

PUMP AND VALVE  
INSERVICE TESTING PROGRAM  
POINT BEACH NUCLEAR PLANT

REVISION 1

May 28, 1991

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## UNITS 1 AND 2

### 1.0 INTRODUCTION

Revision 0 of the third ASME Inservice Test (IST) Program for Point Beach (Units 1 & 2) will be in effect through the end of the third 120-month (10-year) interval unless changed and reissued for reasons other than the routine update required at the start of the fourth interval per 10 CFR 50.55a(g). The third interval for both units begins on December 31, 1990.

This document outlines the IST Program for Point Beach Plant, Units 1 and 2, based on the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1986 Edition (the Code). References in this document to "IWP" or "IWV" correspond to Subsections IWP and IWV, respectively, of the ASME Section XI, 1986 Edition, unless otherwise noted.

As described in the second (1980) 120-month interval program strict application of code selection criteria of 10 CFR 50.55a(g)(4)(ii) would have resulted in application of different ASME XI code edition being applied to Unit 1 and Unit 2. In the second program a request was made to match Unit 1 and Unit 2 to the same code edition. A similar request accompanied this third 120-month program; the contents of this program have been prepared under the assumption the request is granted.

#### 1.1 Interpretation

- 1.1.1 Where conflicts exist between 10 CFR 50.55a and ASME Section XI, 10 CFR 50.55a takes precedence.
- 1.1.2 By 10 CFR 50.55a(g)(i), inservice testing of pumps and valves for plants with construction permits docketed prior to January 1, 1971, is limited to those that are safety related. This applies to PBNP Units 1 and 2.
- 1.1.3 According to 10 CFR 50.55a(g)(i) and 10 CFR 50.55a(g)(1), inservice testing shall be conducted in accordance with the appropriate edition/addenda of the code to the extent practical within the limitations of design, geometry, and materials of construction. Modifications to the plant, to accommodate changes in inservice testing requirements in later editions of the code are not specifically required.
- 1.1.4 The NRC, via Generic Letter 89-04 and associated documents (References 2.8, 2.9 and 2.10), has provided interpretations and modification of ASME XI.

### 2.0 REFERENCES

This program plan was developed per the requirements and guidance provided by the following documents:

- 2.1 Title 10, Code of Federal Regulations, Part 50
- 2.2 NRC Regulatory Guides - Division 1
- 2.3 Standard Review Plan 3.9.6, "Inservice Testing of Pumps and Valves"
- 2.4 Final Safety Analysis Report, Point Beach Units 1 & 2
- 2.5 Point Beach Plant Unit 1 Technical Specifications
- 2.6 Point Beach Plant Unit 2 Technical Specifications



## UNITS 1 AND 2

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- 2.7 ASME Boiler and Pressure Vessel Code, Section XI, 1986 Edition.
- 2.8 NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"
- 2.9 Point Beach Nuclear Plant Responses to GL 89-04, dated October 3, 1989, March 2, 1990, June 28, 1990, and September 11, 1990.
- 2.10 NRC minutes of public meetings on GL 89-04, dated October 25, 1989.

### 3.0 INSERVICE TESTING PROGRAM FOR PUMPS

#### 3.1 Code Compliance

This IST program for pumps is based on the requirements of subsection IWP of the code and any interpretations or additional requirements imposed by Reference 2.8. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from code requirements is requested pursuant to the requirements of 10 CFR 50.55a(g)(iii) and Reference 2.8.

#### 3.2 Allowable Ranges of Test Quantities

The allowable ranges for test parameters as specified in Table IWP-3100-2 will be used for all measurements of pressure, flow, and vibrations except as provided for in specific relief requests. In some cases the performance of a pump may be adequate to fulfill its safety function even though there may be a value of an operating parameter that falls outside the allowable ranges as set forth in Table IWP-3100-2. Should such a situation arise, an expanded allowable range may be determined, on a case-by-case basis, in accordance with IWP-3210 and ASME Code Interpretation XI-1-79-19.

#### 3.3 Testing Intervals

The test frequency for pumps included in the Program will be as set forth in IWP-3400 and related relief requests. A band of +25 percent of the test interval may be applied to a test schedule as allowed by the Point Beach Technical Specifications to provide for operational flexibility.

#### 3.4 Pump Program Table

Appendices A and B list those pumps included in the IST Program with references to parameters to be measured and applicable requests for relief. Pumps which provide a common, shared function for Units 1 and 2 are included in Appendix A. Any explanatory notes required for clarification of test requirements will be included at the end of the respective pump table to which the note applies.

#### 3.5 Relief Requests for Pump Testing

Appendix C includes relief requests related to pump testing.



## UNITS 1 AND 2

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### 3.6 Evaluation of Data and Equipment Status Declaration

- 3.6.1 The duty shift superintendent shall determine equipment operability by comparing test data against the acceptance limits. These limits are contained in an Operations standing order. Equipment with data exceeding these limits will be declared inoperable and Technical Specification LCOs applied.
- 3.6.2 Additional engineering evaluations, data trending, and data retention will be performed in accordance with ASME XI code and will be accompanied by equipment status declarations in accordance with plant administrative procedures.

## 4.0 INSERVICE TESTING PROGRAM FOR VALVES

### 4.1 Code Compliance

This IST Program for valves is based on the requirements of Subsection IWV of the Code and any interpretations or additional requirements imposed by Reference 2.8. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from Code requirements is requested pursuant to the requirements of 10 CFR 50.55a(g)(iii) and Reference 2.8.

### 4.2 Testing Intervals

The test frequency for valves included in the Program will be as set forth in IWP-3400 and related relief requests. A band of +25 percent of the test interval may be applied to a test schedule as allowed by the Point Beach Technical Specifications to provide for operational flexibility. Where quarterly testing of valves is impractical or otherwise undesirable, testing may be performed during cold shutdown periods as permitted by IWV-3412(a). Justifications for this deferred testing are provided in Appendix G with elaboration of Point Beach policy set forth in Relief Request VRR-5.

### 4.3 Stroke Time Acceptance Criteria

When required, the acceptance criteria for the stroke times of power-operated valves will be as set forth in IWV-3410 and Reference 2.8.

### 4.4 Check Valve Testing

Where required, full-stroke exercising of check valves to the open position using system flow requires that a test be performed whereby the predicted full accident condition flowrate through the valve be verified and measured. Any deviation to this requirement must satisfy the requirements of Reference 2.8, Position 1.

### 4.5 Valve Program Table

Appendices D and E list those valves included in the IST Program with references to required testing, respective test intervals, and applicable requests for relief. Valves which serve a common, shared function for Units 1 and 2 are included in Appendix D. Any explanatory notes required for clarification of test requirements will be included at the end of the respective valve table to which the note applies.



UNITS 1 AND 2

4.6 Relief Requests for Valve Testing

Appendix F includes all relief requests related to valve testing.

4.7 Evaluation of Data and Equipment Status Declaration

4.7.1 The duty shift superintendent shall determine equipment operability by comparing test data against the acceptance limits. These limits are contained in an Operations standing order. Equipment with data exceeding these limits will be declared inoperable and Technical specification LCOs applied.

4.7.2 Additional engineering evaluations, data trending, and data retention will be performed in accordance with ASME XI and will be accompanied by equipment status declarations in accordance with plant administrative procedures.

4.8 Background Document References

All appendices of this IST Program are consistent with the following IST Program Background Document revisions:

| <u>Appendix</u> | <u>Title</u>  | <u>Revision</u> | <u>Date</u> |
|-----------------|---|-----------------|-------------|
| A               | Main and Reheat Steam   | 0               |             |
| B               | Auxiliary Feedwater System  | 0               |             |
| C               | Main Feedwater System   | 0               |             |
| D               | Service Water System  | 0               |             |
| E               | Reactor Coolant System  | 0               |             |
| F               | Chemical and Volume Control System                                    | 0               |             |
| G               | Safety Injection and Residual Heat Removal System                     | 0               |             |
| H               | Containment Spray System  | 0               |             |
| I               | Component Cooling System  | 0               |             |
| J               | Spent Fuel Pit Cooling System   | 0               |             |
| K               | Emergency Diesel Generator Air Start and Fuel<br>Oil Transfer Systems | 0               |             |
| L               | Heating, Ventilation, and Air Conditioning Systems                    | 0               |             |
| M               | Auxiliary Steam System, Heating Steam, Chilled & Hot<br>Water Systems | 0               |             |
| N               | Instrument and Service Air Systems                                    | 0               |             |
| O               | Post-Accident Containment Vent/Monitoring System                      | 0               |             |
| P               | Primary Sampling System   | 0               |             |
| Q               | Waste Disposal System   | 0               |             |
| R               | De-ionized/Reactor Makeup Water System                                | 0               |             |



APPENDIX A  
UNIT 1 PUMP PROGRAM TABLE

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LEGEND

|                 |  |
|-----------------|--|
| PUMP NUMBER     | Numerical designator indicated on the respective flow diagram.   |
| FUNCTION        | Generic name/function of the pump.   |
| DRAWING NO.     | Corresponds to the flow diagram showing the pump.  |
| TEST PARAMETERS | The table indicates full code compliance by a "YES" in the column associated with that specific parameter. Where the test program deviates from the code requirement, the respective relief request number is noted. |
| PRR-XX          | Where indicated, this refers to the specific relief request (See Appendix C) related to any deviation regarding the measurement or analysis of a parameter.  |



