

July 14, 1980

In reply, please
refer to LAC-7025

DOCKET NO. 50-409

Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
APPLICATION FOR AMENDMENT TO LICENSE

- References:
- (1) DPC Letter, LAC-6280, Linder to Ziemann, dated May 11, 1979 (Tech. Spec. Submittal).
 - (2) DPC Letter, LAC-6429, Linder to Ziemann, dated July 27, 1979 (Program Submittal).
 - (3) NRC Letter, Reid to Madgett, dated January 10, 1978 (Guidance - NRC).
 - (4) License Amendment Fee, Check #21046, dated July 10, 1979.
 - (5) DPC Letter, Linder to Ziemann, dated December 7, 1979 (Pumps Reliefs).
 - (6) DPC Letter, Linder to Ziemann, dated January 21, 1980 (MSIV Bypass Valve Relief).
 - (7) DPC Letter, Linder to Ziemann, dated January 24, 1980 (Additional Information - Class I, II & III).
 - (8) DPC Letter, Linder to Ziemann, dated January 30, 1980 (Core Spray Valves).
 - (9) NRC Letter, Nerses/Shea to DPC (LACBWR), dated May 9, 1980.

Gentlemen:

An application to amend Provisional Operating License No. DPR-45 was requested in Reference 1. The requested amendment involved proposed changes to Technical Specifications for the La Crosse Boiling Water Reactor (LACBWR) which deal with the Inservice Inspection Program. Reference 2 submitted the plans and requests for relief of the in-service testing and inspection programs for the La Crosse Boiling Water Reactor. Subsequently, on March 25 and 26, 1980, NRC representatives and their consultants met with LACBWR representatives to

discuss the program submitted in Reference 2. Based on the above meeting, several areas noted in the program require revisions.

References 5, 6 and 8 revised various portions of the program previously submitted in Reference 2. However, during the course of the meeting, some of the relief requests were deemed unjustified and others required additional information for relief justification. Additionally, valves which were not considered by LACBWR to perform a safety related function (specifically Category "E" valves) were requested to be incorporated into the program.

It was determined during the meeting that the two diesel-driven alternate core spray pumps can be tested on a monthly schedule as a fixed resistance system; therefore, the Request for Relief presented in Reference 5 on these two pumps is hereby withdrawn. Additionally, Reference 5 uses the phrase "reduces system redundancy" as a second reason for not testing the high pressure core spray pumps. Based on the discussions at the working meeting, reduction in redundancy is not a suitable justification; therefore, this reason is deleted as justification for not testing the high pressure core spray pumps. However, reasons 1 and 3 in Reference 5 remain applicable. The two high pressure core spray pumps will be tested each cold shutdown, but not more often than every month, versus testing the pumps after accumulating ten (10) hours of pump run time as stated in Reference 5. However, to obtain vibration readings and bearing temperatures, these pumps must run for an extended period of time, pumping water into the reactor vessel, thus creating conditions of high reactor water level. Because the removal rate is approximately one half of the injection rate, the potential exists for overpressurizing the reactor vessel with cold water. Therefore, the quantities of bearing temperature and vibration reading will be taken during refueling outage testing only. Revised pages of the Examination Plan for Pumps, reflecting these changes for the affected pumps; Emergency Core Spray Pumps 1A, 53-06-001 and 1B, 53-06-002, Alternate Core Spray Pump, 36-06-001 and High Pressure Service Water/Alternate Core Spray Pump, 75-06-002 are enclosed.

Other information in Reference 5 remains valid.

In the interest of making this a complete package, the relief request bases of Reference 6 is included herein. The information of Reference 6 remains valid.

Included herein also are revised pages of the enclosures to Reference 8. Reference 8 is hereby superceded in its entirety.

Reference 7 contained four enclosure pages that may be discarded. A revised, complete, LACBWR Class I Inservice Inspection Plan and a complete Table of Requests for Relief for Class I Components is included herein. The answers to questions given in Reference 7 remain valid.

In summary:

- Reference (1) - Remains valid in its entirety.
- Reference (2) - The information in the body of the letter and Appendix A of Enclosure 1 remains valid. The two tables of Enclosure 1 are superceded in their entirety by the enclosed tables of the same title. Enclosure 2 remains valid in its entirety. Enclosures 3 and 4 are to be replaced entirely by the enclosures herein.
- Reference (5) - The requested revisions are incorporated herein.
- Reference (6) - The requested revision is incorporated herein.
- Reference (7) - The tables have been superceded and completely revised tables are included herein.
- Reference (8) - The requested revisions are incorporated herein.

Enclosed are valve checklists, which are pages from the LACBWR Operating Manual, showing locked open or locked closed valves in safety related systems. This information is included as a result of Reference 9.

Revised pages 42 and 43 of the LACBWR Technical Specifications (Attachment B) are enclosed to comply with recommendations of Reference 9. Sections 5.2.7, 5.2.8, and 5.2.9 on these pages have been changed to comply with NRC staff "Guidelines for Excluding Exercising (Cycling) Test of Certain Valves During Plant Operation".

The fee for the review of this license amendment was forwarded by Reference 4.

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5

LAC-7025
July 14, 1980

If you have any questions regarding this matter, please contact us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE

Frank Linder
Frank Linder, General Manager

FL:HAT:af

Enclosures

cc: J. Keppler, Reg. Dir., NRC-DRO III

STATE OF WISCONSIN)
)
COUNTY OF LA CROSSE)

Personally came before me this 8th day of ~~July~~^{August}, 1980,
the above named Frank Linder, to me known to be the person who
executed the foregoing instrument and acknowledged the same.



Cheryl L. Buech
Notary Public, La Crosse County
Wisconsin.
My Commission Expires 10-10-82

ATTACHMENT "A"

INSERVICE INSPECTION FOR PUMPS

Quantities to be measured are listed below.

| <u>QUANTITY</u> | <u>MEASURE</u> | <u>OBSERVE</u> |
|------------------------------------|----------------|----------------|
| Speed, N | X | |
| Inlet Pressure, Pi | X ² | |
| Differential Pressure, ΔP | X ¹ | |
| Flow Rate, Q | X ¹ | |
| Vibration Amplitude, V | X | |
| Proper Lubricant Level or Pressure | | X |
| Bearing Temperature, Tb | X | |

- ¹In a fixed resistance system, it is required to measure ΔP or Q, not both. In a variable resistance system, both shall be measured.
²Measure before pump startup and during the test.

Each pump shall have an inservice test performed monthly during operation where applicable. During shutdown conditions the testing should be performed, but is not mandatory.

The allowable ranges of quantities measured are stated in Table IWP-3100-2.

Initial testing of the pumps will establish the reference quantities required to conduct future tests on the pumps.

Pump Test shall be performed by establishing system conditions necessary to obtain the required data to determine the pump's operability with reference to the quantities established in the initial test.

The duration of the test when bearing temperature is not required is 5 min. under stable conditions; then take data.

When bearing temperatures are required, the data shall be taken when three successive bearing temperature readings taken at 10 min. intervals do not vary by more than 3%.

Pumps to be tested are:

- 1) High Pressure Core Spray Pump 1A 53-06-001
- 2) High Pressure Core Spray Pump 1B 53-06-002
- 3) Alternate Core Spray Pump 1A 38-06-001
- 4) High Pressure Service Water Pump 1B 75-06-002
- 5) Demin. Water Transfer Pump 1A 67-06-001
- 6) Demin. Water Transfer Pump 1B 67-06-002
- 7) Component Cooling Water Pump 1A 57-06-001
- 8) Component Cooling Water Pump 1B 57-06-002

All quantities that are measured for a test shall be reviewed and analyzed within 96 hours of the test. If any of the quantities are outside of the acceptable range, that quantity will be in either the Alert Range or Required Action Range. To determine which range the quantity is in, and what action is to be taken, refer to ASME Boiler and Pressure Vessel Code, Section XI, Article I.W.P. Table IWP-3100-2 and Paragraph IWP-3230, 1974 Edition with Summer 1975 Addenda.

LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| CLASS | SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | REMARKS |
|-------|--|-------------------------|--------|---------------------------|--|----------------------------|---------------------------|--|--|
| | | | | 0-1 $\frac{2}{3}$ Date | 1 $\frac{2}{3}$ -3 $\frac{1}{3}$ Date | 3 $\frac{1}{3}$ -5 Date | 5-6 $\frac{2}{3}$ Date | 6 $\frac{2}{3}$ -8 $\frac{1}{3}$ Date | |
| II | EMERGENCY CORE SPRAY PUMP 2A (53-06-001) John Bean S.N. 117981 | SPECIAL OR OPER'L | 1 | | | | | | To be accomplished during cold shut-down, not more often than monthly. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| CLASS | SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS | |
|-------|--|-------------------------------|---|---------------------------|--|----------------------------|---------------------------|--|-----------------------------|---------|--|
| | | | | 0-1 $\frac{2}{3}$ Date | 1 $\frac{2}{3}$ -3 $\frac{1}{3}$ Date | 3 $\frac{1}{3}$ -5 Date | 5-6 $\frac{2}{3}$ Date | 6 $\frac{2}{3}$ -8 $\frac{1}{3}$ Date | 8 $\frac{1}{3}$ -10 Date | | |
| 11 | EMERGENCY CORE SPRAY PUMP 1B (53-06-002) John Bean S.N. 117981 | SHUT- DOWN OR OPER'L | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | | | | | | | | To be accomplished during cold shut-down, not more often than monthly. |

LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
|--|----------------------|--------|---|--|--|---|--|---|--|
| | | | 0-1 ² / ₃ Date | 1 ² / ₃ -3 ¹ / ₄ Date | 3 ¹ / ₄ -5 Date | 5-6 ² / ₃ Date | 6 ² / ₃ -8 ¹ / ₃ Date | 8 ¹ / ₃ -10 Date | |
| III ALTERNATE CORE SPRAY SYSTEM 36-06-001 1A Worthington S.N. VIP 18824 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump opera- tion if reference conditions can be established. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
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| | | | 0-1 $\frac{2}{3}$ | 1 $\frac{2}{3}$ -3 $\frac{1}{3}$ | 3 $\frac{1}{3}$ -5 | 5-6 $\frac{2}{3}$ | 6 $\frac{2}{3}$ -8 $\frac{1}{3}$ | 8 $\frac{1}{3}$ -10 | |
| | | | Date | Date | Date | Date | Date | Date | |
| III HIGH PRESSURE SERVICE WATER PUMP 75-06-002 1R Worthington S.N. VTB 10285 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump operation if reference conditions can be established. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| TEST | SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
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| III | DEMIN. WATER TRANSFER PUMP 1A (67-06-001) Allis-Chalmers S.N. 1-01796-1-1 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump opera- tion if reference conditions can be established. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
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| | | | Date | Date | Date | Date | Date | Date | |
| III DEMTN. WATER TRANSFER PUMP 1B (67-06-002) Allis-Chalmers S.N. 1-01796-1-2 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump operation if reference conditions can be established. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| CLASS | SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
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| | | | | 0-1 $\frac{2}{3}$ Date | 1 $\frac{2}{3}$ -3 $\frac{1}{3}$ Date | 3 $\frac{1}{3}$ -5 Date | 5-6 $\frac{2}{3}$ Date | 6 $\frac{2}{3}$ -8 $\frac{1}{3}$ Date | 8 $\frac{1}{3}$ -10 Date | |
| III | COMPONENT COOLING WATER PUMP 1A (57-06-001) Allis-Chalmers S.N. 7-1907-1-1 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump operation if reference conditions can be established. |
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LACROSSE BOILING WATER REACTOR

EXAMINATION PLAN
FOR PUMPS

| SYSTEM | TYPE OF TEST | MONTHS | INSPECTION INTERVALS | | | | | | REMARKS |
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| | | | 0-1 ² / ₃ Date | 1 ² / ₃ -3 ¹ / ₃ Date | 3 ¹ / ₃ -5 Date | 5-6 ² / ₃ Date | 6 ² / ₃ -8 ¹ / ₃ Date | 8 ¹ / ₃ -10 Date | |
| III COMPONENT COOLING WATER PUMP 1B (57-06-002) Allis-Chalmers S.N. 7-1907-1-2 | SPECIAL OR OPER'L | 1 | | | | | | | 1. To be accomplished monthly during plant operation. 2. If not done during plant shutdown, then test must be done within one week of plant startup. 3. Test data may be obtained during normal pump operation if reference conditions can be established. |
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**PUMP INSERVICE INSPECTION
DATA SHEET**

SYSTEM _____ PUMP NO. _____

Date _____

| <u>INSTRUMENTS USED</u> | <u>ALLOWABLE ERROR</u> | <u>CALIBRATION DUE DATE</u> |
|-------------------------|------------------------|-----------------------------|
| V _____ | ± 5% of Full Scale | _____ |
| T _____ | ± 5% of Full Scale | _____ |
| ΔP _____ | ± 2% of Full Scale | _____ |
| Pi _____ | ± 2% of Full Scale | _____ |
| Q _____ | ± 2% of Full Scale | _____ |
| N _____ | ± 2% of Full Scale | _____ |

| | <u>MEASURED</u> | <u>QUANTITIES REFERENCE</u> | <u>ACCEPTABLE</u> |
|-----------------|-----------------|-----------------------------|-------------------|
| N | _____ | _____ | _____ |
| V | _____ | _____ | _____ |
| Q | _____ | _____ | _____ |
| ΔP | _____ | _____ | _____ |
| ¹ Pi | _____ | _____ | _____ |
| ² Tb | _____ | _____ | _____ |

If Measured Quantities Exceed Acceptable Quantities Refer To Table IWP-3100-2, And Paragraph IWP 3230 Of Subsection IWP of Section X Of ASME Boiler And Pressure Vessel Code For Requirement For Corrective Action.

