BT	QO	QO-05	
										PIT	18MO	QO-05	
										FST	QO	QO-05	
	FUNCTION: Containment Air Outlet Isolation Valve.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 224-2
SYSTEM: Containment Hydrogen Monitoring System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
SV-2415A	G8	2	A	GL	S0	0.5	C	O/C	A	AT BT PIT FST	RO QO 18MO QO	R03221 QO-05 QO-05 QO-05	

FUNCTION: Containment Air Outlet Isolation Valve.

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
SV-2415B	G7	2	A	GL	S0	0.5	C	O/C	A	AT BT PIT FST	RO QO 18MO QO	R03221 QO-05 QO-05 QO-05	

FUNCTION: Containment Air Outlet Isolation Valve.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 226-1
SYSTEM: Steam Generator Blowdown System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0738	C7	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Steam Generator Blowdown Isolation Valve.									
CV-0739	C7	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Steam Generator Blowdown Isolation Valve.									
CV-0767	F8	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Steam Generator Blowdown Isolation Valve.									
CV-0768	F8	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:			Steam Generator Blowdown Isolation Valve.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 226-1
SYSTEM: Steam Generator Blowdown System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-0770	E7	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:		Steam Generator Blowdown Isolation Valve.										
CV-0771	F7	2	B	AG	A0	2.0	O	C	A	BT PIT FST	QO 18MO QO	QO-05 QO-05 QO-05	
	FUNCTION:		Steam Generator Blowdown Isolation Valve.										

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 232
SYSTEM: Containment Isolation System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA-P6	NA	2	B	GA	MA	3.0	LC	C	P				
	FUNCTION: Emergency Access Hatch Isolation Valve - Penetration No 50.												
MV-CIS500	NA	2	B	GA	MA	0.25	C	C	P	AT	RO	R03251	
	FUNCTION: Equipment Hatch Manual Isolation Valve - Penetration No 51.												
MV-VAS533	NA	2	B	GA	MA	0.75	C	C	P	AT		SO-4A	
	FUNCTION: Personnel Access Lock Isolation Valve - Penetration No 19.												
MV-VA606A	NA	2	A	GA	MA	0.375	0	0	P	AT	RO	RO3252B	
	FUNCTION: Containment Sump Level Instrumentation Isolation Valve - Penetration No 56.												
MV-VA606B	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION: Containment Sump Level Instrumentation Isolation Valve - Penetration No 56.												

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 232
SYSTEM: Containment Isolation System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-VA606C	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 56.											
MV-DRW618	NA	2	B	GA	MA	1.0	0	O	P				
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618A	NA	2	B	GA	MA	0.375	0	O	P				
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618B	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	R03252	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618C	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618D	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 232
SYSTEM: Containment Isolation System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-DRW618E	NA	2	A	GA	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618F	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618G	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW618H	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619	NA	2	B	GA	MA	1.0	O	O	P				
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619A	NA	2	B	GL	MA	0.375	O	O	P				
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 232
SYSTEM: Containment Isolation System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
MV-DRW619B	NA	2	B	GL	MA	0.375	C	C	P				
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619C	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619D	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619E	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619F	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619G	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	
	FUNCTION:	Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.											
MV-DRW619H	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252B	

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 232
SYSTEM: Containment Isolation System

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
	FUNCTION:			Containment Sump Level Instrumentation Isolation Valve - Penetration No 52.									
MV-VA1814E	NA	2	A	GL	MA	0.375	0	0	P	AT	RO	RO3252A	
	FUNCTION:			Containment Sump Level Instrumentation Isolation Valve - Penetration No 17A.									
MV-VA1814F	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:			Containment Sump Level Instrumentation Isolation Valve - Penetration No 17A.									
MV-VA1814G	NA	2	A	GL	MA	0.375	C	C	P	AT	RO	RO3252A	
	FUNCTION:			Containment Sump Level Instrumentation Isolation Valve - Penetration No 17A.									

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 655
SYSTEM: Radwaste Auxiliary Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-5608	E8	NC	B	GL	A0	2.0	C	C	P				

FUNCTION: Heating Boiler Condensate to Condensate Storage Tank Isolation Valve.

PALISADES NUCLEAR PLANT
INSERVICE TESTING PROGRAM - VALVE TEST TABLE

P&ID: 907
SYSTEM: Plant Heating & Fuel Oil Systems

VALVE NUMBER	DRWG CORD	IST CLS	VLV CAT	TYPE	ACT TYPE	SIZE	NORM POS	SAFE POS	FUNC A/P	TEST TYPE	TEST FREQ	TEST PROC	REL REQ
CV-8305	A6	3	B	GL	A0	2.0	C	C	P				

FUNCTION: Condensate Receiver to Condensate Storage Tank Isolation Valve.

ENCLOSURE 4

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

REFERENCED PIPING & INSTRUMENT DIAGRAMS

ENCLOSURE 5

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

FORMER VALVE RELIEF REQUESTS WHICH HAVE BEEN INCORPORATED
INTO THE TESTING PROGRAM OR HAVE BEEN DELETED

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Enclosure 5

Former relief requests which have been incorporated into existing plant testing procedures as allow by the provisions of OMa-1988 or are no longer required for the third 10 year interval and, therefore, have been deleted.

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