APPENDIX A  
UNIT 1 PUMP PROGRAM TABLE

Test Parameter

| Pump Number | Function          | Dwg. No. | Lube Level | Speed | Inlet Press | Diff Press | Flow Rate | Bearing Vib | Temp  | Remarks            |
|-------------|-------------------|----------|------------|-------|-------------|------------|-----------|-------------|-------|--------------------|
| P-002A      | Charging Pump     | 684J741  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-002B      | Charging Pump     | 684J741  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-002C      | Charging Pump     | 684J741  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-004A      | BA Transfer       | 684J741  | No         | N/A   | PRR-12      | PRR-12     | PRR-12    | PRR-12      | PRR-8 | PRR-1,2,7,9,10,11  |
| P-004B      | BA Transfer       | 684J741  | No         | N/A   | PRR-12      | PRR-12     | PRR-12    | PRR-12      | PRR-8 | PRR-1,2,7,9,10,11  |
| P-010A      | RHR               | 110E018  | Yes        | N/A   | Yes         | Yes        | PRR-4     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-010B      | RHR               | 110E018  | Yes        | N/A   | Yes         | Yes        | PRR-4     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-011A      | CC                | 110E018  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-011B      | CC                | 110E018  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-012A      | SFP Cooling       | 110E018  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-012B      | SFP Cooling       | 110E018  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-014A      | Containment Spray | 110E017  | Yes        | N/A   | Yes         | Yes        | PRR-6     | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |

APPENDIX A  
UNIT 1 PUMP PROGRAM TABLE

| Pump Number | Function          | Dwg. No. | Lube Level | Speed | Inlet Press | Diff Press | Flow Rate | Bearing Vib | Temp  | Remarks             |
|-------------|-------------------|----------|------------|-------|-------------|------------|-----------|-------------|-------|---------------------|
| P-014B      | Containment Spray | 110E017  | Yes        | N/A   | Yes         | Yes        | PRR-6     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-015A      | Safety Injection  | 110E017  | Yes        | N/A   | Yes         | Yes        | PRR-3     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16,17 |
| P-015B      | Safety Injection  | 110E017  | Yes        | N/A   | Yes         | Yes        | PRR-3     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16,17 |
| P-029       | AFW               | M-217    | Yes        | Yes   | Yes         | Yes        | PRR-5     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16,18 |
| P-032A      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-032B      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-032C      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-032D      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-032E      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-032F      | Service Water     | M-207    | No         | N/A   | PRR-13      | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10, 16    |
| P-038A      | AFW               | M-217    | Yes        | N/A   | Yes         | Yes        | PRR-5     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16,18 |
| P-038B      | AFW               | M-217    | Yes        | N/A   | Yes         | Yes        | PRR-5     | PRR-7       | PRR-8 | PRR-1,2,9,10, 16,18 |

APPENDIX A  
UNIT 1 PUMP PROGRAM TABLE

| Pump Number | Function     | Dwg. No. | Lube Level | Speed | Inlet Press | Diff Press | Flow Rate | Bearing Vib | Temp  | Remarks         |
|-------------|--------------|----------|------------|-------|-------------|------------|-----------|-------------|-------|-----------------|
| P-070A      | FO Transfer  | M-219    | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |
| P-070B      | FO Transfer  | M-219    | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |
| P-111A      | CSR Ch Water | M-214    | N/A        | N/A   | Yes         | Yes        | PRR-15    | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |
| P-111B      | CSR Ch Water | M-214    | N/A        | N/A   | Yes         | Yes        | PRR-15    | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |
| P-112A      | CR Ch Water  | M-214    | N/A        | N/A   | Yes         | Yes        | PRR-15    | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |
| P-112B      | CR Ch Water  | M-214    | N/A        | N/A   | Yes         | Yes        | PRR-15    | PRR-7       | PRR-8 | PRR-1,2,9,10,16 |





APPENDIX B  
UNIT 2 PUMP PROGRAM TABLE

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LEGEND

|                |  |
|----------------|--|
| PUMP NUMBER    | Numerical designator indicated on the respective flow diagram.   |
| FUNCTION       | Generic name/function of the pump.   |
| DRAWING NO.    | Corresponds to the flow diagram showing the pump.  |
| TEST PARAMETER | The table indicates full code compliance by a "YES" in the column associated with that specific parameter. Where the test program deviates from the code requirement, the respective relief request number is noted. |
| PRR-XX         | Where indicated, this refers to the specific relief request (See Appendix C) related to any deviation regarding the measurement or analysis of a parameter.  |

APPENDIX B  
UNIT 2 PUMP PROGRAM TABLES

Test Parameters

| Pump Number | Function          | Dwg. No. | Lube Level | Speed | Inlet Press | Diff Press | Flow Rate | Bearing Vib | Temp  | Remarks            |
|-------------|-------------------|----------|------------|-------|-------------|------------|-----------|-------------|-------|--------------------|
| P-002A      | Charging Pump     | 685J175  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-002B      | Charging Pump     | 685J175  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-002C      | Charging Pump     | 685J175  | Yes        | Yes   | PRR-14      | PRR-14     | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10       |
| P-004A      | BA Transfer       | 685J175  | N/A        | N/A   | PRR-12      | PRR-12     | PRR-12    | PRR-12      | PRR-8 | PRR-1,2,7,9,10,11  |
| P-004B      | BA Transfer       | 685J175  | N/A        | N/A   | PRR-12      | PRR-12     | PRR-12    | PRR-12      | PRR-8 | PRR-1,2,7,9,10,11  |
| P-010A      | RHR               | 110E029  | Yes        | N/A   | Yes         | Yes        | PRR-4     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-010B      | RHR               | 110E029  | Yes        | N/A   | Yes         | Yes        | PRR-4     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-011A      | CC                | 110E029  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-011B      | CC                | 110E029  | Yes        | N/A   | Yes         | Yes        | Yes       | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-014A      | Containment Spray | 119E035  | Yes        | N/A   | Yes         | Yes        | PRR-6     | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-014B      | Containment Spray | 119E035  | Yes        | N/A   | Yes         | Yes        | PRR-6     | PRR-7       | PRR-8 | PRR-1,2,9,10,16    |
| P-015A      | Safety Injection  | 119E035  | Yes        | N/A   | Yes         | Yes        | PRR-3     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-015B      | Safety Injection  | 119E035  | Yes        | N/A   | Yes         | Yes        | PRR-3     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,17 |
| P-029       | AFW               | M-217    | Yes        | Yes   | Yes         | Yes        | PRR-5     | PRR-7       | PRR-8 | PRR-1,2,9,10,16,18 |



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-1

COMPONENTS: Various

SECTION XI REQUIREMENT:

The full-scale range of each instrument shall be three times the reference value or less. (IWP-4120)

BASIS FOR RELIEF:

Table IWP-4110-1 requires the accuracy of instruments used to measure temperature and speed to be equal to or better than  $\pm 5$  percent for temperature and  $\pm 2$  percent for speed, both based on the full scale reading of the instrument. This means that the accuracy of the measurement can vary as much as  $\pm 15$  percent and  $\pm 6$  percent, respectively, assuming the range of the instruments extended to the allowed maximum.

These IST pump parameters are often measured with portable test instruments where commercially available instruments do not necessarily conform to the Code requirements for range. In these cases, high quality calibrated instruments will be used where the "reading" accuracy is at least equal to the Code-requirement for full-scale accuracy. This will ensure that the measurements are always more accurate than the accuracy as determined by combining the requirements of Table IWP-4110-1 and Paragraph IWP-4120.

ALTERNATE TESTING:

Whenever portable instruments are used for measuring performance parameters, the instruments will be such that the "reading" accuracy is as follows

|             |                 |
|-------------|-----------------|
| Temperature | $\pm 5$ percent |
| Speed       | $\pm 2$ percent |



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-2

COMPONENTS: Applicable to all pumps in the Program

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump inlet pressure shall be measured before starting a pump and during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

If a pump being tested is in operation as a result of plant or system needs, it is unreasonable to reconfigure system lineups simply to provide for measurement of static inlet pressure.

Inlet pressure prior to pump startup is not a significant parameter needed for evaluating pump performance or its material condition.

ALTERNATE TESTING:

When performing a test on a pump that is already in operation as a result of system or plant requirements, inlet pressure will only be measured during pump operation.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-3

UNITS: 1 and 2

COMPONENTS: Safety Injection Pumps, P-015 A&B

SECTION XI REQUIREMENT:

The resistance of the system shall be varied until either the differential pressure or the measured flowrate equals the corresponding reference value. The test quantities shown in Table IWP-3100-1 shall then be measured or observed. (IWP-3100)

When a reference value or set of values may have been affected by repair or routine servicing of a pump, a new reference value or set of values shall be determined, or the previous value reconfirmed by an inservice test run prior to, or within 96 hours after, return of the pump to normal service. (IWP-3111)

BASIS FOR RELIEF:

The inservice testing of these pumps is accomplished by operating the pumps in a recirculation mode through a fixed flow-limiting orifice. The orifice is sized such that pump operation is in the flat (horizontal) region of the pump characteristic curve where pump head is relatively independent of flowrate. Under these test conditions flowrate measurements may not be indicative of pump performance.

NRC Generic Letter 89-04, Position 9, allows elimination of flowrate measurements during quarterly testing where flowrate instrumentation is unavailable provided that appropriate inservice tests are performed during cold shutdowns or refueling where full or substantial flow conditions can be established and flowrates measured.

The only practical means of establishing full or substantial flow and obtaining quantitative flowrate data during testing of these pumps requires pumping into the reactor coolant system (RCS). During plant operation under normal conditions, this is not possible due to the large differential between the RCS and the maximum pump discharge pressure. Under shutdown conditions when the RCS is de-pressurized, operation in such a mode is precluded by low-temperature over-pressurization concerns and restrictions.

Performing post maintenance testing for all reference values would require a plant shutdown and cooldown prior to returning a repaired pump to service. Tests performed in the recirculation mode (quarterly) are sufficient to provide adequate assessment of the pump to perform its safety function.

ALTERNATE TESTING:

During each inservice test of these pumps performed in the recirculation mode via the fixed orifice, all required pump parameters (per IWP-3100), except flow, will be measured, recorded, and evaluated.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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At least once during each reactor refueling when significant flow can be established through an instrumented (flowrate) test circuit, an inservice test will be performed where all required pump parameters will be measured and recorded at three (3) points along the pump curve. Test data taken at these points will be evaluated in accordance with IWP-3200.