PERSON CONDUCTING TEST: _____
Signature

³ANALYSIS

SHIFT SUPERVISOR NOTIFIED OF RESULTS. TIME _____ DATE _____

ANALYZER'S SIGNATURE: _____

¹Prior to and after startup.
²Temperature required yearly on bearings.
³All data is required to be analyzed within 96 hours of test completion.

CORRECTIVE ACTION REPORT

DATE _____

SUMMARY OF CORRECTIVE ACTION

SIGNATURE OF PERSON RESPONSIBLE FOR CORRECTIVE ACTION: _____

ACCEPTANCE TEST RESULTS

DATE _____

VERIFICATION SIGNATURE: _____

INSERVICE INSPECTION FOR VALVES

Valves Inservice Inspection Program for safety-related Class 1, 2 and 3 valves is established in accordance with ASME Boiler and Pressure Vessel Code, 1974 Edition, and 1975 Summer Addenda, Section XI, Subsection IWV.

The Inservice Inspection Program for Valves is intended to verify operational readiness of safety-related valves in Class 1, 2 and 3 systems on a continuing basis.

Valves used for operating convenience such as manual vent, drains, sample, instrument test, and valves used for maintenance only are excluded from the requirements of Article IWV of the ASME Code.

To determine the test requirements for applicable valves, there are five (5) categories, and each valve will fall into one (1) or more categories. If a valve has more than one (1) category, that valve will meet the requirements for each category.

The five (5) categories will be defined as:

Category A - valves in which a limited seat leakage is specified in the closed position to fulfill their function.

Category B - valves in which seat leakage is inconsequential for the fulfillment of their function.

Category C - valves which are self-actuating by some system characteristic.

Category D - valves actuated by an energy source capable of only one (1) operation.

Category E - valves which are normally locked, or sealed, closed or open.

Tests which require a measured characteristic of a valve (such as stroke time or seat leakage,) will have a data sheet to document the test results.

For power-operated valves which require stroke time, the full stroke time is the time required for a valve to travel in the direction required to fulfill its function, from full shut to full open, or full open to full shut (etc.)

In the case of power-operated valves which do not have an assigned stroke time, the first test performed on these valves will be used to determine the stroke time for future tests. The operational readiness during the first test for the above-mentioned valves will be determined by operating experience.

To maintain the current status of valve testing and exercising, each valve is listed under the applicable category heading, and the date of the last test or cycle shall be entered.

The test frequency is determined from the appropriate IWV Article of the ASME Code. The test frequency is dependent upon category, type of test to be performed, and type of valve to be tested.

This testing program for valves will be performed using a 20-month inspection interval for the service life of the valves. The first inspection interval will begin November 1, 1979.

If a leak rate for category "A" valves 6 in. and larger exceeds the previous test by an amount that reduces the margin between the measured rate and the maximum permissible rate by 50% or more, then the test frequency shall be doubled until the valve is repaired. When a test shows that the leak rate is increasing with time, and a projected leak rate using three or more test shows that the next test will exceed the maximum permissible leakage rate by 10%, the valve will be repaired or replaced before being returned to service.

LIST OF ABBREVIATIONS

| | |
|--------|--|
| CONT. | CONTROL VALVE |
| DIA. | DIAPHRAM OPERATED |
| REL. | RELIEF VALVE |
| S.C. | ACTUATED BY SOME SYSTEM CHARACTERISTIC |
| SOL. | SOLENOID OPERATED |
| EL | ELECTRIC ACTUATION |
| ROTO | ROTOPORT VALVE |
| MO. | MOTOR OPERATED |
| SAF. | SAFETY VALVE |
| DAMP. | DAMPER OR BUTTERFLY TYPE VALVE |
| AIR | PISTON ACTUATED BY AIR |
| GA. | GATE VALVE |
| GL | GLOBE VALVE |
| MAN. | MANUAL OPERATOR |
| V.L. | VALVE LINE-UP CHECKLIST |
| Q.P.S. | QUARTERLY PARTIAL STROKE |

HIGH AND LOW PRESSURE EMERGENCY CORE SPRAY SYSTEMS

| LINE NUMBER | CLASS | RELIEF CATEGORY | | | | | COORDINATES | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING APPLICABLE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|-------------|-------|-----------------|---|---|---|---|-------------|------------|---------------|-----------------|-------------------|-----------------|--|--|
| | | A | B | C | D | E | | | | | | | | |
| 53-25-001 | 2 | | | | | | 2 1/2 | Cont. DIA. | C | Q | X | CS | LOW PRESSURE EMERGENCY CORE SPRAY SUPPLY Sec. Stroke Time | |
| 53-25-002 | 2 | | | | | | 3 | Cont. DIA. | O | Q | X | CS | CORE SPRAY PUMP SUCTION WATER SUPPLY Sec. Stroke Time | |
| 53-25-003 | 1 | | | | | | 2 | Cont. DIA. | C | Q | X | CS | CORE SPRAY PUMP DISCHARGE TO CORE SPRAY BUNDLE Sec. Stroke Time | |
| 53-25-004 | 3 | | | | | | 2 | Cont. DIA. | C | Q | X | CS | HISM SUPPLY TO EMERGENCY CORE SPRAY Sec. Stroke Time | |
| 53-25-008 | 2 | | | | | | 3 | Cont. DIA. | O | Q | X | CS | CORE SPRAY PUMP SUCTION SUPPLY STANDBY Sec. Stroke Time | |
| 53-27-001 | 2 | | | | | | 1 | REL S.C. | -- | SRV | | | PUMP 53-06-001 DISCHARGE RELIEF | |
| 53-27-002 | 2 | | | | | | 1 | REL S.C. | -- | SRV | | | PUMP 53-06-002 DISCHARGE RELIEF | |
| 53-26-001 | 1 | | | | | | 2 1/2 | CK S.C. | C | CV | X | CS | BACK-UP ISOLATION FROM OIIST TO LOW PRESSURE CORE SPRAY | |
| 53-26-002 | 1 | | | | | | 1 1/2 | CK S.C. | C | CV | X | CS | PUMP 53-06-002 DISCHARGE CHECK VALVE | |
| 53-26-003 | 1 | | | | | | 1 1/2 | CK S.C. | C | CV | X | CS | PUMP 53-06-001 DISCHARGE CHECK VALVE | |
| 53-26-004 | 2 | | | | | | 3 | CK S.C. | C | CV | X | CS | HISM SUPPLY TO CORE SPRAY SYSTEM | |
| 53-26-001 | 2 | | | | | | 3 | CK S.C. | C | CV | X | CS | PREVENT BACKFLOW FROM HISM OR PRIMARY INTO OIIST | |

HIGH AND LOW PRESSURE CORE SPRAY

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS |
|--------------|-------|-------------|----------------|---|---|---|---------------|------------|----------------------|-----------------|-------------------|-----------------|--|---------|
| | | | A | B | C | D | | | | | | | | |
| 53-24-007 | 3 | -- | | | | | 3 | CA | MAN LO | V.L. | | | 53-25-004 SUPPLY ISOLATION | |
| 53-24-008 | 3 | -- | | | | | 3 | CA | MAN LO | V.L. | | | 53-25-004 OUTLET ISOLATION | |
| 53-24-001 | 2 | -- | | | | | 3 | CA | MAN LO | V.L. | | | CORE SPRAY SUCTION HEADER ISOLATION | |
| 53-24-002 | 2 | -- | | | | | 3 | CA | MAN L ₂ C | V.L. | | | CORE SPRAY SUCTION VALVES BYPASS | |
| 53-24-005 | 1 | -- | | | | | 1 1/2 | GL | MAN LO | V.L. | | | CORE SPRAY PUMP 1A DISCHARGE ISOLATION | |
| 53-24-003 | 2 | -- | | | | | 1 1/2 | GL | MAN LO | V.L. | | | CORE SPRAY PUMP 1A SUCTION ISOLATION | |
| 53-24-004 | 2 | -- | | | | | 1 1/2 | GL | MAN LO | V.L. | | | CORE SPRAY PUMP 1B SUCTION ISOLATION | |
| 53-24-006 | 1 | -- | | | | | 1 1/2 | GL | MAN LO | V.L. | | | CORE SPRAY PUMP 1B DISCHARGE ISOLATION | |

BORON INJECTION SYSTEM AND PURIFICATION

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|--------------|-------|-------------|----------------|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---|--|
| | | | A | B | C | D | | | | | | | | |
| 60-25-001 | 3 | -- | X | | | | 3 | CONT DIA | C | 0 | X | CS | BORON TANK OUTLET SEC., STROKE TIME | |
| 60-25-005 | 3 | -- | X | | | | 3 | CONT DIA | C | 0 | X | CS | BORON TANK OUTLET STANDBY SEC., STROKE TIME | |
| 60-25-002 | 1 | -- | X | | | | 2 | CONT DIA | C | 0 | X | CS | BORON VALVE TO PRIMARY SYSTEM FROM CORE SPRAY PUMP DISCHARGE SEC., STROKE TIME | |
| 60-25-005 | 1 | -- | X | | | | 2 | CONT DIA | C | 0 | X | CS | BORON VALVE TO PRIMARY SYSTEM FROM CORE SPRAY PUMP DISCHARGE SEC., STROKE TIME | |
| 61-25-001 | 2 | | X | | | | 2 | CONT DIA | D | 0 | | | PURIFICATION STOP VALVE SEC., STROKE TIME | |
| 60-26-001 | 2 | | X | | | | 3 | CK S.C | C | CV | X | CS | BORON TO CORE SPRAY SUCTION | |

BORON INJECT

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ATTRIBUTES | REMARKS |
|--------------|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---|---------|
| | | | A | B | C | D | E | | | | | | | | |
| 60-24-002 | 3 | -- | | | | | | 3 | CA MAN. | LO | V.I. | | | SODIUM PENTABORATE TANK ISOLATION | |
| 60-24-003 | 3 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | SUPPLY ISOLATION FOR 60-25-001 | |
| 60-24-004 | 3 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | OUTLET ISOLATION FOR 60-25-001 | |
| 60-24-005 | 2 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | BORON SOLUTION SUPPLY TO CORE SPRAY PUMPS ISOLATION | |
| 60-24-006 | 3 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | SUPPLY ISOLATION FOR 60-25-005 | |
| 60-24-010 | 3 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | OUTLET ISOLATION FOR 60-25-005 | |
| 60-24-001 | 3 | -- | | | | | 3 | CA MAN. | LO | V.I. | | | | BORON TANK DRAIN | |

CONTROL ROD DRIVE HYDRAULIC SYSTEM (SCRAM FUNCTION)

| CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|--|--|
| | | A | B | C | D | E | | | | | | | | |
| 2.01 | | | | | | | SOLE | | | | | CS | CONTROL ROD DRIVE LOWER MECHANISM SOLENOID VALVES, REQUIRED FOR SCRAM FUNCTION | |
| 2.02 | | | | | | | | | | | | | | |
| 2.03 | | | | | | | | | | | | | | |
| 2.04 | | | | | | | | | | | | | | |
| 2.05 | | | | | | | | | | | | | | |
| 2.06 | | | | | | | | | | | | | | |
| 2.07 | | | | | | | | | | | | | | |
| 2.08 | | | | | | | | | | | | | | |
| 2.09 | | | | | | | | | | | | | | |
| 2.10 | | | | | | | | | | | | | | |
| 2.11 | | | | | | | | | | | | | | |
| 2.12 | | | | | | | | | | | | | | |
| 2.13 | | | | | | | | | | | | | | |
| 2.14 | | | | | | | | | | | | | | |
| 2.15 | | | | | | | | | | | | | | |
| 2.16 | | | | | | | | | | | | | | |
| 2.17 | | | | | | | | | | | | | | |
| 2.18 | | | | | | | | | | | | | | |
| 2.19 | | | | | | | | | | | | | | |
| 2.20 | | | | | | | | | | | | | | |
| 2.21 | | | | | | | | | | | | | | |
| 2.22 | | | | | | | | | | | | | | |
| 2.23 | | | | | | | | | | | | | | |
| 2.24 | | | | | | | | | | | | | | |
| 2.25 | | | | | | | | | | | | | | |
| 2.26 | | | | | | | | | | | | | | |
| 2.27 | | | | | | | | | | | | | | |
| 2.28 | | | | | | | | | | | | | | |
| 2.29 | | | | | | | | | | | | | | |
| 2.30 | | | | | | | | | | | | | | |
| 2.31 | | | | | | | | | | | | | | |
| 2.32 | | | | | | | | | | | | | | |
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| 2.36 | | | | | | | | | | | | | | |
| 2.37 | | | | | | | | | | | | | | |
| 2.38 | | | | | | | | | | | | | | |
| 2.39 | | | | | | | | | | | | | | |
| 2.40 | | | | | | | | | | | | | | |
| 2.41 | | | | | | | | | | | | | | |
| 2.42 | | | | | | | | | | | | | | |
| 2.43 | | | | | | | | | | | | | | |
| 2.44 | | | | | | | | | | | | | | |
| 2.45 | | | | | | | | | | | | | | |
| 2.46 | | | | | | | | | | | | | | |
| 2.47 | | | | | | | | | | | | | | |
| 2.48 | | | | | | | | | | | | | | |
| 2.49 | | | | | | | | | | | | | | |
| 2.50 | | | | | | | | | | | | | | |

ALTERNATE CORE SPRAY SYSTEM

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|--------------|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---------------------|--|
| | | | A | B | C | D | E | | | | | | | | |
| 38-25-001 | 3 | -- | X | | | | | 1 | SCS | DIA | -- | Q | | | DIESEL ENGINE COOLING WATER SUPPLY FOR PUMP 38-06-001 |
| 75-25-023 | 3 | -- | X | | | | | 1 | SCS | DIA | -- | Q | | | DIESEL ENGINE COOLING WATER SUPPLY FOR PUMP 75-06-002 |
| 38-26-001 | 2 | -- | X | X | | | | 6x4 | CK | S.C. | C | CV | X | CS | REACTOR VESSEL ALTERNATE CORE SPRAY SUPPLY CHECK LT |
| 38-26-002 | 2 | -- | X | X | | | | 6x4 | CK | S.C. | C | CV | X | CS | REACTOR VESSEL ALTERNATE CORE SPRAY SUPPLY CHECK BACKUP LT |
| 38-27-001 | 3 | -- | | X | | | | 1 1/2 | REL | S.C. | -- | SRV | | | ALTERNATE CORE SPRAY SUPPLY RELIEF |
| 38-27-002 | 3 | -- | | X | | | | 4 | REL | S.C. | -- | SRV | | | PUMP 38-06-001 DISCHARGE RELIEF |
| 75-27-022 | 3 | -- | | X | | | | 4 | REL | S.C. | -- | SRV | | | PUMP 75-06-002 DISCHARGE RELIEF |
| 38-30-001 | 3 | -- | | X | | | | 6x4 | NOT | M.O. | C | Q | X | CS | REACTOR VESSEL ALTERNATE CORE SPRAY SUPPLY MT Sec. Stroke Time |
| 38-30-002 | 3 | -- | | X | | | | 6x4 | NOT | M.O. | C | Q | X | CS | REACTOR VESSEL ALTERNATE CORE SPRAY SUPPLY MT Sec. Stroke Time |
| 38-26-003 | 3 | -- | | X | | | | 6 | CK | S.C. | C | CV | X | QPS | PUMP 38-06-001 DISCHARGE CHECK CS |
| 75-26-023 | 3 | -- | | X | | | | 6 | CK | S.C. | C | CV | X | QPS | PUMP 75-06-002 DISCHARGE CHECK CS |

MAIN STEAM SAFETY VALVES

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | TAGS | COORDINATES | VALVE CATEGORY | | | SIDE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS |
|--------------|------|-------------|----------------|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---------------------|--|
| | | | A | B | C | | | | | | | | |
| 62-27-001 | I | | X | | | | 3/8 SAF | S.C. | SRV | | | | MAIN STEAM SAFETY VALVE, SHUTDOWN CONDENSER STEAM INLET LINE |
| 62-27-002 | I | | X | | | | 3/8 SAF | S.C. | SRV | | | | MAIN STEAM SAFETY VALVE, SHUTDOWN CONDENSER STEAM INLET LINE |
| 62-27-003 | I | | X | | | | 3/8 SAF | S.C. | SRV | | | | MAIN STEAM SAFETY VALVE, SHUTDOWN CONDENSER STEAM INLET LINE |
| | | | | | | | | | | | | | |
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MANUAL DEPRESSURIZATION SYSTEM

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE |
|--------------|-------|-------------|----------------|---|---|---|---|---------------------|------------|---------------|-----------------|-------------------|-----------------|--|
| | | | A | B | C | D | E | | | | | | | |
| 62-25-001 | 1 | -- | X | | | | | 6 CONT DIA | C | Q | MT | | | SHUTDOWN CONDENSER STEAM INLET SEC. STROKE TIME |
| 62-25-011 | 1 | -- | X | | | | | 6 CONT DIA | S | Q | MT | | | SHUTDOWN CONDENSER STEAM INLET STANDBY SEC. STROKE TIME |
| 62-25-013 | 2 | -- | X | | | | | 4 CONT DIA | C | Q | MT | | X CS | SHUTDOWN CONDENSER VENT TO CONTAINMENT SEC. STROKE TIME |
| 62-25-014 | 2 | -- | X | | | | | 4 CONT DIA | S | Q | MT | | X CS | SHUTDOWN CONDENSER VENT TO CONTAINMENT STANDBY SEC. STROKE TIME |
| 62-24-005 | 2 | -- | X | | | | | 1 GL. MAN L.C. V.L. | X | V.L. | U.T. | | | BYPASS VALVE FOR 62-25-003 |
| 62-24-001 | 1 | -- | X | | | | | 6 GA. MAN L.O. V.L. | X | V.L. | | | | ISOLATION VALVE FOR 62-25-001 |
| 62-24-036 | 1 | -- | X | | | | | 6 GA. MAN L.O. V.L. | X | V.L. | | | | ISOLATION VALVE FOR 62-25-011 |

OVERHEAD STORAGE TANK, HIGH PRESSURE SERVICE WATER, DEMINERALIZED WATER AND COMPONENT COOLING WATER SYSTEMS

| LINE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|-------------|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---|--|
| | | | A | B | C | D | E | | | | | | | | |
| 9-26-001 | 3 | -- | | | | | | 3 | ORF DIA | C | 0 | MT | | DEMIN. WATER TO OHSI Sec. Stroke Time | |
| 9-26-002 | 3 | -- | | | | | | 3 | CK S.C. | C | CV | | | DEMIN. WATER TO OHSI CHECK | |
| 5-26-003 | 3 | -- | | | | | | 3 | CK S.C. | C | CV | LT | | HPSW HEADER CHECK VALVE | |
| 5-26-002 | 3 | -- | | | | | | 3 | ORF S.C. | 0 | 0 | MT | | HPSW HEADER ISOLATION VALVE Sec. Stroke Time | |
| 5-26-021 | 3 | -- | | | | | | 6 | CK S.C. | 0 | CV | | | HPSW PUMP 75-06-001 DISCHARGE CHECK | |
| 7-26-001 | 3 | -- | | | | | | 3 | ORF DIA | 0 | 0 | MT | | DEMIN. WATER HEADER ISOLATION VALVE Sec. Stroke Time | |
| 7-26-001 | 3 | -- | | | | | | 3 | CK S.C. | C | CV | LT | | DEMIN. WATER CHECK VALVE INSIDE CONTAINMENT | |
| 7-26-020 | 3 | -- | | | | | | 2 1/2 | CK S.C. | -- | CV | | | DEMIN. WATER PUMP 67-06-001 DISCHARGE CHECK | |
| 7-26-021 | 3 | -- | | | | | | 2 1/2 | CK S.C. | -- | CV | | | DEMIN. WATER PUMP 67-06-001 DISCHARGE CHECK | |
| 7-26-001 | 3 | -- | | | | | | 8 | CK S.C. | -- | CV | | | CCW PUMP 57-06-001 DISCHARGE CHECK | |
| 7-26-002 | 3 | -- | | | | | | 8 | CK S.C. | -- | CV | | | CCW PUMP 57-06-002 DISCHARGE CHECK | |

OVERHEAD STORAGE TANK, HIGH PRESSURE SERVICE WATER, DEMINERALIZED H₂O, AND COMPONENT COOLING WATER SYSTEMS

| LINE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING APPROXIMATE | REMARKS (NOT TO BE USED FOR RELIEF BASIS) |
|-------------|-------|-------------|----------------|---|---|-----|---------------|------------|---------------|-----------------|-------------------|-----------------|--|--|
| | | | A | B | C | D/E | | | | | | | | |
| 1-29-010 | 3 | -- | | | | | 6 | GA | MAN | 0 | V.L. | | HIGH PRESSURE SERVICE WATER PUMP 1B (DIESEL) DISCHARGE VALVE | |
| 1-29-011 | 3 | -- | | | | | 3 | GA | MAN | 0 | V.L. | | HIGH PRESSURE SERVICE WATER TO CONTAINMENT, ISOLATION BACKUP | |
| 1-29-012 | 3 | -- | | | | | 3 | GA | MAN | 0 | V.L. | | HIGH PRESSURE SERVICE WATER TO CONTAINMENT, ISOLATION | |
| 1-29-013 | 3 | -- | | | | | 3 | GA | MAN | 0 | V.L. | | DEMINERALIZED H ₂ O PUMP 1B SUCTION ISOLATION | |
| 1-29-014 | 3 | -- | | | | | 3 | GA | MAN | 0 | V.L. | | DEMINERALIZED H ₂ O PUMP 1A SUCTION ISOLATION | |
| 1-29-015 | 3 | -- | | | | | 2 1/2 | GA | MAN | 0 | V.L. | | DEMINERALIZED H ₂ O PUMP 1A DISCHARGE ISOLATION | |
| 1-29-016 | 3 | -- | | | | | 2 1/2 | GA | MAN | 0 | V.L. | | DEMINERALIZED H ₂ O PUMP 1B DISCHARGE ISOLATION | |
| 1-29-017 | 3 | -- | | | | | 2 | GA | MAN | 0 | V.L. | | FLOW TOTALIZER SUPPLY ISOLATION | |
| 1-29-018 | 3 | -- | | | | | 2 | GA | MAN | 0 | V.L. | | FLOW TOTALIZER OUTLET ISOLATION | |
| 1-29-019 | 3 | -- | | | | | 3 | GA | MAN | 0 | V.L. | | DEMINERALIZED H ₂ O HEADER ISOLATION TO CONTAINMENT | |