Should maintenance be performed that requires post-maintenance testing per IWP-3111, testing will be performed as follows:

- \* If the plant is not in a refueling shutdown condition such that the testing in the recirculation mode is the only testing practical, then such testing will be performed and the test results evaluated per IWP-3111. Following this, the subject pump will be tested during the next refueling shutdown period where all parameters (including flowrate) will be measured and evaluated with respect to IWP-3111.
- \* If the plant is in a refueling shutdown condition, the subject pump will be tested with all parameters (including flowrate) measured and evaluated with respect to IWP-3111.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-4

UNITS: 1 and 2

COMPONENTS: Residual Heat Removal Pumps, P-010 A&B

SECTION XI REQUIREMENT:

The resistance of the system shall be varied until either the differential pressure or the measured flowrate equals the corresponding reference value. The test quantities shown in Table IWP-3100-1 shall then be measured or observed. (IWP-3100)

When a reference value or set of values may have been affected by repair or routine servicing of a pump, a new reference value or set of values shall be determined, or the previous value reconfirmed by an inservice test run prior to, or within 96 hours after, return of the pump to normal service. (IWP-3111)

BASIS FOR RELIEF:

The only practical means of establishing full or substantial flow and obtaining quantitative and meaningful flowrate data during testing of these pumps requires pumping into the reactor coolant system (RCS). During plant operation under normal conditions, this is not possible due to the large differential between the RCS and the maximum pump discharge pressures. Thus, the quarterly inservice testing of these pumps is accomplished by operating the pumps in a recirculation mode through a fixed flow-limiting orifice. The orifice is sized such that pump operation in the flat (horizontal) region of the pump characteristic curve where pump head is relatively independent of flowrate. In addition, the range and accuracy of the flow instrumentation do not provide adequate repeatability at the reduced flowrate available in this flow scheme. Under such test conditions, flowrate measurements may not be indicative of pump performance.

NRC Generic Letter 89-04, Position 9, allows elimination of flowrate measurements during testing where flowrate instrumentation is unavailable provided that appropriate inservice tests are performed during cold shutdowns or refueling where full or substantial flow conditions can be established and flowrates measured.

Performing post maintenance testing for all reference values would require a plant shutdown and cooldown prior to returning a repaired pump to service. Tests performed in the recirculation mode are sufficient to provide adequate assessment of the pump to perform its safety function.

ALTERNATE TESTING:

During each inservice test of these pumps performed in the recirculation mode via the fixed orifice, all required pump parameters (per IWP-3100), except flow, will be measured.

During refueling shutdown periods when operation of the residual heat removal system is practical and significant flow can be established through an instrumented (flowrate) test circuit, an inservice test will be performed where all required pump parameters will be measured and recorded at three (3) points along the pump curve. Test data taken at these points will be evaluated in accordance with IWP-3200.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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Should maintenance be performed that requires post-maintenance testing per IWP-3111, testing will be performed as follows:

- \* If the plant is not in a refueling shutdown condition such that the testing in the recirculation mode is the only testing practical, then such testing will be performed and the test results evaluated per IWP-3111. Following this, the subject pump will be tested during the next refueling shutdown period where all parameters (including flowrate) will be measured and evaluated with respect to IWP-3111.
- \* If the plant is in a refueling shutdown condition, the subject pump will be tested with all parameters (including flowrate) measured and evaluated with respect to IWP-3111.





APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-5

UNITS: 1 and 2

COMPONENTS: Auxiliary Feedwater Pumps, P-029( 2 pumps) and P-038 A&B

SECTION XI REQUIREMENT:

The resistance of the system shall be varied until either the differential pressure or the measured flowrate equals the corresponding reference value. The test quantities shown in Table IWP-3100-1 shall then be measured or observed. (IWP-3100)

When a reference value or set of values may have been affected by repair or routine servicing of a pump, a new reference value or set of values shall be determined, or the previous value reconfirmed by an inservice test run prior to, or within 96 hours after, return of the pump to normal service. (IWP-3111)

BASIS FOR RELIEF:

The only practical means of establishing full or substantial flow and obtaining quantitative and meaningful flowrate data during testing of these pumps requires pumping into the steam generators. During plant operation under normal conditions, this is undesirable due to the possibility of causing thermal shock to the auxiliary feedwater piping nozzles. For this reason the inservice testing of these pumps is accomplished by operating the pumps in a recirculation mode through a fixed flow-limiting orifice. The orifice is sized to provide pump operation in the flat (horizontal) region of the pump characteristic curve where pump head is relatively independent of flowrate. In addition, flow instrumentation is not provided in this test scheme. Thus, under these test conditions, flowrate measurements are neither practical nor would they provide any meaningful information if available.

NRC Generic Letter 89-04, Position 9, allows elimination of flowrate measurements during quarterly testing where flowrate instrumentation is unavailable provided that appropriate inservice tests are performed during cold shutdowns or refueling where full or substantial flow conditions can be established and flowrates measured.

Performing post maintenance testing for all reference values would require a plant shutdown and cooldown prior to returning a repaired pump to service. Tests performed in the recirculation mode (quarterly) are sufficient to provide adequate assessment of the pump to perform its safety function.

ALTERNATE TESTING:

During each quarterly inservice test of these pumps performed in the recirculation mode via the fixed orifice, all required pump parameters (per IWP-3100), except flow, will be measured, recorded, and evaluated.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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Should maintenance be performed that requires post-maintenance testing per IWP-3111, testing will be performed as follows:

- \* If the plant is not in a cold shutdown condition such that the testing in the recirculation mode is the only testing practical, then such testing will be performed and the test results evaluated per IWP-3111. Following this, the subject pump will be tested during the next cold shutdown period where all parameters (including flowrate) will be measured and evaluated with respect to IWP-3111.
- \* If the plant is in a cold shutdown condition, the subject pump will be tested with all parameters (including flowrate) measured and evaluated with respect to IWP-3111.

During cold shutdown periods when operation of the auxiliary feedwater pumps pumping to a steam generator is possible without the potential of thermal shock, inservice testing will be performed where all required pump parameters will be measured and recorded at three (3) points along the pump curve. Test data taken at these points will be evaluated in accordance with IWP-3200. Testing at cold shutdown will be at a frequency determined by intervals between shutdowns as follows:

For intervals of 3 months or longer - each shutdown.

For intervals of less than 3 months - testing is not required unless 3 months have passed since the last shutdown test of the subject pump.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-6

UNITS: 1 and 2

COMPONENTS: Containment Spray Pumps, P-014 A&B

SECTION XI REQUIREMENT:

The resistance of the system shall be varied until either the differential pressure or the measured flowrate equals the corresponding reference value. The test quantities shown in Table IWP-3100-1 shall then be measured or observed. (IWP-3100)

BASIS FOR RELIEF:

The only practical means of establishing full or substantial flow and obtaining quantitative and meaningful flowrate data during testing of these pumps requires pumping into the containment spray headers and into the containment atmosphere. This is obviously impractical and undesirable. For this reason the quarterly inservice testing of these pumps is accomplished by operating the pumps in a recirculation mode through a fixed flow-limiting orifice. The orifice is sized such that pump operation is in the flat (horizontal) region of the pump characteristic curve where pump head is relatively independent of flowrate. Note also that flow instrumentation is not provided in the recirculation circuit nor in the constant recirculation line through the eductors. Thus, under these test conditions, flowrate measurements are not possible.

During each inservice test of these pumps performed in the recirculation mode via the fixed orifice, all required pump parameters (per IWP-3100), except flow, will be measured, recorded, and evaluated.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-7

UNITS: 1 and 2

COMPONENTS: All pumps in the IST Program

SECTION XI REQUIREMENTS:

At least one displacement vibration amplitude (peak-to-peak) composite) shall be read during each inservice test. The direction of displacement shall be measured in a plane approximately perpendicular to the rotating shaft, and in the horizontal or vertical direction that has the largest deflection for the particular pump installation. (IWP-4510)

The allowable ranges of inservice test quantities in relation to the reference values are tabulated in Table IWP-3100-2. (IWP-3210)

BASIS FOR RELIEF:

Measuring vibration in velocity units rather than displacement is an industry-accepted practice considered to be more sensitive to small changes that are indicative of developing mechanical problems. Velocity measurements detect not only high-amplitude vibration, characteristic of major mechanical problems, but low-amplitude vibration, as well, caused by misalignment, imbalance, or minor bearing wear.

It is impractical to search for the direction with the largest deflection and procedurally return to that precise location on successive tests. In addition, the direction of maximum deflection may vary with the material condition and age of the pump thus eliminating consistency between test data. Adapting this requirement to test procedures could cause confusion as to the proper locations for measuring pump vibration. Also, comparing subsequent test data to reference test data taken at different locations does not provide a good measure of pump degradation.

ASME/ANSI OMA-1987, Operation and Maintenance Of Nuclear Power Plants, Part 6, Section 4.6.4 has adopted the concept of measuring vibration at two mutually perpendicular locations and comparing subsequent test data to the reference value at that specific location.

Measuring vibration in velocity units is permitted by the most recent version of OM-b - 1989 - Standard For Inservice Testing At Nuclear Power Plants, Part 6.

ALTERNATIVE TESTING:

Pump vibration measurements may be taken in either displacement or velocity units. Acceptance criteria for velocity measurements will conform to those set forth in OM-b-1989, Part 6, Tables 3 and 3a.

For centrifugal and rotary (non-reciprocating) positive displacement pumps vibration readings will be taken in a plane perpendicular to the operating shaft in two (2) mutually perpendicular directions. Test data shall be evaluated per IWP-3100 with successive vibration readings compared to reference values previously taken at that specific location.

Status: Proposed to NRC March 2, 1990 as PRR-11



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRF-8

UNITS: 1 and 2

COMPONENTS: All pumps in the Program

SECTION XI REQUIREMENT:

The temperature of all centrifugal pump bearings outside the main flowpath and of the main shaft bearings of reciprocating pumps shall be measured at points selected to be responsive to changes in the temperature of the bearings. (IWP-3300, 4310)

BASIS FOR RELIEF:

The data associated with bearing temperatures taken at one-year intervals provides little statistical basis for determining the incremental degradation of a bearing or any meaningful trending information or correlation.