CONTAINMENT ISOLATION VALVES

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NO. | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | 10 SEC. STROKE TIME |
|-----------|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---|---------------------|
| | | | A | B | C | D | E | | | | | | | | |
| 6-20-001 | 1 | .. | X | | | | | 10 | ROTD HYD | 0 | Q | X | CS | MAIN STEAM ISOLATION VALVE INSIDE CONTAINMENT | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 6-25-001 | 1 | .. | X | | | | | 1 1/2 | CONT DIA | C | Q | X | CS | MAIN STEAM ISOLATION VALVE (6A-30-001) BYPASS | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 6-25-001 | 1 | .. | X | | | | | 2 | CONT DIA | C | Q | X | CS | STARTUP WATER REMOVAL CONTROL VALVE | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 3-25-001 | 0 | .. | X | | | | | 20 | DAMP AIR | 0 | Q | | | CONTAINMENT BUILDING VENTILATION SUPPLY | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 3-25-002 | 0 | .. | X | | | | | 20 | DAMP AIR | 0 | Q | | | CONTAINMENT BUILDING VENTILATION SUPPLY | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 3-25-005 | 0 | .. | X | | | | | 20 | DAMP AIR | 0 | Q | | | CONTAINMENT BUILDING VENTILATION EXHAUST | |
| | | | | | | | | | | | MT | | | 10 SEC. STROKE TIME | |
| | | | | | | | | | | | LT | | | | |
| 6-25-010 | 1 | .. | X | | | | | 2 | CR S.C. | C | CV | X | | SEAL INJECT MAKE-UP FROM COND. DRAIN. SYSTEM | |
| | | | | | | | | | | | LT | | | | |

CONTAINMENT ISOLATION VALVES

REMARKS
(NOT TO BE USED FOR RELIEF BASIS)

| VALVE NUMBER | CLASS | COORDINATES | VALVE CATEGORY | | | | | SIZE (INCHES) | VALVE TYPE | ACTUATOR TYPE | NORMAL POSITION | TEST REQUIREMENTS | RELIEF REQUESTS | TESTING ALTERNATIVE | REMARKS |
|--------------|-------|-------------|----------------|---|---|---|---|---------------|------------|---------------|-----------------|-------------------|-----------------|---------------------|---|
| | | | A | B | C | D | E | | | | | | | | |
| 25-25-005 | D | -- | X | | | | | 20 | PMP AIR | D | 0 | MT LT | | | CONTAINMENT BUILDING VENTILATION EXHAUST 10 SEC. STROKE TIME |
| 25-25-021 | D | -- | X | | | | | 14 | CONT. DIA. | D | Q | Q MT LT | X | CS | HEATING STEAM CONDENSATE RETURN LINE 10 SEC. STROKE TIME |
| 25-25-017 | R | -- | X | | | | | 4 | CONT. DIA. | D | Q | Q MT LT | X | CS | CONDENSATE TO CONDENSER HOTWELL FROM TRAP OUTLET 10 SEC. STROKE TIME |
| 25-25-003 | R | -- | X | | | | | 1 | CONT. DIA. | C | Q | Q MT LT | | | SHUTDOWN CONDENSER VENT TO OFF GAS SYSTEM 10 SEC. STROKE TIME |
| 25-25-001 | D | -- | X | | | | | 4 | CONT. DIA. | D | Q | Q MT LT | X | CS | CONTAINMENT VESSEL OFF GAS VENT TO STACK 10 SEC. STROKE TIME |
| 27-27-001 | I | | | X | | | | 8 | CR | -- | 0 | CV LT | X | CS | MAIN FEED SUPPLY CHECK VALVE INSIDE CONTAINMENT |
| 27-27-001 | D | | | X | | | | 6 | REL S.C.C | C | SRV | | | | CONTAINMENT VESSEL VACUUM RELIEF |
| 27-27-002 | D | | | X | | | | 6 | REL S.C.C | C | SRV | | | | CONTAINMENT VESSEL VACUUM RELIEF |

RELIEF REQUEST BASIS

VALVES: 32-98-001 thru 32-98-029 (LOWER CONTROL ROD
DRIVE MECHANISMS)

CATEGORY: B

CLASS: 2

FUNCTION: TO ACTUATE LOWER CONTROL ROD DRIVE MECHANISMS
HYDRAULIC MOTORS WHEN SCRAM SIGNAL IS INITIATED

TEST
REQUIREMENT: Exercise valves for operability every three
months.

BASIS FOR
RELIEF: Exercising these valves requires inserting
the control rods, requiring plant shutdown.

ALTERNATE
TEST: The valves will be exercised for operability
each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 38-26-001

CATEGORY: A/C

CLASS: 2

FUNCTION: BACKUP PREVENTION FOR BACKFLOW OF REACTOR COOLANT
TO ALTERNATE CORE SPRAY SYSTEM

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: Any exercising of this valve would require isolating the primary system from the Alternate Core Spray System, thus placing the Alternate Core Spray System inoperative. Full stroking these valves can only be performed by injecting river water into the stainless steel clad reactor vessel causing possible corrosion and chemical problems requiring extensive clean-up. Disassembly for mechanical testing does not justify breaching a reactor coolant pressure boundary on a routine basis when the valve can be periodically partial stroked with demineralized water.

ALTERNATE
TEST: The valve will be part-stroke exercised with demineralized H₂O for operability each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 38-26-002

CATEGORY: A/C

CLASS: 2

FUNCTION: BACKUP PREVENTION FOR BACKFLOW OF REACTOR COOLANT TO
ALTERNATE CORE SPRAY SYSTEM

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: Any exercising of this valve would require isolating the
Primary System from the Alternate Core Spray System, thus
placing the Alternate Core Spray System inoperative.
Full stroking these valves can only be performed by in-
jecting river water into the stainless steel clad reactor
vessel causing possible corrosion and chemical problems
requiring extensive clean-up. Disassembly for mechanical
testing does not justify breaching a reactor coolant
pressure boundary on a routine basis when the valve can
be periodically partial stroked with demineralized water.

ALTERNATE
TEST: The valve will be part-stroke exercised with demineralized
H₂O for operability each cold shutdown and refueling out-
age, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 38-26-003

CATEGORY: C

CLASS: 3

FUNCTION: PREVENTS BACKFLOW THROUGH PUMP WHEN PUMP IS IN STAND-BY,
ALSO REQUIRED TO OPEN WHEN DIESEL PUMP STARTS FOR ALTERNATE
CORE SPRAY

TEST
REQUIREMENT: Exercise valve for operability every 3 months.

BASIS
FOR RELIEF: The only full-flow/full-stroke flow paths in this system
are to the reactor or recirculation back to the river.
The path to the reactor would introduce river water to
the reactor vessel, and recirculation back to the river
requires isolating the Alternate Core Spray System which,
in turn, places the Alternate Core Spray System inoperative.

ALTERNATE
TEST: Valve will be part stroked during power operation and
full stroked each cold shutdown and refueling outage,
but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 38-30-001

CATEGORY: B

CLASS: 3

FUNCTION: TO OPEN UPON INITIATION OF THE ALTERNATE CORE SPRAY SYSTEM

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Exercising this valve during power operation would introduce river water into the alternate core spray piping. The flushing of this piping requires isolating the Alternate Core Spray System from the reactor, thus placing the system inoperative.

ALTERNATE TEST: The valve will be exercised for operability each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 38-30-002

CATEGORY: B

CLASS: 3

FUNCTION: TO OPEN UPON INITIATION OF THE ALTERNATE CORE SPRAY SYSTEM

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Exercising this valve during power operation would introduce river water into the alternate core spray piping. The flushing of this piping requires isolating the Alternate Core Spray System from the reactor, thus placing the system inoperative.

ALTERNATE TEST: The valve will be exercised for operability each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 52-26-009

CATEGORY: A/C

CLASS: 3

FUNCTION: TO CLOSE ON CONTAINMENT PRESSURIZATION AND TO OPEN AND
ALLOW MAKE-UP FLOW TO THE SEAL INJECT RESERVOIR

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: The only safety related position for this valve is shut,
and the only way to verify valve closure is during leak
rate testing at refueling outages.

ALTERNATE
TESTING: Valve will be verified shut (safety related position)
during leak rate testing performed at refueling outages.

RELIEF REQUEST BASIS

VALVE: 53-25-001

CATEGORY: B

CLASS: 2

FUNCTION: LOW PRESSURE CORE SPRAY SUPPLY ISOLATION

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: This valve is designed to operate at low plant pressure (30#); to close this valve during plant operations could cause an overpressure condition in the system which supplies the valve and depressurization of primary through one check valve. In addition, to open this valve, it would require initiating 30# pressure signal and reactor low level, which will also actuate a reactor scram, MSIV closure, and auto start of the High Pressure Core Spray Pumps, which will thermal shock the core spray nozzle by injecting cold water into the reactor vessel. Also, the pressure between 53-26-001 and 53-25-001 is unknown.

ALTERNATE TESTING: This valve will be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-25-002

CATEGORY: B

CLASS: 2

FUNCTION: CORE SPRAY PUMP SUCTION WATER SUPPLY

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: This valve is in the ECCS path and is normally open. Operating this valve during reactor operation for in-service testing renders the High Pressure Core Spray System inoperative by isolating pump's suction line from the overhead storage tank.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-25-003

CATEGORY: B

CLASS: 1

FUNCTION: CORE SPRAY PUMP DISCHARGE TO CORE SPRAY BUNDLE

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: This valve is in the ECCS path and is normally open. Operating this valve during reactor operation for in-service testing renders the High Pressure Core Spray System inoperative by isolating the pump discharge from the reactor vessel.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-25-004

CATEGORY: B

CLASS: 3

FUNCTION: ISOLATE HIGH PRESSURE SERVICE WATER FROM THE CORE
SPRAY SYSTEM

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: Exercising this valve during plant operation would
introduce river water into the Core Spray Pump suction
line. This exercising will require isolating and flush-
ing this portion of the system which, in turn, places
a backup water source for the High Pressure Core Spray
System inoperative for an extended period of time.

ALTERNATE
TESTING: This valve will be exercised at each cold shutdown and
refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-25-008

CATEGORY: B

CLASS: 2

FUNCTION: CORE SPRAY PUMP SUCTION SUPPLY STANDBY

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: This valve is in the ECCS path and is normally open. Operating this valve during reactor operation for in-service testing renders the High Pressure Core Spray System inoperative by isolating pump's suction line from the overhead storage tank.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-26-001

CATEGORY: C

CLASS: 2

FUNCTION: PREVENT BACKFLOW FROM REACTOR PLANT TO OVERHEAD STORAGE TANK

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Establishing flow through this valve would require opening 53-25-001 by initiating reactor pressure (30#) and low water level signals, which would trip the reactor and close the MSIV. In addition, to obtain flow through this check valve, the reactor pressure is required to be below 30 psig.

ALTERNATE TESTING: This valve will be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-26-002

CATEGORY: C

CLASS: 1

FUNCTION: PUMP 53-06-002 DISCHARGE CHECK VALVE

TEST

REQUIREMENT: Exercise valve for operability every three months.

BASIS

FOR RELIEF: Any exercising of this valve would require injecting cold high pressure core spray water into the reactor vessel, resulting in thermal shock to the core spray nozzle and cold water insertion to the reactor.

ALTERNATE

TESTING: This valve will be exercised each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-26-003

CATEGORY: C

CLASS: 1

FUNCTION: PUMP 53-06-001 DISCHARGE CHECK VALVE

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: Any exercising of this valve would require injecting cold high pressure core spray water into the reactor vessel, resulting in thermal shock to the core spray nozzle and cold water insertion to the reactor.

ALTERNATE
TESTING: This valve will be exercised each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 53-26-004

CATEGORY: C

CLASS: 2

FUNCTION: TO ALLOW FLOW FROM HIGH PRESSURE SERVICE WATER SYSTEM TO THE HIGH PRESSURE CORE SPRAY SYSTEM AND PREVENT BACKFLOW FROM OVERHEAD STORAGE TANK TO HIGH PRESSURE SERVICE WATER SYSTEM

TEST REQUIREMENT: Exercise valve for operability every 3 months.

BASIS FOR RELIEF: Full stroke exercising this valve would introduce river water into the stainless steel Core Spray System supply line, which would require flushing to clean up the system to preclude conditions susceptible to stress corrosion. The above-stated problems apply to any plant condition. In addition, mechanically full stroking this valve by disassembly is impossible because this valve cannot be isolated from the overhead storage tank.