In many cases the pump bearings are water-cooled and thus, bearing temperature is a function of the temperature of the cooling medium, which can vary considerably.

Vibration measurements are a significantly more reliable indication of pump bearing degradation than are temperature measurements. All pumps in the program are subjected to vibration measurements in accordance with IWP-4500.

Although excessive bearing temperature is an indication of an imminent or existing bearing failure, it is highly unlikely that such a condition would go unnoticed during routine surveillance testing since it would manifest itself in other obvious indications such as audible noise, unusual vibration, increased motor current, etc.

Any potential gain from taking bearing measurements, which in most cases would be done locally using portable instrumentation, cannot offset the cost in terms of dilution of operator effort, distraction of operators from other primary duties, excessive operating periods for standby pumps especially under minimum flow conditions, and unnecessary personnel radiation exposure.

ALTERNATE TESTING:

Vibration monitoring will be performed using units of velocity via state-of-the-art data analysis equipment provided Relief Request No. 7 is approved. Such vibration monitoring will provide adequate monitoring and evaluation of the material condition of the pump bearings.

Status: Proposed to NRC March 2, 1990 as PRR-12



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-9

UNITS: 1 and 2

COMPONENTS: All pumps in the Program

SECTION XI REQUIREMENT:

If the presence or absence of liquid in a gage line could produce a difference of more than 0.25% in the indicated value of the measured pressure, means shall be provided to ensure or determine the presence or absence of liquid as required for the static correction used. (IWP-4210)

BASIS FOR RELIEF:

When this requirement is applied to the measurement of pump suction pressure where measured pressures are at relative low levels, the 0.25% limit is overly restrictive and oftentimes results in complicated venting procedures and unnecessary health physics risks associated with handling and disposal of radioactive contaminated water with no commensurate gain or improvement of test reliability.

Normally, the only quantitative use of suction pressure measurements, where significant accuracy is required, is in determining pump differential pressure or head. In most cases the pump discharge pressure exceeds the suction pressure by at least a factor of five (5). This being the case, a .25% error introduced into the suction pressure measurement results in an error of .05% in the differential pressure calculation. This is insignificant in light of the potential 6% error allowance applied to both the suction and discharge pressure instruments (Ref IWP-4110).

ALTERNATE TESTING:

If the presence or absence of liquid in a gage line used for sensing pump suction pressure could produce a difference of more than 0.25% in the calculated value of the pump differential pressure, means shall be provided to ensure or determine the presence or absence of liquid as required for the static correction used.





APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-10

UNITS: 1 and 2

COMPONENTS: All pumps in the Program

SECTION XI REQUIREMENT:

Instrument accuracy shall be within the limits of Table IWP-4110-1. (For pressure and flowrate this is  $\pm 2$  percent.) (IWP-4110)

The full scale range of each instrument shall be three times the reference value (IWP-4120)

BASIS FOR RELIEF:

The intent of Articles 4110 and 4120 is to ensure that the recorded test parameters are accurate within certain bounds, thereby providing assurance of accuracy and repeatability.

The articles do not provide any guidance on the specific bounds within which they apply. It is unclear whether or not primary sensors are considered.

Further numerous instrument loops in our facility utilize remote indicators without redundant, local indication.

ALTERNATE TESTING:

For instruments which have primary sensors associated with the instrument loop (an orifice for flow, for example) the primary sensor accuracy is not considered. This will not affect repeatability.

For instruments which have instruments and indicators positioned locally, and when remote, computerized indication is used, Table 4110-1 will be applied.

For instrument loops which consist of transmitters and remote readouts, for pressure, differential pressure and flowrate, an acceptable accuracy is  $\pm 3\%$ .



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-11

UNITS: 1 and 2

COMPONENTS: Boric Acid Transfer Pumps, P-004 A&B

SECTION XI REQUIREMENT:

The resistance of the system shall be varied until either the differential pressure or the measured flowrate equals the corresponding reference value. The test quantities shown in Table IWP-3100-1 shall then be measured or observed. (IWP-3100)

BASIS FOR RELIEF:

The quarterly inservice testing of these pumps is accomplished by operating the pumps in a recirculation mode in a circuit having no capability for flow measurement. A test circuit is available in which pump flowrate can be measured however it requires injection of highly concentrated boric acid solution into the reactor coolant system. During plant operation, this is not practical since it would upset the reactor coolant boric acid balance and adversely effect reactor power and create a plant power transient. If injection were to be performed during cold shutdown periods (other than refueling) the result would be over-boration of the RCS and associated potential operating difficulties during the subsequent plant startup.

NRC Generic Letter 89-04, Position 9, allows elimination of flowrate measurements during quarterly testing where flowrate instrumentation is unavailable provided that appropriate inservice tests are performed during cold shutdowns or refueling where full or substantial flow conditions can be established and flowrates measured.

ALTERNATE TESTING:

During each inservice test these pumps will be operated in the recirculation mode via the non-instrumented flow loop.

At least once during each reactor refueling an inservice test will be performed where all required pump parameters will be measured, recorded, and evaluated in accordance with IWP-3100.





APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-12

UNITS: 1 and 2

COMPONENTS: Boric Acid Transfer Pumps, P-004 A&B

SECTION XI REQUIREMENTS:

An inservice test shall be run on each pump nominally every 3 months during normal plant operation. (IWP-3400(a))

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperature, which shall be measured during at least one inservice test each year. (IWP-3300)

BASIS FOR RELIEF

The system installations do not provide any mechanism for measuring pump suction pressure, discharge pressure, or pump flowrate during normal plant operation. The only practical method of determining pump flowrate is to pump to the RCS. Due to the problems associated with over-boration of the RCS, this can only be done during reactor refueling outages.

To prevent boric acid crystallation each of these pumps is encapsulated in insulation and is heat traced precluding access for measuring pump or motor vibration. It is impractical to routinely remove this insulation to provide such access.

The CVCS system is configured such that any of the four (4) boric acid transfer pumps (2 in each unit) can supply either unit if necessary. This provides a significant amount of redundancy and reliability for the function of RCS boration. In consideration of this, a reduced frequency and reduced scope of testing of these pumps is adequate.

ALTERNATE TESTING:

During reactor refueling outages each of these pumps will be tested and flowrate will be verified to be adequate to serve its safety function. In conjunction with these tests pump vibration will be measured as practical considering the insulation encapsulation.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-13

UNITS: 1 and 2

COMPONENTS: Service Water Pumps, P-032 A through F

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump inlet pressure shall be measured before starting a pump and during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

The pumps listed above are vertical line shaft pumps submerged in the intake structure with no practical means of measuring pump inlet pressure. The inlet pressure, however, can be determined by calculation using, as input, the measured height of water above the pump inlet as measured at the intake.

During each inservice test, the water level in the intake pit remains relatively constant, thus only one measurement of level and the associated suction pressure calculation need be performed.

ALTERNATE TESTING:

During testing of these pumps, one value of inlet pressure will be calculated based on water level at the intake structure.

APPENDIX C  
FLUID PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-14

UNITS: 1 and 2

COMPONENTS: CVCS Charging Pumps, P-002 A through C

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1.  
(IWP-3300)

BASIS FOR RELIEF:

The CVCS configuration is such that there is no installed instrumentation provided for measuring charging pump suction or differential pressures. Installation of temporary instrumentation is burdensome and there is little value in measuring these parameters.

The Charging Pumps are multiple plunger, positive-displacement reciprocating pumps where the pump discharge pressure is purely a function of pump design and is independent of suction pressure. This is reflected in ASME/ANSI OMa-1987, Operation and Maintenance Of Nuclear Power Plants, Part 6 (Tables 2 and 3b) where this new standard requires measurement and evaluation of pump discharge pressure as opposed to differential pressure. Further, suction pressure measurements are not required.

ALTERNATE TESTING:

During inservice testing of the Charging Pumps, suction and differential pressures will not be measured nor recorded. In lieu of this, pump discharge pressure will be measured and evaluated per IWP-3200 and IWP-6000.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-15

UNITS: 1 and 2

COMPONENTS: Cable Spreading Room Chilled Water Pumps, P-111 A&B Control Room Chilled Water Pumps,  
P-112 A&B

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1.  
(IWP-3300)

BASIS FOR RELIEF:

The chilled water system configuration is such that there is no installed instrumentation provided for measuring flowrate, however, the installation does provide for the capability of operation under a constant (fixed) resistance mode such that pump can be monitored and evaluated from pump differential pressure.

ALTERNATE TESTING:

During inservice testing of these chilled water pumps, the pumps will be operated in a mode such that the system resistance is fixed and repeatable. During these tests, pump differential pressure will be measured and evaluated in accordance with IWP-3210.



APPENDIX C  
PIJMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-16

UNITS: 1 and 2

COMPONENTS: All pumps in the program for which differential pressure is determined.

SECTION XI REQUIREMENT: Differential pressure is a measured parameter (IWP-3100, 3110)

BASIS FOR RELIEF:

Pumps are not equipped with instruments which directly provide a value for differential pressure.

ALTERNATE TESTING:

Differential pressure will be a calculated value based on the values of suction and discharge pressure.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-17

UNITS: 1 and 2

COMPONENTS: Safety injection pumps, P-015A&B  
Residual Heat Removal Pumps, P-010A&B

SECTION XI REQUIREMENTS:

Each pump shall be run at least five minutes under conditions as stable as the system permits. At the end of this time at least one measurement or observation of each of the quantities specified shall be made and recorded (IWP-3500).

BASIS FOR RELIEF:

When performing the three data point fully instrumented, significant flowrate test at refueling shutdown conditions, the pumps use the RWST as a suction source and deliver to the refueling cavity. The RWST does not contain a sufficient amount of fluid to allow each pump to run at the reference point for five minutes plus get performance data at two other points.

The overall run time for the complete test of each pump (three or more data points) does exceed five minutes. When performing periodic noninstrumented recirc line testing, the pump will be operated for at least five minutes.