ALTERNATE TESTING: Valve will be part stroked with demineralized water each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 55-25-003

CATEGORY: A

CLASS: D

FUNCTION: TO ISOLATE CONTAINMENT VESSEL FROM OFF GAS SYSTEM

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: To exercise this valve during plant operations would require inserting a high Containment Building pressure signal which could cause other safety system actuations and place the plant in an unsafe condition.

ALTERNATE TEST: Valve will be exercised for operability each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 60-25-001

CATEGORY: B

CLASS: 3

FUNCTION: BORON TANK OUTLET

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: Valve 60-25-001 is in the Boron Injection System path and is normally closed during reactor operation. To test this valve, manual valve 60-24-004 must be closed, in order not to allow boron solution to be injected into the reactor coolant system by the Emergency Core Spray pumps. Subsequent steps after testing of 60-25-001 requires closing manual valves 60-24-003 and 60-24-009 and flushing with demineralized water through the flow path consisting of open valves 60-23-002, 60-25-001, 60-24-004, 60-24-010, 60-25-005 and out 60-23-005. Both Core Spray Pumps must be turned to "off" while testing and flushing valve 60-25-001, which places the Boron Inject System and the High Pressure Core Spray System inoperative.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 60-25-002

CATEGORY: B

CLASS: 1

FUNCTION: BORON VALVE TO PRIMARY SYSTEM FROM CORE SPRAY PUMP
DISCHARGE

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: Valve 60-25-002 is in the Boron Injection System and is normally closed during reactor operation. To test this valve, it requires turning both Emergency Core Spray Pumps to "off" and during the test, this valve allows a flow path that eliminates Emergency Core Spray, which places the Boron Inject System and the High Pressure Core Spray System inoperative.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 60-25-005

CATEGORY: B

CLASS: 3

FUNCTION: BORON TANK OUTLET STANDBY

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF:

Valve 60-25-005 is in the Boron Injection System path and is normally closed during reactor operation. To test this valve, manual valve 60-24-010 must be closed, in order not to allow boron solution to be injected into the reactor coolant system by the Emergency Core Spray pumps. Subsequent steps after testing of 60-25-005 requires closing manual valves 60-24-003 and 60-24-009 and flushing with demineralized water through the flow path consisting of open valves 60-23-002, 60-25-001, 60-24-004, 60-24-010, 60-25-005 and out 60-23-005. Both Core Spray Pumps must be turned to "off" while testing and flushing valve 60-25-005, which places the Boron Inject System and the High Pressure Core Spray System inoperative.

ALTERNATE
TESTING:

Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 60-25-006

CATEGORY: B

CLASS: 1

FUNCTION: BORON VALVES TO PRIMARY SYSTEM FROM CORE SPRAY PUMP
DISCHARGE

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR
RELIEF: Valve 60-25-006 is in the Boron Injection System and is normally closed during reactor operation. To test this valve, it requires turning both Emergency Core Spray Pumps to "off" and during the test, this valve allows a flow path that eliminates Emergency Core Spray, which places the Boron Inject System and the High Pressure Core Spray System inoperative.

ALTERNATE
TESTING: Valve to be exercised at each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 60-26-001

CATEGORY: C

CLASS: 2

FUNCTION: TO ALLOW FLOW FROM BORON SOLUTION TANK TO THE SUCTION OF THE HIGH PRESSURE CORE SPRAY PUMPS AND TO PREVENT BACKFLOW FROM THE OVERHEAD STORAGE TANK TO THE BORON SOLUTION TANK DURING VALVE CYCLING

TEST REQUIREMENT: Exercise valve for operability every 3 months.

BASIS FOR RELIEF: Cycling this valve during plant operation would render both the Boron Inject and High Pressure Core Spray Systems inoperative. Furthermore, full stroking this valve at any time would inject boron solution with the high pressure core spray pumps into the reactor coolant system. The reactor coolant system does not contain boron during normal operation.

ALTERNATE TESTING: Valve will be part stroked with demineralized water each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 62-24-005

CATEGORY: A/E

CLASS: 2

FUNCTION: TO BYPASS SHUTDOWN CONDENSER VENT TO OFF-GAS VALVE
62-25-003

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: This valve is normally locked in the closed position
and is a passive valve, not requiring a change in position
for any plant conditions.

ALTERNATE
TESTING: This valve will be leak tested and verified locked, in
accordance with the ASME Code requirements for categories
A and E.

RELIEF REQUEST BASIS

VALVE: 62-25-001

CATEGORY: B

CLASS: 1

FUNCTION: TO ISOLATE THE SHUTDOWN CONDENSER FROM
THE MAIN STEAM SYSTEM AND TO OPEN DURING
PLANT MANUAL DEPRESSURIZATION

TEST
REQUIREMENT: Exercise valve for operability every three
months.

BASIS FOR
RELIEF: This system is not designed to operate during
plant operations; therefore, exercising
this valve would place the plant in an un-
stable condition.

ALTERNATE
TEST: The valve will be exercised for operability
each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 62-25-011

CATEGORY: B

CLASS: 1

FUNCTION: TO ISOLATE THE SHUTDOWN CONDENSER FROM
THE MAIN STEAM SYSTEM AND TO OPEN DURING
PLANT MANUAL DEPRESSURIZATION

TEST
REQUIREMENT: Exercise valve for operability every three
months.

BASIS FOR
RELIEF: This system is not designed to operate during
plant operations; therefore, exercising this
valve would place the plant in an unstable
condition.

ALTERNATE
TEST: The valve will be exercised for operability
each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 62-25-013

CATEGORY: B

CLASS: 2

FUNCTION: TO OPEN DURING PLANT MANUAL DEPRESSURIZATION

TEST
REQUIREMENT: Exercise valve for operability every three months.

BASIS
FOR RELIEF: Exercising this valve during plant operations could cause plant depressurization into containment if any of the following conditions actuate the Shutdown Condenser System:

- 1) MSIV closure
- 2) Turbine Building steam isolation valve closure
- 3) 1325# reactor pressure

ALTERNATE
TEST: The valve will be exercised for operability each cold shutdown, but not more often than every three months.

RELIEF REQUEST BASIS

VALVE: 62-25-014

CATEGORY: B

CLASS: 2

FUNCTION: TO OPEN DURING PLANT MANUAL DEPRESSURIZATION

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Exercising this valve during plant operations could cause plant depressurization into containment if any of the following conditions actuate the Shutdown Condenser System:

- 1) MSIV closure
- 2) Turbine Building steam isolation valve closure
- 3) 1325# reactor pressure

ALTERNATE TEST: The valve will be exercised for operability each cold shutdown, but not more often than every three months.

RELIEF REQUEST BASIS

VALVE: 64-25-001

CATEGORY: A

CLASS: 1

FUNCTION: To allow bypassing the Main Steam Isolation Valve (64-30-001).

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: To exercise this valve during plant operations would require inserting a signal which would also actuate the Main Steam Isolation Valve, resulting in a scram.

ALTERNATE TEST: The valve will be exercised for operability each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 64-30-001

CATEGORY: A

CLASS: 1

FUNCTION: TO ISOLATE MAIN STEAM LINE INSIDE THE
CONTAINMENT BUILDING

TEST
REQUIREMENT: Exercise valve for operability every three
months.

BASIS FOR
RELIEF: Movement of this valve from full open will
initiate a full scram.

ALTERNATE
TEST: Valve will be exercised each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 65-26-001

CATEGORY: A/C

CLASS: 1

FUNCTION: TO CLOSE ON CONTAINMENT PRESSURIZATION AND TO OPEN AND ALLOW MAKE-UP FLOW TO THE FEEDWATER SYSTEM

TEST REQUIREMENTS: Exercise valve for operability every three months.

BASIS FOR RELIEF: Exercising this valve during plant operations would require stopping feedwater flow to the reactor, thus placing the plant in an unstable condition. The safety related function of this valve is shut, and the only way to verify valve closure is by leak testing, which is beyond the scope of normal cold shutdown testing.

ALTERNATE TESTING: This valve will be verified shut during leak rate testing at refueling outages.

RELIEF REQUEST BASIS

VALVE: 69-26-001

CATEGORY: C

CLASS: 2

FUNCTION: PREVENT BACKFLOW FROM HIGH PRESSURE SERVICE WATER OR REACTOR PLANT INTO OVERHEAD STORAGE TANK (OHST)

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Exercising this valve would require establishing full flow through the Core Spray System to the reactor, causing thermal shock of the core spray nozzle and cold water insertion to the reactor.

ALTERNATE TESTING: This valve will be exercised each cold shutdown and refueling outage, but not more often than every 3 months.

RELIEF REQUEST BASIS

VALVE: 73-25-021

CATEGORY: A

CLASS: D

FUNCTION: TO ISOLATE CONDENSATE RETURNING TO HEATING
STEAM SYSTEM UPON A HIGH CONTAINMENT BUILDING
PRESSURE

TEST
REQUIREMENT: Exercise valve for operability every three
months.

BASIS FOR
RELIEF: To exercise this valve during plant operations
would require inserting a high Containment
Building pressure signal which could cause
other safety system actuations and place
the plant in an unsafe condition.

ALTERNATE
TEST: The valve will be exercised for operability
each cold shutdown.

RELIEF REQUEST BASIS

VALVE: 75-26-023

CATEGORY: C

CLASS: 3

FUNCTION: PREVENTS BACKFLOW THROUGH PUMP WHEN PUMP IS IN STAND-BY,
ALSO REQUIRED TO OPEN WHEN DIESEL PUMP STARTS FOR ALTERNATE
CORE SPRAY

TEST
REQUIREMENT: Exercise valve for operability every 3 months.

BASIS
FOR RELIEF: The only full-flow/full-stroke flow paths in this system
are to the reactor or recirculation back to the river.
The path to the reactor would introduce river water to
the reactor vessel and recirculation back to the river
requires isolating the Alternate Core Spray System which,
in turn, places the Alternate Core Spray System inoperative.

ALTERNATE
TEST: Valve will be part stroked during power operation and
full stroked each cold shutdown and refueling outage,
but not more often than every 3 months.

CATEGORY A VALVE LEAK RATE TEST

DATA SHEET

VALVE ID _____ SIZE _____ DATE _____

TYPE "C" TEST DATA SHEET: _____

PART I LEAK MEASUREMENT

Permissible Leak Rate _____ SCFH

Measured Leak Rate _____ SCFH

If Valve < 6", go to Summary. If valve ≥ 6", complete Parts 2 and 3.

PART II MARGIN CALCULATION

$$R = \frac{MR - LR}{MR - PR} = \frac{-}{-} =$$

R > 0.5 PASS _____
R ≤ 0.5 FAIL _____

MR Maximum Permissible
Leak Rate
LR Measured Leak Rate
(this test)
PR Measured Leak Rate
(previous test)

PART III PROJECTION CALCULATION

Estimate Projected Rate for Next Test if:

- (1) At least 3 successive tests have passed, and
- (2) Leakage rates increase with time

Projected Leak Rate for Next Test _____ N/A
_____ SCFH

Projection below 1.1 x MR PASS _____
Projection above 1.1 x MR FAIL _____

SUMMARY OF RESULTS

| | PASS | FAIL | N/A |
|---------------|-------|-------|-------|
| ≥ 6" (Part I | _____ | _____ | _____ |
| Part II | _____ | _____ | _____ |
| Part III | _____ | _____ | _____ |

ADDITIONAL COMMENTS:

SIGNATURE OF PERSON
CONDUCTING THE TEST _____

_____ Date

POWER OPERATED VALVE

STROKE TIME
DATA SHEET

VALVE NUMBER _____

DATE _____

RANGE FOR ALLOWABLE STROKE TIME: _____ SEC.

MEASURED STROKE TIME: _____ SEC.

Loss of air/nitrogen, valve: OPEN CLOSE Required: _____

Loss of power, valve: OPEN CLOSE Required: _____

REMARKS:

CALCULATION:

INCREASE IN STROKE TIME

$$R = \frac{\text{Measured Stroke Time (this test)} \text{ _____ Sec.}}{\text{Measured Stroke Time (previous test) _____ Sec.}} =$$

IF ALLOWABLE STROKE TIME \leq 10 SEC.,

R < 1.5 Pass _____

R \geq 1.5 Fail _____

IF ALLOWABLE STROKE TIME > 10 SEC.,

R < 1.25 Pass _____

R \geq 1.25 Fail _____

SIGNATURE OF PERSON PERFORMING VALVE CYCLING:

CORRECTIVE ACTION

REPORT SHEET

DATE _____

REASON FOR CORRECTIVE ACTION:

CORRECTIVE ACTION TAKEN:

SIGNATURE OF PERSON RESPONSIBLE FOR ACTION:

DATE

DATA SHEET 3.5.14
TYPE "C" LEAK TESTS

Primary System Containment Isolation Valves

GAUGE NO. _____ TEST PRESSURE _____

REACTOR MAIN STEAM ISOLATION AND BYPASS VALVE (M-6) 64-30-001 AND

64-25-001

TEST DATA:

Time At Start of Leakage Measurement _____
 Time At Completion of Leakage Measurement _____
 Meter Reading Final _____
 Meter Reading Initial _____

COMPUTATIONS AND EVALUATION:

Total Length of Test _____ Hours
 Difference _____
 In Meter Readings _____ SCF
 Leak Rate Standardized _____ SCFH

FEEDWATER CHECK VALVE (M-7) 55-20-001

TEST DATA:

Time At Start of Leakage Measurement _____
 Time At Completion of Leakage Measurement _____
 Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length of Test _____ Hours
 Leak Rate _____ Liters/Hour
 Leak Rate Standardized _____ SCFH

Leak Rate (SCFH) = Leak Rate (Liters/Hour) x .1605

ACCEPTANCE CRITERIA: 22.47 SCFH - Total for MSIV, MSIV Bypass, and Feedwater Check Valves.

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)
 APPROVED BY _____
 (Shift Supervisor)
 REVIEWED BY _____
 (Operations Supervisor)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: _____
 Date: 5/21/76
 Safety Rev. Com. Approval: _____
 Date: 5/21/76

DATA SHEET 3.5.14 - Primary System Containment Isolation Valves - (Cont'd)

⁵
DECAY HEAT SLOWDOWN AND STEAM TRAPS DRAIN TO HOTWELL CONTAINMENT ISOLATION VALVES (M-17) 56-25-001 AND 62-25-017

TEST DATA:

Time At Start Of Leakage Measurement _____

Time At Completion of Leakage Measurement _____

Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length Of Test _____ Hours

Leak Rate _____ Liters/Hour

Leak Rate Standardized _____ SCFH

$$\text{Leak Rate (SCFH)} = \text{Leak Rate (Liters/Hour)} \times .1603$$

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.3(b))

If total leakage for both valves exceeds .375 SCFH, the individual leak rates must be determined or the valves repaired or adjusted as necessary to reduce total leakage to \leq .375 SCFH. Technical Specifications permit .375 SCFH through each valve but this test does not provide for individual measurement.

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)

APPROVED BY _____
 (Shift Supervisor)

REVIEWED BY _____
 (Operations Supervisor)

Prepared or Revised By J. D. Parkyn 5/21/76
 Oper. Rev. Com. Approval _____ Date 5/21/76
 Safety Rev. Com. Approval _____ Date 5/21/76

DATA SHEET 3.5.14 - Primary System Containment Isolation Valves -
 (Cont'd)

SHUTDOWN CONDENSER VENT TO OFF-GAS (M-19) 62-15-003

Prepared or Revised By
 J. D. Parkyn
 Date
 5/21/76
 Oper. Rev. Com. Approval
 Date
 5/21/76
 Safety Rev. Com. Approval
 Date
 5/21/76

TEST DATA:

Time At Start Of Leakage Measurement _____
 Time At Completion Of Leakage Measurement _____
 Meter Reading Final _____
 Meter Reading Initial _____

COMPUTATIONS AND EVALUATION:

Total Length Of Test _____ Hours
 Difference
 In Meter Readings _____ SCF
 Leak Rate Standardized _____ SCFH

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.3(b))

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)
 APPROVED BY _____
 (Shift Supervisor)
 REVIEWED BY _____
 (Operations Supervisor)

DATA SHEET 3.5.14 - Primary System Containment Isolation Valves -
(Cont'd) 38-26-001 AND 38-26-002

ALTERNATE CORE SPRAY CHECK VALVES (1-A)

TEST DATA:

Time At Start Of Leakage Measurement _____

Time At Completion of Leakage Measurement _____

Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length Of Test _____ Hours

Leak Rate _____ Liters/Hour

Leak Rate Standardized _____ SCFH

Leak Rate (SCFH) = Leak Rate(Liters/Hour) x .1603

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.3(b))

TEST _____ PASS _____

**RETEST _____ *FAIL _____

REFERENCE: Type "C" Leak Test - Technical Specification 5.2.1.3.

*If test is observed to be failing after several data points, extend to ensure six (6) sets of data are taken.
(Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____

PERFORMED BY _____
(Operator)

APPROVED BY _____
(Shift Supervisor)

REVIEWED BY _____
(Operations Supervisor)

Prepared or Revised By: J. D. Parkyn
Date: 5/21/76
Oper. Rev. Com. Approval: _____
Date: 5/21/76
Safety Rev. Com. Approval: _____
Date: 5/21/76

DATA SHEET 3.5.9
TYPE "C" LEAK TEST

Ventilation Discharge Dampers (M-21)
 73-25-005 AND 73-25-006

TEST DATA:

| | <u>Initial Reading</u> | <u>After 1 Hour</u> | <u>After 2 Hours</u> |
|----------------------|------------------------|---------------------|----------------------|
| Time | _____ | _____ | _____ |
| Temperature | _____ OF | _____ OF | _____ OF |
| Pressure Gauge No. 1 | _____ PSIG | _____ PSIG | _____ PSIG |
| Pressure Gauge No. 2 | _____ PSIG | _____ PSIG | _____ PSIG |

COMPUTATIONS AND EVALUATION FOR VENTILATION DISCHARGE DAMPERS:

| | <u>Pressure Change Over 2 Hours</u> | <u>Pressure Change Per Hour</u> | <u>Leak Rate (SCFH)</u> |
|----------------------|---|-------------------------------------|-----------------------------|
| Pressure Gauge No. 1 | _____ | _____ | _____ |
| Pressure Gauge No. 2 | _____ | _____ | _____ |

Leak Rate (SCFH) = $\left(\frac{\text{Pressure Change Per Hour}}{14.7} \right) (3.9977 \text{ ft}^3)$

ACCEPTANCE CRITERIA: .375 SCFH Maximum (Ref.: Tech. Spec. 5.2.1.2(b)4)

TEST _____ **RETEST _____ PASS _____ *FAIL _____

TYPE "B" LEAK TEST

Soap bubble test of outside flange of outside damper shows no leakage.

TEST _____ **RETEST _____ PASS _____ *FAIL _____

Cap of test connection between discharge dampers is in place. _____

*If test is observed to be failing after several data points, extend points to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)
 APPROVED BY _____
 (Shift Supervisor)
 REVIEWED BY _____
 (Operations Supervisor)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: _____
 Date: 5/21/76
 Safety Rev. Com. Approval: _____
 Date: 5/21/76

DATA SHEET 3.5.9
TYPE "C" LEAK TEST
Ventilation Inlet Dampers (M-31)
 73-25-001 AND 73-25-002

TEST DATA:

| | <u>Initial Reading</u> | <u>After 1 Hour</u> | <u>After 2 Hours</u> |
|----------------------|------------------------|---------------------|----------------------|
| Time | _____ | _____ | _____ |
| Temperature | _____ | _____ | _____ |
| Pressure Gauge No. 1 | _____ | _____ | _____ |
| Pressure Gauge No. 2 | _____ | _____ | _____ |

COMPUTATIONS AND EVALUATION FOR VENTILATION INLET DAMPERS:

| | <u>Pressure Change Over 2 Hours</u> | <u>Pressure Change Per Hour</u> | <u>Leak Rate (SCFH)</u> |
|----------------------|---|-------------------------------------|-----------------------------|
| Pressure Gauge No. 1 | _____ | _____ | _____ |
| Pressure Gauge No. 2 | _____ | _____ | _____ |

Leak Rate (SCFH) = $\left(\frac{\text{Pressure Change Per Hour}}{14.7} \right) (3.9977 \text{ ft}^3)$

ACCEPTANCE CRITERIA: .375 SCFH Maximum (Ref.: Tech. Spec. 5.2.1.2(b)4)

TEST _____ **RETEST _____ PASS _____ *FAIL _____

TYPE "B" LEAK TEST

Soap bubble test of outside flange of outside damper shows no leakage.

TEST _____ **RETEST _____ PASS _____ *FAIL _____

Cap of test connection between discharge dampers in in place. _____

*If test is observed to be failing after several data points, extend points to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____ (Operator)
 APPROVED BY _____ (Shift Supervisor)
 REVIEWED BY _____ (Operations Supervisor)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: _____
 Date: 5/21/76
 Safety Rev. Com. Approval: _____
 Date: 5/21/76

DATA SHEET 3.5.12
TYPE "C" LEAK TEST

Containment 73-25-021 Condensate Valve (M-26)

TEST DATA - HEATING STEAM:

| | | |
|----------------|---|--------------------------|
| | <u>Time</u> | <u>Gas Meter Reading</u> |
| One Hour Later | _____ | _____ |
| Initial | _____ | _____ |
| | <u>Difference of Gas Meter Readings</u> _____ <u>SCFH</u> | |

TEST DATA - CONDENSATE:

| | | |
|----------------|---|--------------------------|
| | <u>Time</u> | <u>Gas Meter Reading</u> |
| One Hour Later | _____ | _____ |
| Initial | _____ | _____ |
| | <u>Difference of Gas Meter Readings</u> _____ <u>SCFH</u> | |

ACCEPTANCE CRITERIA: Heating Steam Leakage----- .375 SCFH
 Condensate Leakage----- .375 SCFH

(Reference: Technical Specification 5.2.1.3)

TEST _____ PASS _____
 **RETEST _____ *FAIL _____

*If test is observed to be failing after several data points, extend points to ensure six (6) sets of data are taken.
 (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)
 APPROVED BY _____
 (Shift Supervisor)
 REVIEWED BY _____
 (Operations Supervisor)

Prepared or Revised By J. D. Parkyn Date 5/21/76
 Oper. Rev. Com. Approval Date 5/21/76
 Safety Rev. Com. Approval Date 5/21/76

DATA SHEET 3.5.11
TYPE "C" LEAK TEST

Reactor Vent Header Valve Seat (55-²³23-003) (M-29)

TEST DATA:

| | <u>Initial Reading</u> | <u>After 30 Minutes</u> | <u>After 60 Minutes</u> |
|----------------------|------------------------|-------------------------|-------------------------|
| Time | _____ | _____ | _____ |
| Temperature | _____ °F | _____ °F | _____ °F |
| Pressure Gauge No. 1 | _____ PSIG | _____ PSIG | _____ PSIG |
| Pressure Gauge No. 2 | _____ PSIG | _____ PSIG | _____ PSIG |

COMPUTATIONS AND EVALUATION:

| | <u>Pressure Change Over 60 Minutes</u> | <u>Leak Rate (SCFH)</u> |
|----------------------|--|-----------------------------|
| Pressure Gauge No. 1 | _____ | _____ |
| Pressure Gauge No. 2 | _____ | _____ |

Leak Rate(SCFH) = $\left(\frac{\text{Pressure Change Per Hour}}{14.7} \right) (2.9061 \text{ ft}^3)$

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.2(b)4)

TEST _____ PASS _____
**RETEST _____ *FAIL _____

Test connection caps have been replaced. _____

*If test is observed to be failing after several data points, extend points to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

*List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____
(Operator)
APPROVED BY _____
(Shift Supervisor)
REVIEWED BY _____
(Operations Supervisor)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: _____
 Date: 5/21/76
 Safety Rev. Com. Approval: _____
 Date: 5/21/76

DATA SHEET 3.5.17
TYPE "C" LEAK TEST

Demineralized Water Containment Isolation Valve (M-11)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: [Signature]
 Date: 5/21/76
 Safety Rev. Com. Approval: [Signature]
 Date: 5/21/76

TEST DATA:

Test Pressure/Gauge No. _____
 Time At Start Of Leakage Measurement _____
 Time At Completion Of Leakage Measurement _____
 Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length Of Test _____ Hours
 Leak Rate _____ Liters/Hour
 Leak Rate Standardized _____ SCFH