ALTERNATE TESTING:

When performing three data point pump curve testing, which includes reference point data, an overall run time of five minutes will be met. Pump operation during periodic recirc line testing will be at least five minutes in duration.



APPENDIX C  
PUMP PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. PRR-18

UNITS: 1 and 2

COMPONENTS: Auxiliary Feedwater Pumps, P-029 (2 pumps) and P-038A&E

SECTION XI REQUIREMENT:

Each pump shall be run at least five minutes under conditions as stable as the system permits. At the end of this time, at least one measurement or observation of each of the quantities specified shall be made and recorded (IWP-3500).

BASIS FOR RELIEF:

During cold shutdown periods when operation of the auxiliary feedwater pumps pumping to a steam generator is possible without the potential of thermal shock, inservice testing will be performed such that all required pump parameters will be measured and recorded at three (3) points along the pump curve.

At this time, however, there is very little decay heat remaining in the RCS system. Sustained operation of auxiliary feedwater at substantial flowrates causes significant pressure decreases in the reactor coolant system which challenge reactor coolant pump operation limits and cause reactor coolant level decreases due to temperature-induced shrink.

ALTERNATE TESTING:

When performing three data point pump curve testing, which includes reference point data, an overall run time of five minutes will be met. Pump operation during periodic recirc line testing will be at least five minutes in duration.



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

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APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

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LEGEND

|       |  |   |
|-------|--|---|
| VALVE | The plant alpha-numerical designator for the subject valve.                      |   |
| CORD  | The coordinate location of the valve on the designated drawing.                  |   |
| CLASS | The ISI classification of the valve as per the respective ISI boundary drawings. |   |
| CAT   | The valve category per Paragraph IWW-2200.                                       |   |
| SIZE  | The valve's nominal size in inches.  |   |
| TYPE  | The valve type   |   |
|       | AP   | Pneumatic Pilot   |
|       | BA   | Ball  |
|       | BTF  | Butterfly   |
|       | CK   | Check   |
|       | DI   | Diaphragm   |
|       | GA   | Gate  |
|       | GL   | Globe   |
|       | SCK  | Stop/Check  |
|       | SRV  | Safety/Relief   |
|       | NE   | Needle (throttle)   |
| ACT   | The valve actuator type as follows:  |   |
|       | AO   | Air-operated  |
|       | HO   | Hydraulic-operated  |
|       | MA   | Manual valve  |
|       | MO   | Electric motor-operated   |
|       | SA   | Self-actuated   |
|       | SO   | Solenoid-operated   |
| POS   | Designates the normal position of the valve during plant operation at power.     |   |
| REQMT | Identifies the test requirements for valve as follows:                           |   |
|       | BT-C   | Exercise to closed position. For power-operated valves, stroke times will be measured unless excluded by an associated relief request.                                      |
|       | BT-O   | Exercise to open position. For power-operated valves, stroke times will be measured unless excluded by an associated relief request.  |
|       | BT-EE  | Exercise valve to verify proper operation and stroking with no stroke time measurements. Requires observation of system parameters or local observation of valve operation. |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

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|       |  |
|-------|--|
| BT-PV | Exercise of pneumatic pilot valve. Proper operation of the associated main valve verifies operability.   |
| CV-C  | Exercise check valve to the closed position.   |
| CV-O  | Exercise check valve to the full-open position.  |
| CV-PO | Partial-stroke exercise check valve in the open direction.   |
| CV-PC | Partial-stroke exercise check valve in the close direction.  |
| FST   | Fail safe test.  |
| INSP  | Disassembly and inspection of check valves.  |
| PIT   | Position indication verification per IWW-3300.   |
| RVT   | Safety/Relief valve setpoint test per ASME-OMA-1.  |
| SLT-1 | Seat leakrate test per 10 CFH 50, App. J.  |
| SLT-2 | Seat leakrate test for pressure isolation valves per Technical Specification 15.3.16.  |
| SLT-3 | Seat leakrate test for pneumatic check valves to verify capability of maintaining accumulator gas inventory following loss of supply system pressure.  |
| SLT-4 | Leak testing of safety injection accumulator check valves.   |
| SLT-5 | Seat leakrate test to identify gross leakage. Specific leakage rates will not be measured but leakage will be determined and evaluated with respect to system operability and its capability to perform its safety function. |
| SLT-6 | Seat leakrate test to identify gross leakage. Specific leakage rates will be measured and evaluated with respect to system operability and its capability to perform its safety function.                                    |

TEST FREQ      The required test interval abbreviations are defined as follows:

|      |   |
|------|---|
| RR   | Each reactor refueling outage (cycle)                     |
| CS   | Cold shutdown (per Technical Specifications)              |
| E-CS | Cold shutdown with Event V testing required               |
| QR   | Quarterly (during plant operation)                        |
| 1Y   | Once per calendar year                                    |
| 2Y   | Every 2 years   |
| 5Y   | Every 5 years   |
| 10Y  | Every 10 years  |
| SR   | Prior to placing a system or component in operable status |
| SP   | Other (see applicable request for relief)                 |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

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REMARKS

Applicable requests for relief from code requirements (see Appendix F) are noted in the REMARKS column adjacent to the associated test requirement and designated VRR-XX.

Applicable notes are included in the REMARKS column and are designated NOTE-XX. A list of notes is attached as the last page of the appendix.

Cold shutdown testing justifications are provided in Appendix G. Each explanation is identified by a reference number (CSJ-XX) that appears in the respective REMARKS column adjacent to the pertinent test requirements.



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Auxiliary Feedwater  
DRAWING NO.: M-217

| VALVE    | CORD | FUNCTION       | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS        |
|----------|------|----------------|-------|-----|------|------|-----|-----|-----------------------|----------------|----------------|
| AF-00026 | C4   | 1P-29 Suction  | 3     | B   | 6    | GA   | MA  | O   | BT-C                  | QR             |                |
| AF-00039 | E4   | 1P-38A Suction | 3     | B   | 4    | GA   | MA  | O   | BT-C                  | QR             |                |
| AF-00052 | F4   | 1P-38B Suction | 3     | B   | 4    | GA   | MA  | O   | BT-C                  | QR             |                |
| AF-00100 | B9   | AFW to 1A S/G  | 2     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-1          |
| AF-00101 | D9   | AFW to 1B S/G  | 2     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-1          |
| AF-00102 | B8   | AFW to 1A S/G  | 2     | A/C | 3    | CK   | SA  | A/C | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00104 | D8   | AFW to 1B S/G  | 2     | A/C | 3    | CK   | SA  | A/C | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00106 | B8   | AFW to 1A S/G  | 2     | A/C | 3    | CK   | SA  | A/C | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00107 | D8   | AFW to 1B S/G  | 2     | A/C | 3    | CK   | SA  | A/C | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00108 | C7   | 1P-29 Disch Ck | 3     | C   | 4    | CK   | SA  | C   | CV-O                  | CS             | CSJ-2          |
| AF-00109 | D6   | P-38A Disch Ck | 3     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-2          |
| AF-00110 | F8   | P-38B Disch Ck | 3     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-2          |
| AF-00111 | C5   | 1P-29 Suct Ck  | 3     | C   | 6    | CK   | SA  | C   | CV-PO<br>CV-O         | QR<br>CS       | CSJ-3          |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Auxiliary Feedwater  
DRAWING NO.: M-217

| VALVE    | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT              | FREQ           | REMARKS                 |
|----------|------|----------------------|-------|-----|------|------|-----|-----|--------------------|----------------|-------------------------|
| AF-00112 | E5   | P-38A Suc. Ck        | 3     | C   | 4    | CK   | SA  | C   | CV-PO<br>CV-O      | QR<br>CS       | CSJ-3                   |
| AF-00113 | F5   | P-38B Suct. Ck       | 3     | C   | 4    | CK   | SA  | C   | CV-PO<br>CV-O      | QR<br>CS       | CSJ-3                   |
| AF-04000 | C8   | 1B S/G AFW Isol      | 3     | B   | 3    | GL   | MO  | C   | BT-C<br>PIT        | QR<br>2Y       |                         |
| AF-04001 | B8   | 1A S/G AFW Isol      | 3     | B   | 3    | GL   | MO  | C   | BT-C<br>PIT        | QR<br>2Y       |                         |
| AF-04002 | C6   | 1P-29 Mini-flow      | 3     | B   | 1    | GA   | AO  | O   | BT-C<br>FST<br>PIT | CS<br>CS<br>2Y | VRR-28,CSJ-31<br>CSJ-31 |
| AF-04006 | D5   | 1P-29 Ser Wtr<br>Sup | 3     | B   | 6    | GA   | MO  | O   | BT-O<br>PIT        | QR<br>2Y       |                         |
| AF-04007 | D6   | P-38A Mini-flow      | 3     | B   | 1    | GA   | AO  | O   | BT-C<br>FST<br>PIT | CS<br>CS<br>2Y | VRR-28,CSJ-31<br>CSJ-31 |
| AF-04009 | E5   | P-38A Ser Wtr<br>Sup | 3     | B   | 4    | GA   | MO  | O   | BT-O<br>PIT        | QR<br>2Y       |                         |
| AF-04012 | E6   | P-38A Press Con      | 3     | B   | 3    | GA   | AO  | O   | BT-O<br>FST<br>PIT | QR<br>QR<br>2Y |                         |
| AF-04014 | E6   | P-38B Mini-flow      | 3     | B   | 1    | GA   | AO  | O   | BT-C<br>FST<br>PIT | CS<br>CS<br>2Y | VRR-28,CSJ-31<br>CSJ-31 |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Auxiliary Feedwater  
DRAWING NO.: M-217

| VALVE    | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS |
|----------|------|-----------------------|-------|-----|------|------|-----|-----|---------------------|----------------|---------|
| AF-04016 | F5   | P-38B Ser Wtr<br>Sup  | 3     | B   | 4    | GA   | MO  | O   | BT-O<br>PIT         | QR<br>2Y       |         |
| AF-04019 | F6   | P-38B Press Con       | 3     | B   | 3    | GA   | AO  | O   | BT-O<br>FST<br>PIT  | QR<br>QR<br>2Y |         |
| AF-04021 | E7   | AFW to 1B S/G         | 3     | B   | 3    | GA   | MO  | U   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |         |
| AF-04023 | D8   | AFW to 1A S/G         | 3     | B   | 3    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |         |
| AF-04026 | C6   | 1P-029 Suction<br>Rel | 3     | C   | 1    | SRV  | SA  | C   | RVT                 | 10Y            |         |
| AF-04027 | F6   | P-038B Suction<br>Rel | 3     | C   | 1    | SRV  | SA  | C   | RVT                 | 10Y            |         |
| AF-04028 | E6   | P-038A Suction<br>Rel | 3     | C   | 1    | SRV  | SA  | C   | RVT                 | 10Y            |         |





APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Aux Steam, Heating Steam, Chilled and Hot Water  
DRAWING NO.: M-214, Sheet 1

| VALVE    | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS        |
|----------|------|-------------------|-------|-----|------|------|-----|-----|-------|------|----------------|
| HV-00632 | D7   | Aux Strm to Cont  | 2     | A   | 3    | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23 Passive |
| HV-00633 | A7   | Aux Strm Cond Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23 Passive |
| HV-00808 | B7   | Aux Strm Cond Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23 Passive |
| HV-00809 | A7   | Aux Strm Cond Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23 Passive |
| HV-00819 | C7   | Aux Steam to Cont | 2     | A   | 3    | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23 Passive |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Aux Steam Heating Steam, Chilled and Hot Water

DRAWING NO.: M-214, Sheet 2

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                          | FREQ                 | REMARKS              |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|--------------------------------|----------------------|----------------------|
| HV-00898A | C8   | Pump P-112A Disc<br>Ck | NC    | A/C | 3    | CK   | SA  | O   | CV-PO<br>CV-C<br>SLT-5<br>INSP | QR<br>QR<br>2Y<br>SP | VRR-31<br><br>VRR-31 |
| HV-00900A | B8   | Pump P-112B Disc<br>Ck | NC    | A/C | 3    | CK   | SA  | O   | CV-PO<br>CV-C<br>SLT-5<br>INSP | QR<br>QR<br>2Y<br>SP | VRR-31<br><br>VRR-31 |
| HV-00914A | B8   | Pump P-111A Disc<br>Ck | NC    | A/C | 3    | CK   | SA  | O   | CV-PO<br>CV-C<br>SLT-5<br>INSP | QR<br>QR<br>2Y<br>SP | VRR-31<br><br>VRR-31 |
| HV-00916A | A8   | Pump P-111B Disc<br>Ck | NC    | A/C | 3    | CK   | SA  | O   | CV-PO<br>CV-C<br>SLT-5<br>INSP | QR<br>QR<br>2Y<br>SP | VRR-31<br><br>VRR-31 |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 684J741

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                | FREQ           | REMARKS |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|----------------------|----------------|---------|
| CV-00112B | B10  | RWST to Chg Pump   | 2     | B   | 4    | GA   | MO  | C   | BT-O<br>PIT          | QR<br>2Y       |         |
| CV-00112C | C10  | VCT to Chg Pump    | 2     | B   | 4    | GA   | MO  | O   | BT-C<br>PIT          | CS<br>2Y       | CSJ-4   |
| CV-00142  | C12  | Charging Flow Cont | 2     | B   | 3    | GL   | AO  | O   | BT-O<br>FST<br>PIT   | CS<br>CS<br>2Y | CSJ-5   |
| CV-00283A | B12  | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | RVT                  | 10Y            |         |
| CV-00283B | B12  | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | RVT                  | 10Y            |         |
| CV-00283C | A12  | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | PJT                  | 10Y            |         |
| CV-00295  | C14  | Charging Hdr Ck    | 1     | C   | 3    | CK   | SA  | O   | CV-O                 | QR             |         |
| CV-00300A | A14  | RCP Seal Inj Thrtl | 2     | A   | 1    | NE   | MA  | T   | BT-C<br>SLT-1        | RR<br>2Y       | VRR-19  |
| CV-00300B | A15  | RCP Seal Inj Thrtl | 2     | A   | 1    | NE   | MA  | T   | BT-C<br>SLT-1        | RR<br>2Y       | VRR-19  |
| CV-00304C | A14  | RCP Seal Wtr Sup   | 1     | A/C | 2    | CK   | SA  | O   | CV-C<br>SLT-1        | RR<br>2Y       | VRR-12  |
| CV-00304D | A15  | RCP Seal Wtr Sup   | 1     | A/C | 2    | CK   | SA  | O   | CV-C<br>SLT-1        | RR<br>2Y       | VRR-12  |
| CV-00313  | C12  | RCP Seal Wtr Ret   | 2     | A   | 3    | GA   | MO  | O   | BT-C<br>PIT<br>SLT-1 | CS<br>2Y<br>2Y | CSJ-6   |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 684J741

| VALVE     | CORD | FUNCTION                  | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                          | FREQ                 | REMARKS           |
|-----------|------|---------------------------|-------|-----|------|------|-----|-----|--------------------------------|----------------------|-------------------|
| CV-00313A | C13  | RCP Seal Wtr Ret          | 2     | A   | 3    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1    | CS<br>CS<br>2Y<br>2Y | CSJ-6<br>CSJ-6    |
| CV-00323A | A12  | Aux Charging Isol         | 2     | A   | 2    | GL   | MA  | C   | SLT-1                          | 2Y                   | Passive           |
| CV-00323B | C12  | Chg HCV Bypass            | 2     | A   | 2    | GL   | MA  | C   | SLT-1                          | 2Y                   | VRR-23<br>Passive |
| CV-00333A | A6   | BA Transfer Pump<br>Disch | 2     | A/C | 2    | CK   | SA  | C   | CV-PO<br>CV-O<br>CV-C<br>SLT-5 | QR<br>RR<br>QR<br>2Y | VRR-26<br>VRR-25  |
| CV-00333B | A6   | BA Transfer Pump<br>Disch | 2     | A/C | 2    | CK   | SA  | C   | CV-PO<br>CV-O<br>CV-C<br>SLT-5 | QR<br>RR<br>QR<br>2Y | VRR-26<br>VRR-26  |
| CV-00350  | A9   | Emerg Boration            | 2     | B   | 2    | GA   | MO  | C   | BT-O<br>PIT                    | QR<br>2Y             |                   |
| CV-00351  | A9   | Emerg Boration Ck         | 2     | C   | 2    | CK   | SA  | C   | CV-O                           | RR                   | VRR-24            |
| CV-00357  | B10  | RWST to Chg Pump          | 2     | C   | 4    | CK   | SA  | C   | CV-O                           | QR                   |                   |
| CV-00370  | C13  | Charging Hdr Ck           | 2     | A/C | 3    | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-1          | QR<br>RR<br>RR       | VRR-13            |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 684J741

| VALVE     | CORD | FUNCTION         | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS         |
|-----------|------|------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-----------------|
| CV-00371  | D13  | RCS Letdown Iso  | 2     |     | 2    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1 | CS<br>CS<br>2Y<br>2Y | CSJ-7<br>CSJ-7  |
| CV-00371A | D13  | RCS Letdown Iso  | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1 | CS<br>CS<br>2Y<br>2Y | CSJ-7<br>CSJ-7  |
| CV-00384B | C12  | Chg Line HCV Out | 2     | A   | 3    | GL   | MA  | O   | BT-C<br>SLT-1               | CS<br>2Y             | CSJ-8<br>VRR-23 |
| CV-01296  | A14  | Aux Charging Iso | 1     | A   | 2    | GL   | AO  | C   | PIT<br>SLT-1                | 2Y<br>2Y             | Passive         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E018, Sheet 1

| VALVE     | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|-----------|------|--------------------------|-------|-----|------|------|-----|-----|-------------|----------|---------|
| CC-00738A | G3   | RHR Cooling Water<br>Sup | 3     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| CC-00738B | G2   | RHR Cooling Water<br>Sup | 3     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |





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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E018, Sheet 2

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                | FREQ           | REMARKS          |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|----------------------|----------------|------------------|
| CC-00719  | G11  | Containment CCW<br>Sup | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT          | CS<br>2Y       | CSJ-9            |
| CC-00754A | F13  | RCP Clg Water Sup      | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10           |
| CC-00754B | F10  | RCP Clg Water Sup      | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10           |
| CC-00755A | E13  | RCP Clg Wtr Sup<br>Ck  | 2     | A/C | 4    | CK   | SA  | O   | CV-C<br>SLT-1        | 2Y<br>2Y       | VRR-10<br>VRR-23 |
| CC-00755B | E10  | RCP Clg Wtr Sup<br>Ck  | 2     | A/C | 4    | CK   | SA  | O   | CV-C<br>SLT-1        | 2Y<br>2Y       | VRR-10<br>VRR-23 |
| CC-00759A | F11  | RCP Clg Wtr Ret        | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10<br>VRR-23 |
| CC-00759B | F8   | RCP Clg Wtr Ret        | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10<br>VRR-23 |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E018, Sheet 2

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|------------------|
| CC-00763A | E12  | RCP Clg Wtr Ret<br>S/R  | 2     | C   | 2    | SRV  | SA  | C   | RVT                         | 10Y                  |                  |
| CC-00763B | E8   | RCP Clg Wtr Ret<br>S/R  | 2     | C   | 2    | SRV  | SA  | C   | RVT                         | 10Y                  |                  |
| CC-00767  | E7   | Ex LD HX Clg Wtr<br>Sup | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1               | RR<br>RR             | VRR-30<br>VRR-30 |
| CC-000769 | F5   | Ex LD HX Clg Wtr<br>Ret | 2     | A   | 2    | GL   | AO  | C   | BT-C<br>FST<br>PIT<br>SLT-1 | QR<br>QR<br>2Y<br>2Y |                  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Component Cooling Water