Leak Rate (SCFH) = Leak Rate(Liters/Hour) x .1598

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.2(b)4)

TEST _____ PASS _____
 **RETEST _____ *FAIL _____

*If test is observed to be failing after several data points, extend points to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____ (Operator)
 APPROVED BY _____ (Shift Supervisor)
 REVIEWED BY _____ (Operations Supervisor)

DATA SHEET 3.5.18
TYPE "C" LEAK TEST

Condensate Demineralizer To Seal Injection Reservoir
Makeup Line Containment Isolation Valve (M-18)

Prepared or Revised By: J. D. Parkyn
 Date: 5/21/76
 Oper. Rev. Com. Approval: [Signature]
 Date: 5/21/76
 Safety Rev. Com. Approval: [Signature]
 Date: 5/21/76

TEST DATA:

Test Pressure/Gauge No. _____
 Time At Start Of Leakage Measurement _____
 Time At Completion Of Leakage Measurement _____
 Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length Of Test _____ Hours
 Leak Rate _____ Liters/Hour
 Leak Rate Standardized _____ SCFH

Leak Rate (SCFH) = Leak Rate(Liters/Hour) x .1598

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.2(b)4)

TEST _____ PASS _____
 **RETEST _____ *FAIL _____

*If test is observed to be failing after several data points, extend to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____ (Operator)
 APPROVED BY _____ (Shift Supervisor)
 REVIEWED BY _____ (Operations Supervisor)

DATA SHEET 3.5.20
TYPE "C" LEAK TEST
HPSW Containment Isolation Valve (M-8)

TEST DATA:

Test Pressure/Gauge No. _____
 Time At Start Of Leakage Measurement: _____
 Time At Completion Of Leakage Measurement _____
 Water Collected _____ Liters

COMPUTATIONS AND EVALUATION:

Total Length of Test _____ Hours
 Leak Rate _____ Liters/Hour
 Leak Rate Standardized _____ SCFH

$$\text{Leak Rate (SCFH)} = \text{Leak Rate (Liters/Hour)} \times .1598$$

ACCEPTANCE CRITERIA: .375 SCFH (Reference: Tech. Spec. 5.2.1.2(b)4)

TEST _____ PASS _____
 **RETEST _____ *FAIL _____

*If test is observed to be failing after several data points, extend to ensure six (6) sets of data are taken. (Reference: Technical Specification 5.2.1.5)

**List repairs performed before retest including MR No. _____.

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)
 APPROVED BY _____
 (Shift Supervisor)
 REVIEWED BY _____
 (Operations Supervisor)

| | | | | | |
|------------------------|---------|--------------------------|---------|---------------------------|---------|
| Prepared or Revised By | Date | Oper. Rev. Com. Approval | Date | Safety Rev. Com. Approval | Date |
| J. D. Parkyn | 5/21/76 | | 5/21/76 | | 5/21/76 |

EMERGENCY CORE SPRAY SYSTEM VALVE CHECKLIST

Valve No. _____ Name _____ Quad _____ Position _____

INTERMEDIATE FLOOR

| | | | |
|-----------|---|----|----|
| 53-24-007 | High Pressure Service Water Control Valve 53-25-004 Inlet | NW | LO |
| 53-23-004 | Instrument Air to Crankcase Bleedoff | NW | C |
| 53-24-008 | H.P. Service Water Control Valve 53-25-004 Outlet | NW | LO |
| 53-23-003 | Instrument Air to Crankcase Bleedoff | NW | C |
| 53-24-009 | H.P. Service Water Control Valve 53-25-004 Bypass | NW | LC |
| 53-23-002 | H.P. Service Water Tell-Tale Drain | NW | C |
| 53-24-010 | Control Air Supply to Valve 53-25-004 | NW | O |
| 53-24-002 | Control Valves 53-25-002 and 53-25-008 Bypass | NE | LC |
| 53-24-003 | Pump 1A Suction | SE | LO |
| 53-24-004 | Pump 1B Suction | SE | LO |
| 53-24-005 | Pump 1A Discharge | SE | LO |
| 53-24-006 | Pump 1B Discharge | SE | LO |
| 53-24-012 | Pump 1A Plunger Spray Supply Shutoff | SE | O |
| 53-24-013 | Pump 1B Plunger Spray Supply Shutoff | SE | O |
| 53-28-001 | Core Spray Pumps Suction Header Pressure Gauge Iso. | SE | O |
| 53-28-003 | Pump 1A Discharge Pressure Gauge Isolation | SE | O |
| 53-28-002 | Pump 1B Discharge Pressure Gauge Isolation | SE | O |
| 53-24-016 | Pump 1A Crankcase Control Air Shutoff | SE | O |
| 53-24-017 | Pump 1B Crankcase Control Air Shutoff | SE | O |
| 53-24-015 | Test | SE | C |
| 53-28-004 | Pump 1A Crankcase Pressure Indication Shutoff | SE | O |
| 53-28-005 | Pump 1B Crankcase Pressure Indication Shutoff | SE | O |
| 53-23-001 | Drain to Retention Tanks | SE | C |

FAILED FUEL LOCATION HEADER PLATFORM

| | | | |
|-----------|--|----|----|
| 53-24-001 | H.P. Service and Demineralized Water Inlet | NW | LO |
| 53-24-011 | Control N ₂ Supply to Valve 53-25-001 | NW | O |

CONTROL ROOM

| | | | |
|-----------|---|---|--|
| 53-25-001 | Low Pressure Emergency Core Spray Switch in "AUTO", Valve - | C | |
| 53-25-002 | Core Spray Pumps Demineralized Water Inlet | O | |
| 53-25-003 | Core Spray Pumps Demineralized Water Outlet | O | |
| 53-25-004 | Service Water to Emergency Core Spray Pumps | C | |
| 53-25-008 | Core Spray Pumps Demineralized Water Inlet Shutoff | O | |

DATE _____ PERFORMED BY _____

SHIFT SUPERVISOR _____

Checked and Approved By: B. J. Costa Date: 6/17/78
 Safety Rev. Com. Approval: [Signature] Date: 1978

BORON INJECTION SYSTEM VALVE CHECKLIST

| <u>VALVE NO.</u> | <u>NAME</u> | <u>QUADRANT</u> | <u>POSITION</u> |
|---------------------------|--|-----------------|-----------------|
| <u>INTERMEDIATE FLOOR</u> | | | |
| 60-23-001 | Boron Tank Solution Sample | NE | c _____ |
| 60-23-002 | System Outlet Sample and Flushing Connection | NE | c _____ |
| 60-23-003 | Boron Tank Level Gauge Drain | NE | c _____ |
| 60-23-004 | Boron Tank Level Switches Drain | NE | c _____ |
| 60-23-005 | "Control Valve 60-25-005 Inlet Sample" | NE | c _____ |
| 60-24-001 | Boron Tank Drain | NE | lc _____ |
| 60-24-002 | Boron Tank Outlet | NE | lo _____ |
| 60-24-003 | Control Valve 60-25-001 Inlet | NE | lo _____ |
| 60-24-004 | Control Valve 60-25-001 Outlet | NE | lo _____ |
| 60-24-005 | Control Valves 60-25-001 and 60-25-005 BYPASS | NE | lc _____ |
| 60-24-006 | Sodium Pentaborate System Isolation | NE | lo _____ |
| 60-24-007 | Boron Tank Demin. Water Supply | NE | c _____ |
| 60-24-008 | N ₂ Supply for Solenoid Valves 60-25-003 and -004 | NE | o _____ |
| 60-24-009 | Control Valve 60-25-005 INLET | NE | lo _____ |
| 60-24-010 | Control Valve 60-25-005 OUTLET | NE | lo _____ |
| 60-24-011 and 60-24-012 | Air Supply for Solenoid Valves 60-25-007 and -008 | NE | o _____ |
| 60-28-001 | Boron Tank Level Gauge Shutoff | NE | o _____ |
| 60-28-002 | Boron Tank Level Switches Shutoff | NE | o _____ |
| <u>CONTROL ROOM</u> | | | |
| 60-25-001 | Core Spray Pump Boron Solution Inlet | Bench E | c _____ |
| 60-25-002 | Core Spray Pump Boron Solution Outlet | Bench E | c _____ |
| 60-25-005 | Core Spray Pump Boron Solution Inlet | Bench E | c _____ |
| 60-25-006 | Core Spray Pump Boron Solution Outlet | Bench E | c _____ |

Date _____ Time _____ Shift Supervisor _____

ALTERNATE CORE SPRAY VALVE CHECKLIST - (Cont'd)

| <u>VALVE NO.</u> | <u>NAME</u> | <u>POSITION</u> |
|------------------|---|-----------------|
| 38-24-006 | Diesel Pump 1A Discharge | LO |
| 38-24-016 | Diesel Pump 1A Unloader Isolation | O |
| 38-24-007 | Diesel Pump 1A Strainer Backflush Supply | C |
| 38-24-008 | Diesel Pump 1A Strainer Backflush Supply | C |
| 38-24-009 | Diesel Pump 1A Strainer Backflush Discharge | C |
| 38-24-010 | Diesel Pump 1A Strainer Backflush Discharge | C |
| 38-24-012 | Supply to Cooling Water Valve | O |
| 38-24-013 | Supply from Cooling Water Valve | O |
| 38-24-011 | Cooling Water Valve Bypass | C |
| 38-24-015 | Gear Box Oil Cooling Supply | O |
| 38-28-004 | Diesel Pump 1A Discharge PS-39-35-701 Isolation | O |
| 38-28-005 | Diesel Pump 1A Discharge Pressure Gauge Isolation | O |
| 38-20-007 | Diesel Pump 1A Auto Start Pressure Isolation | O |
| 38-24-017 | Diesel Engine 1A Fuel Oil Pump Supply | O |
| 38-24-018 | Primary Tank Fuel Oil Supply to 1A Diesel Engine | O |
| 75-24-056 | Diesel Pump 1B Discharge | LO |
| 75-24-057 | Diesel Pump 1B Unloader Isolation | O |
| 75-24-058 | Diesel Pump 1B Strainer Backflush Supply | C |
| 75-24-059 | Diesel Pump 1B Strainer Backflush Supply | C |
| 75-24-060 | Diesel Pump 1B Strainer Backflush Discharge | C |
| 75-24-061 | Diesel Pump 1B Strainer Backflush Discharge | C |
| 75-24-063 | Supply to Cooling Water Valve | O |
| 75-24-064 | Supply from Cooling Water Valve | O |
| 75-24-065 | Cooling Water Valve Bypass | C |
| 75-24-066 | Gear Box Oil Cooling Supply | O |
| 75-28-033 | Diesel Pump 1B Discharge PS-10 Isolation | O |
| 75-28-034 | Diesel Pump 1B Discharge Pressure Gauge Isolation | O |
| 75-28-035 | Diesel Pump 1B Auto Start PS-14 Isolation | O |
| 75-24-084 | Diesel Engine 1B Fuel Oil Pump Supply | O |
| 75-24-085 | Priming Tank Fuel Oil Supply to 1B Diesel Engine | O |

OUTSIDE OF TURBINE BUILDING

| | | |
|-----------|-----------------------------|----|
| 75-24-049 | North Fire Header Isolation | LO |
| 75-24-053 | South Fire Header Isolation | LO |

REMARKS:

DATE _____ PERFORMED BY _____
 (Operator)

APPROVED BY _____
 (Shift Supervisor)

REVIEWED BY _____
 (Operations Supervisor)

Prepared or Revised By: R. Coakley
 Date: 10/12/79
 Over Rev. Com. Approval: [Signature]
 Date: [Signature]
 Safety Rev. Com. Approval: [Signature]
 Date: [Signature]

ALTERNATE CORE SPRAY VALVE CHECKLIST

| <u>VALVE NO.</u> | <u>NAME</u> | <u>POSITION</u> |
|-----------------------------|--|-----------------|
| <u>TURBINE BUILDING</u> | | |
| 38-28-001 | Flow Transmitter High Isolation | O |
| 38-28-002 | Flow Transmitter Low Isolation | O |
| 38-28-006 | Pressure Switch Isolation | O |
| 38-23-014 | High Point Vent | C |
| 38-23-001 | Valve 38-24-001 Body Drain | C |
| 38-23-002 | Valve 38-24-002 Body Drain | C |
| 38-24-001 | A-C Motor-Operated Valve Isolation Valve | LO |
| 38-24-002 | D-C Motor-Operated Valve Isolation Valve | LO |
| 38-30-001 | A-C Motor-Operated Valve | AUTO |
| 38-30-002 | D-C Motor-Operated Valve | AUTO |
| 38-28-003 | Pressure Indicator Isolation | O |
| 38-24-004 | 6-Inch Test Valve | LC |
| 38-24-003 | Alternate Core Spray Isolation | LO |
| 38-24-005 | Alternate Core Spray Isolation Bypass | C |
| 38-23-003 | High Point Vent Root Valve | C |
| 38-23-004 | High Point Vent Valve | C |
| <u>CONTAINMENT BUILDING</u> | | |
| 38-23-016 | Alternate Core Spray Header Drain | C |
| 38-23-017 | Alternate Core Spray Header Drain Shutoff | C |
| 38-23-005 | Low Point Drain Root Valve | C |
| 38-23-006 | Low Point Drain Valve | C |
| 38-23-007 | After-Check Drain Root Valve | C |
| 38-23-008 | After-Check Drain Valve | C |
| 38-23-012 | After-Check Vent Root Valve | C |
| 38-23-013 | After-Check Vent Valve | C |
| 38-23-009 | Containment MCA Drain Root Valve | C |
| 38-23-010 | Containment MCA Drain Valve | C |
| 38-23-011 | Containment MCA Drain Valve Test Connection | C |
| <u>PIPE TUNNEL</u> | | |
| 37-28-003 | Containment Level Transmitters Isolation | O |
| 37-28-004 | Containment Pressure Transmitter Isolation | O |
| 37-28-005 | Containment Pressure Transmitter Drain | C |
| 37-28-006 | Containment Pressure Indicator/Transmitter Isol. | O |
| 37-28-007 | Containment Level Transmitter Upper Isolation | O |
| 37-28-009 | Containment Level Transmitter Upper Isolation | O |
| 37-28-010 | Containment Level Transmitter Lower Isolation | O |
| 37-28-008 | Containment Level Transmitter Lower Isolation | O |

Reviewed By: Brandes/segerreis Date: 7/19/76
 Safety Rev. Com. Approval: [Signature] Date: 8/19/76
 Oper. Rev. Com. Approval: [Signature] Date: 8/19/76

SHUTDOWN CONDENSER SYSTEM VALVE CHECKLIST - (Cont'd)

| VALVE NO. | NAME | POSITION |
|-----------|------|----------|
|-----------|------|----------|

MAIN FLOOR

| | | |
|-----------|-------------------------------------|---|
| 62-23-007 | Condenser Tube-Side Drain | C |
| 62-23-008 | Condenser Tube-Side Drain Shutoff | C |
| 62-24-012 | Condenser Shell-Side Drain | C |
| 62-23-048 | Condenser Shell-Side Drain Shutoff | C |
| 62-23-003 | Condenser Shell-Side Sample Shutoff | C |

SHUTDOWN CONDENSER PLATFORM

| | | |
|-----------|---|----|
| 62-24-001 | Condenser Steam Inlet Valve 1A Isolation | LO |
| 62-24-029 | Valve 62-24-001 Bypass | C |
| 62-24-036 | Condenser Steam Inlet Valve 1B Isolation | LO |
| 62-24-037 | Valve 62-24-036 Bypass | C |
| 62-24-038 | Condenser Steam Inlet Valve 1B Bypass | C |
| 62-24-039 | Condenser Steam Inlet Valve 1B Operator Air Supply | O |
| 62-24-030 | Condenser Steam Inlet Valve 1A Operator Air Supply | O |
| 62-24-016 | Condenser Steam Inlet Valves Control Air Supply | O |
| 62-23-001 | Steam Inlet Low Point Drain | C |
| 62-23-002 | Steam Inlet Low Point Drain Shutoff | C |
| 62-23-009 | Steam Inlet High Point Vent | C |
| 62-23-010 | Steam Inlet High Point Vent Shutoff | C |
| 62-23-030 | Steam Inlet High Point Vent | C |
| 62-23-031 | Steam Inlet High Point Vent Shutoff | C |
| 62-24-019 | Condensate High Point Vent | O |
| 62-24-015 | Shutdown Condenser Off-Gas Vent Valve Air Supply | O |
| 62-24-003 | Shutdown Condenser Off-Gas Valve Inlet Isolation | LO |
| 62-24-004 | Shutdown Condenser Off-Gas Valve Outlet Isolation | LO |
| 62-24-005 | Shutdown Condenser Off-Gas Valve Bypass | C |
| 62-28-013 | Waste Gas Header Pressure Gauge Isolation | O |
| 62-28-001 | Condenser Shell Side Upper Gauge Glass Isolation (top) | O |
| 62-28-049 | Secondary Pressure Gauge Isolation | O |
| 62-28-002 | Condenser Shell Side Upper Gauge Glass Isolation (bottom) | O |
| 62-28-014 | Shell Side Upper Gauge Glass Drain | C |
| 62-28-003 | Condenser Shell Side Lower Gauge Glass Isolation (top) | O |
| 62-28-004 | Condenser Shell Side Lower Gauge Glass Isolation (bottom) | O |
| 62-28-015 | Shell Side Lower Gauge Glass Drain | C |
| 62-28-011 | Condenser Shell Side Level Controller Isolation (top) | O |
| 62-28-012 | Condenser Shell Side Level Controller Isolation (bottom) | O |
| 62-28-011 | Condenser Shell Side Level Controller Drains | C |

62-23-007
 62-23-008
 62-24-012
 62-23-048
 62-23-003
 62-24-001
 62-24-029
 62-24-036
 62-24-037
 62-24-038
 62-24-039
 62-24-030
 62-24-016
 62-23-001
 62-23-002
 62-23-009
 62-23-010
 62-23-030
 62-23-031
 62-24-019
 62-24-015
 62-24-003
 62-24-004
 62-24-005
 62-28-013
 62-28-001
 62-28-049
 62-28-002
 62-28-014
 62-28-003
 62-28-004
 62-28-015
 62-28-011
 62-28-012
 62-28-011

TABLE 5-2

VALVE LINEUP DEMINERALIZED WATER SYSTEM

| <u>VALVE NO.</u> | <u>NAME</u> | <u>POSITION</u> |
|---|---|-----------------|
| <u>GRADE FLOOR</u> | | |
| 67-24-030 | Demineralized Water Supply | O |
| 67-24-031 | 1A Pump Supply | O |
| 67-24-032 | 1B Pump Supply | O |
| 67-24-033 | 1A Pump Discharge | O |
| 67-24-034 | 1B Pump Discharge | O |
| 67-28-020 | 1A Discharge Gauge | O |
| 67-28-021 | 1B Discharge Gauge | O |
| 67-28-027 | Root Isolation Valve For PT-F-37 | O |
| 67-28-022 | PT-F-37 Isolation Valve | O |
| 67-28-023 | PS 7 Isolation Valve | O |
| 67-28-024 | PS 8 Isolation Valve | O |
| 67-24-060 | Demineralizer Pumps Recirculation | O |
| 67-24-055 | To Condensate Demineralizer System | O |
| 67-24-059 | 1B Coupling Fill | C |
| 67-24-052 | 1A Coupling Fill | C |
| 67-24-043 | Isolation For Machine Shop and Demineralized Water Heater | O |
| 67-24-044 | To Sink and Demineralized Water Heater | O |
| 67-24-048 | Cold Demineralizer to Washers | O |
| 67-24-046 | Demineralized Water Heater Inlet | O |
| 67-24-047 | Demineralized Water Heater Outlet | O |
| 67-24-049 | Hot Demineralized Water To Washers | O |
| 67-24-014 | To Donkey Boiler (No. 3 FWH Area) | C |
| <u>TURBINE BUILDING MEZZANINE FLOOR</u> | | |
| 67-24-041 | Supply To Condensate Storage Tank | C |
| 67-24-042 | Supply To Virgin Storage Tank | C |
| <u>TURBINE FLOOR</u> | | |
| 67-23-020 | Virgin Tank Drain | C |
| 67-23-021 | Condensate Storage Tank Drain | C |
| 67-23-022 | Condensate Storage Tank Fill From Virgin Tank | C |
| <u>TUNNEL</u> | | |
| 67-24-056 | Flow Meter In | O |
| 67-24-057 | Flow Meter Out | O |
| 67-24-058 | Flow Meter Bypass | C |
| 67-24-069 | To Waste Water Pump Seals | O |
| 67-24-068 | To 1A Waste Water Pump | O |
| 67-24-070 | To 1B Waste Water Pump | O |
| 67-24-011 | Demineralized Water to Containment | O |

Prepared or Revised By: Paul Moon
 Date: 6/10/76
 Oper. Rev. Com. Approval: [Signature]
 Date: 6/10/76
 Safety Rev. Com. Approval: [Signature]
 Date: 6/10/76

TABLE 7-1 - H.P. SERVICE WATER SYSTEM VALVE CHECKLIST - (Cont'd)

| VALVE NO. | NAME | LOCATION | NORMAL START AND OPERATION |
|------------------------------------|--|---------------|----------------------------------|
| <u>TURBINE BUILDING - (Cont'd)</u> | | | |
| 75-28-031 | Service Water Tank Low Alarm Isolation | Mezzanine | O _____ |
| 75-28-032 | Service Water Tank Low Alarm Isolation | Mezzanine | O _____ |
| 75-23-023 | Service Water Tank Gauge Glass Drain | Mezzanine | C _____ |
| 75-23-024 | Service Water Tank High Alarm Drain | Mezzanine | C _____ |
| 75-23-025 | Service Water Tank Low Alarm Drain | Mezzanine | C _____ |
| 75-24-039 | H.P. Service Water Hose Connection | Main Floor | C _____ |
| 75-24-040 | Fire Hose Connection | Main Floor | C _____ |
| 75-24-042 | H.P. Service Water Hose Connection | Main Floor | C _____ |
| 75-24-043 | Fire Hose Connection | Main Floor | C _____ |
| 75-24-069 | H.P. Service Water Supply Containment Building | Pipe Tunnel | O _____ |
| 75-24-070 | H.P. Service Water Supply Waste Treatment Building and Gas Vault | Pipe Tunnel | O _____ |
| 75-24-019 | HPSW to Backup Air Compressor | Pipe Tunnel | O _____ |
| 75-24-020 | Backup Air Compressor Return to Standpipe | Pipe Tunnel | O _____ |
| 75-24-083 | Containment Building and Waste Disposal Building Isolation | Turbine Floor | O _____ |
| 75-23-028 | Turbine Oil Tank Fire Spray Flushing Connection | | C _____ |
| 75-23-029 | Oil Storage Room East Header Flushing Connection | | C _____ |
| 75-23-030 | Oil Storage Room West Header Flushing Connection | | C _____ |
| 75-23-034 | Turbine Grade Fire Spray Header Flushing Connection | | C _____ |
| 75-23-035 | Turbine Grade Fire Spray Header Flushing Connection | | C _____ |
| 75-23-036 | Turbine Grade Fire Spray Header Flushing Connection | | C _____ |
| 75-23-037 | Turbine Grade Fire Spray Header Flushing Connection | | C _____ |
| 75-23-038 | Alternate Core Spray Valve Area Fire Spray Header Flushing Connection | | C _____ |
| 75-23-039 | Alternate Core Spray Valve Area Fire Spray Header Flushing Connection | | C _____ |
| 75-23-040 | Turbine Mezzanine Level Fire Spray Header Flushing Connection | | C _____ |
| 75-23-041 | Turbine Mezzanine Level Fire Spray Header Flushing Connection | | C _____ |
| 75-24-090 | Turbine Lube Oil Tank, Turbine Building Grade and Mezzanine Sprays Isolation Valve | | O _____ |

| | | | | | |
|-----------------------------------|---------|--------------------------|--------|---------------------------|--------|
| Prepared or Revised By R. Oota | Date | Oper. Rev. Com. Approval | Date | Safety Rev. Com. Approval | Date |
| | 5/16/79 | J. S. Perkins | 6/1/79 | J. S. Perkins | 6/1/79 |