DRAWING NO.: 110E018, Sheet 3

| VALVE     | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS |
|-----------|------|--------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|---------|
| CC-00724A | I8   | CCW Pump Disch<br>Check  | 3     | A/C | 10   | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>QR |         |
| CC-00724B | H8   | CCW Pump Disch<br>Check  | 3     | A/C | 10   | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>QR |         |
| CC-00773  | I11  | CCW Normal<br>Makeup     | 3     | B   | 2    | GL   | MA  | C   | SLT-6                 | 2Y             | Passive |
| CC-00779  | J11  | CCW Surge Tank<br>Relief | 3     | C   | 3    | SRV  | SA  | C   | RVT                   | 10Y            |         |
| CC-00779A | J11  | CCW Surge Tk Vac<br>Bkr  | 3     | C   | 1    | CK   | SA  | C   | CV-O<br>CV-C          | QR<br>QR       |         |
| CC-00815  | I11  | CCW Emergency<br>Makeup  | 3     | B   | 2    | GL   | MO  | C   | SLT-6<br>PIT          | 2Y<br>2Y       | Passive |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Component Cooling Water  
DRAWING NO.: PBM-230

| VALVE     | CORD | FUNCTION                    | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|-----------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| CCW-LW-63 | H7   | CCW Supply to<br>Radwaste   | 3     | A   | 6    | BTF  | AO  | O   | BT-C<br>FST<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| CCW-LW-64 | A7   | CCW Return from<br>Radwaste | 3     | A   | 6    | BTF  | AO  | O   | BT-C<br>FST<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Containment Spray  
DRAWING NO.: M-110E017, Sheet 3

| VALVE     | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT              | FREQ           | REMARKS          |
|-----------|------|--------------------------|-------|-----|------|------|-----|-----|--------------------|----------------|------------------|
| SI-00836A | F7   | NaOH Supply              | 2     | B   | 2    | GL   | AO  | C   | BT-O<br>FST<br>PIT | CS<br>CS<br>2Y | CSJ-11<br>CSJ-11 |
| SI-00836B | E7   | NaOH Supply              | 2     | B   | 2    | GL   | AO  | C   | BT-O<br>FST<br>PIT | CS<br>CS<br>2Y | CSJ-11<br>CSJ-11 |
| SI-00840A | G5   | Spr Add Tank Vac<br>Bkr  | 2     | C   | .75  | SRV  | SA  | C   | RVT                | 10Y            |                  |
| SI-00840B | G5   | Spr Add Tank Vac<br>Bkr  | 2     | C   | .75  | SRV  | SA  | C   | RVT                | 10Y            |                  |
| SI-00847A | H8   | Spray Add Educt<br>Check | 2     | C   | 2    | CK   | SA  | C   | CV-O               | QR             |                  |
| SI-00847B | D8   | Spray Add Educt<br>Check | 2     | C   | 2    | CK   | SA  | C   | CV-O               | QR             |                  |
| SI-00858A | I3   | RWST to CS Pump<br>P14A  | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>INSP      | QR<br>SP       | VRR-8<br>VRR-8   |
| SI-00858B | C3   | RWST to CS Pump<br>P14B  | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>INSP      | QR<br>SP       | VRR-8<br>VRR-8   |
| SI-00860A | I10  | CS Pump 1-P14A<br>Disch  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT        | QR<br>QR       |                  |
| SI-00860B | I10  | CS Pump 1-P14A<br>Disch  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT        | QR<br>QR       |                  |
| SI-00860C | C10  | CS Pump 1-P14B<br>Disch  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT        | QR<br>QR       |                  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Containment Spray  
DRAWING NO.: M-110E017, Sheet 3

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                        | FREQ                 | REMARKS             |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|------------------------------|----------------------|---------------------|
| SI-00860D | C10  | CS Pump 1-P14B<br>Disch | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT                  | QR<br>QR             |                     |
| SI-00862A | I11  | CS Pump 1-P14A<br>Disch | 2     | A/C | 6    | CK   | SA  | C   | INSP<br>SLT-1                | SP<br>RR             | VRR-9<br>VRR-23, 29 |
| SI-00862B | C11  | CS Pump 1-P14B<br>Disch | 2     | A/C | 6    | CK   | SA  | C   | INSP<br>SLT-1                | CP<br>RR             | VRP-9<br>VRR-23, 29 |
| SI-00864A | H11  | CS Pump Test<br>Recirc  | 2     | A   | .75  | GL   | MA  | C   | SLT-1                        | 2Y                   | Passive<br>VRR-23   |
| SI-00864B | C11  | CS Pump Test<br>Recirc  | 2     | A   | .75  | GL   | MA  | C   | SLT-1                        | 2Y                   | Passive<br>VRR-23   |
| SI-00870A | I3   | RWST to CS Pump<br>P14A | 2     | A   | 6    | GA   | MO  | O   | BT-O<br>BT-C<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y | Note 3<br>Note 2    |
| SI-00870B | C3   | RWST to CS Pump<br>P14B | 2     | A   | 6    | GA   | MO  | O   | BT-O<br>BT-C<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y | Note 3<br>Note 2    |
| SI-00871A | I5   | RHR to CS Pump<br>P14A  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT          | QR<br>QR<br>2Y       |                     |
| SI-00871B | C5   | RHR to CS Pump<br>P14B  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT          | QR<br>QR<br>2Y       |                     |
| SI-00872  | G6   | Spray Add Tank Saf      | 2     | C   | .75  | RV   | SA  | C   | RVT                          | 10Y                  |                     |





APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Deionized/Reactor Makeup Water  
DRAWING NO.: PBM-231, Sheet 2

| VALVE    | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS |
|----------|------|----------------------|-------|-----|------|------|-----|-----|-------|------|---------|
| DI-00009 | C10  | DI Water Sup to Cont | 2     | A   | 2    | DI   | MA  | C   | SLT-1 | 2Y   | Passive |
| DI-00011 | C10  | DI Water Sup to Cont | 2     | A   | 2    | DI   | MA  | C   | SLT-1 | 2Y   | Passive |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Emergency Diesel Generator Air-Start  
DRAWING NO.: M-209, Sheet 12

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|---------------|----------|------------------|
| DA-00100  | E7   | Elect-Dr Comp Disc      | 3     | A/C | 1.5  | CK   | SA  | O/C | CV-C<br>SLT-3 | QR<br>2Y |                  |
| DA-00112  | E4   | Dsl/Ele Dr Comp<br>Dis  | 3     | A/C | 1.5  | CK   | SA  | O/C | CV-C<br>SLT-3 | QR<br>2Y |                  |
| DA-00125  | C5   | EDG Air Start Eq Ck     | 3     | C   | .375 | CK   | SA  | C   | CV-O<br>CV-C  | QR<br>QR | VRR-25<br>VRR-25 |
| DA-00126  | C4   | EDG Air Start Eq Ck     | 3     | C   | .375 | CK   | SA  | C   | CV-O<br>CV-C  | QR<br>QR | VRR-25<br>VRR-25 |
| DA-00200  | E7   | Elect-Dr Comp Disc      | 3     | A/C | 1.5  | CK   | SA  | O/C | CV-C<br>SLT-3 | QR<br>2Y |                  |
| DA-00212  | E4   | Dsl/Ele Dr Comp<br>Dis  | 3     | A/C | 1.5  | CK   | SA  | O/C | CV-C<br>SLT-3 | QR<br>2Y |                  |
| DA-00225  | C5   | EDG Air Start Eq Ck     | 3     | C   | .375 | CK   | SA  | C   | CV-O<br>CV-C  | QR<br>QR | VRR-25<br>VRR-25 |
| DA-00226  | C4   | EDG Air Start Eq Ck     | 3     | C   | .375 | CK   | SA  | C   | CV-O<br>CV-C  | QR<br>QR | VRR-25<br>VRR-25 |
| DA-03055A | C6   | Receiver T60A Relief    | 3     | C   | .5   | RV   | SA  | C   | RVT           | 10Y      |                  |
| DA-03055B | C6   | Receiver T60B<br>Relief | 3     | C   | .5   | RV   | SA  | C   | RVT           | 10Y      |                  |
| DA-03055C | C6   | Receiver T60C<br>Relief | 3     | C   | .5   | RV   | SA  | C   | RVT           | 10Y      |                  |
| DA-03055D | C3   | Receiver T60D<br>Relief | 3     | C   | .5   | RV   | SA  | C   | RVT           | 10Y      |                  |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Emergency Diesel Generator Air-Start  
DRAWING NO.: M-209, Sheet 12

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REOMT | FREQ | REMARKS |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|-------|------|---------|
| DA-03055E | C3   | Receiver T60E Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03055F | C3   | Receiver T60F Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056A | C6   | Receiver T61A Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056B | C6   | Receiver T61B Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056C | C6   | Receiver T61C Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056D | C3   | Receiver T61D Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056E | C3   | Receiver T61E Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03056F | C3   | Receiver T61F Relief | 3     | C   | .5   | RV   | SA  | C   | RVT   | 10Y  |         |
| DA-03057A | B4   | EDG Starting Valve   | 3     | B   | .375 | GL   | AO  | C   | BT-O  | QR   | VRR-17  |
| DA-03057B | B5   | EDG Starting Valve   | 3     | B   | .375 | GL   | AO  | C   | BT-O  | QR   | VRR-17  |
| DA-03058A | B4   | EDG Starting Valve   | 3     | B   | .375 | GL   | AO  | C   | BT-O  | QR   | VRR-17  |
| DA-03058B | B5   | EDG Starting Valve   | 3     | B   | .375 | GL   | AO  | C   | BT-O  | QR   | VRR-17  |
| DA-06316A | C5   | EDG Start Air Relay  | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06316B | C4   | EDG Start Air Relay  | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06317A | C5   | EDG Start Air Relay  | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Emergency Diesel Generator Air-Start  
DRAWING NO.: M-209, Sheet 12

| VALVE     | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REOMT | FREQ | REMARKS |
|-----------|------|--------------------------|-------|-----|------|------|-----|-----|-------|------|---------|
| DA-06317B | C4   | EDG Start Air Relay      | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06318A | B5   | EDG Start Mtr Pin<br>Eng | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06318B | B4   | EDG Start Mtr Pin<br>Eng | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06319A | B5   | EDG Start Mtr Pin<br>Eng | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |
| DA-06319B | B4   | EDG Start Mtr Pin<br>Eng | 3     | B   | .375 | GL   | SO  | C   | BT-O  | QR   | VRR-25  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Emergency Diesel Generator Fuel Oil  
DRAWING NO.: M-219

| VALVE    | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                        | FREQ                 | REMARKS |
|----------|------|------------------------|-------|-----|------|------|-----|-----|------------------------------|----------------------|---------|
| FO-00014 | C9   | DFO Pump P-70A<br>Disc | 3     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5        | QR<br>QR<br>2Y       |         |
| FO-00019 | B9   | DFO Pump P-70B<br>Disc | 3     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5        | QR<br>QR<br>2Y       |         |
| FO-00024 | D8   | DFO Pumpout Isol       | 3     | A   | 2    | GA   | MA  | C   | SLT-5                        | 2Y                   | Passive |
| FO-00034 | H2   | Fire Pump Fuel Sup     | 3     | A   | 2    | GA   | MA  | C   | SLT-5                        | 2Y                   | Passive |
| FO-03910 | C9   | DFO Pump P-70A<br>S/R  | 3     | A/C | .75  | SRV  | SA  | C   | SLT-5                        | 2Y                   | Passive |
| FO-03911 | C9   | DFO Pump P-70B<br>S/R  | 3     | A/C | .75  | SPV  | SA  | C   | SLT-5                        | 2Y                   | Passive |
| FO-03922 | H4   | Boiler Day Tk Inlet    | 3     | A   | 1    | GA   | AO  | C   | BT-C<br>FST<br>SLT-5<br>PIT  | QR<br>QR<br>2Y<br>2Y |         |
| FO-03930 | G3   | EDG Day Tk T31A<br>In  | 3     | A   | 1    | GA   | MO  | C   | BT-C<br>BT-O<br>SLT-5<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| FO-03931 | G2   | EDG Day Tk T31B<br>In  | 3     | A   | 1    | GA   | MO  | C   | BT-C<br>BT-O<br>SLT-5<br>PIT | QR<br>QR<br>QR<br>2Y |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Emergency Diesel Generator Fuel Oil  
DRAWING NO.: M-219

| VALVE    | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT          | FREQ     | REMARKS |
|----------|------|------------------------|-------|-----|------|------|-----|-----|----------------|----------|---------|
| FO-03940 | D9   | DFO Pump Press<br>Cont | 3     | A/C | 1    | GL   | SA  | C   | BT-EE<br>SLT-5 | QR<br>2Y | VRR-33  |
| FO-03941 | C9   | DFO Pump Press<br>Cont | 3     | A/C | 1    | GL   | SA  | C   | BT-EE<br>SLT-5 | QR<br>2Y | VRR-33  |





APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-144, Sheet 1

| VALVE    | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS     |
|----------|------|----------------------|-------|-----|------|------|-----|-----|-------|------|-------------|
| SW-02976 | C6   | Spray PP Room<br>T/C | 3     | B   | 2    | GL   | SO  | C   | FST   | QR   | M-2207 Sh 1 |
| SW-02977 | B7   | RHR PP Room<br>T/C   | 3     | B   | 2    | GL   | AO  | O   | FST   | QR   | M-207 Sh 1  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-144, Sheet 2

| VALVE       | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS |
|-------------|------|--------------------------|-------|-----|------|------|-----|-----|-------|------|---------|
| VNCR-04639  | D7   | Control Room T/C         | NC    | B   | 3    | GL   | AO  | O   | FST   | QR   |         |
| VNCSR-04640 | H7   | Cable Spread Room<br>T/C | NC    | B   | 2    | GL   | AO  | O   | FST   | QR   |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-215, Sheet 1

| VALVE       | CORD | FUNCTION            | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS                        |
|-------------|------|---------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|--------------------------------|
| VNPSE-03212 | H3   | Cont. Purge Exhaust | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03213 | H4   | Cont. Purge Exhaust | 2     | A   | 36   | BT-F | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03244 | F3   | Cont. Purge Supply  | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03245 | F4   | Cont. Purge Supply  | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-215, Sheet 2

| VALVE      | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|------------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| RM-03200AA | G3   | Cont Atmos Samp<br>Retr | 2     | A/C | 1    | CK   | SA  | O   | CV-C<br>SLT-1               | RR<br>RR             | VRR-16  |
| RM-03200A  | F3   | Cont Atmos Samp<br>Retr | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RM-03200B  | F8   | Cont Atmos Samp<br>Sup  | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RM-03200C  | G8   | Cont Atmos Samp<br>Sup  | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 5

| VALVE    | CORD | FUNCTION           | CLAS<br>S | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS |
|----------|------|--------------------|-----------|-----|------|------|-----|-----|-----------------------|----------------|---------|
| IA-00644 | B5   | Purge Vlv 3244 Sup | NC        | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | QR<br>QR<br>2Y | VRR-14  |
| IA-00645 | C5   | Purge Vlv 3212 Sup | NC        | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | QR<br>QR<br>2Y | VRR-14  |



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SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 7

| VALVE    | CORD | FUNCTION         | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS           |
|----------|------|------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-------------------|
| IA-01182 | B5   | Inst Air to Cont | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1               | QR<br>2Y             | VRR-23            |
| IA-01184 | B5   | Inst Air to Cont | 2     | A   | 1    | GA   | MA  | C   | SLT-1                       | 2Y                   | VRR-23<br>Passive |
| IA-01192 | B5   | Inst Air to Cont | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1               | QR<br>2Y             |                   |
| IA-03047 | B4   | Inst Air to Cont | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |
| IA-03048 | B4   | Inst Air to Cont | 2     | A   | 2    | GA   | AO  | O   | BT C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |



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SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 11

| VALVE    | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS                              |
|----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|--------------------------------------|
| IA-01206 | G9   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-01209 | G9   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-01280 | F6   | Purge Vlv 3245 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-13<br>CSJ-13<br>VRR-14           |
| IA-01281 | E6   | Purge Vlv 3213 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-13<br>CSJ-13<br>VRR-14           |
| IA-01301 | G10  | Nit. Sup to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>Note 1           |
| IA-01302 | G10  | Nit Sup to PORV    | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>Note 1           |
| IA-01600 | G9   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |





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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 11

| VALVE    | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS                              |
|----------|------|--------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|--------------------------------------|
| IA-01506 | G9   | Inst Air to PORV         | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-06308 | G10  | PORV Nit Sup S/R         | NC    | C   |      | SRV  | SA  | C   | RVT                   | 10Y            | Note 1                               |
| IA-06309 | G10  | PORV Nit Sup S/R         | NC    | C   |      | SRV  | SA  | C   | RVT                   | 10Y            | Note 1                               |
| IA-06310 | F10  | PORV 430 Nit Sup<br>Reg  | NC    | C   |      | GL   | SA  | O/C | BT-EE                 | CS             | CSJ-28                               |
| IA-06311 | F10  | PORV 431C Nit Sup<br>Reg | NC    | C   |      | GL   | SA  | O/C | BT-EE                 | CS             | CSJ-28                               |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Main Feedwater  
DRAWING NO.: M-202, Sheet 2

| VALVE      | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS          |
|------------|------|-------------------|-------|-----|------|------|-----|-----|---------------|----------|------------------|
| CS-00466AA | C9   | S/G 1A Feedwtr Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00466BB | C9   | S/G 1A Feedwtr Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00476AA | G9   | S/G 1B Feedwtr Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00476BB | G9   | S/G 1B Feedwtr ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Main and Reheat Steam

DRAWING NO.: M0-201, Sheet 1

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|---------------------|----------------|------------------|
| MS-02005  | G8   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02006  | G8   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02007  | G7   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02008  | G7   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02010  | D8   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02011  | D8   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02012  | D7   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02013  | D7   | Main Steam Safety       | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02015  | H7   | MS Atmos Strm<br>Dmp    | 2     | B   | 6    | GL   | AO  | C   | BT-C<br>BT-O<br>PIT | Q<br>Q<br>2Y   |                  |
| MS-02016  | E7   | MS Atmos Strm<br>Dmp    | 2     | B   | 6    | GL   | AO  | C   | BT-C<br>BT-O<br>PIT | Q<br>Q<br>2Y   |                  |
| MS-02017  | G7   | Main Steam<br>Isolation | 2     | B   | 30   | SCK  | AO  | O   | BT-C<br>FST<br>PIT  | CS<br>CS<br>2Y | CSJ-15<br>CSJ-15 |
| MS-02017A | G4   | Main Steam<br>NonReturn | 2     | C   | 30   | CK   | SA  | O   | CV-C                | CS             | CSJ-16           |
| MS-02017C | H6   | MSIV 2017 Air Pilot     | NC    | B   | 1    | AP   | SC  | C   | BT-PV               | CS             | CSJ-17           |
| MS-02017D | H5   | MSIV 2017 Air Pilot     | NC    | B   | 1    | AP   | SO  | C   | BT-PV               | CS             | CSJ-17           |

APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Main and Reheat Steam  
DRAWING NO.: M0-201, Sheet 1

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT   | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|------------------------|-------|-----|------|------|-------|-----|-----------------------------|----------------------|------------------|
| MS-02018  | D9   | Main Steam Isolation   | 2     | B   | 30   | SCK  | AO    | O   | BT-C<br>FST<br>PIT          | CS<br>CS<br>2Y       | CSJ-15<br>CSJ-15 |
| MS-02018A | D4   | Main Steam Nonreturn   | 2     | C   | 30   | CK   | SA    | O   | CV-C                        | CS                   | CSJ-16           |
| MS-02018C | E6   | MSIV 2018 Air Pilot    | NC    | B   | 1    | AP   | SO    | C   | BT-PV                       | CS                   | CSJ-17           |
| MS-02018D | E5   | MSIV 2018 Air Pilot    | N     | B   | 1    | AP   | SO    | C   | BT-PV                       | CS                   | CSJ-17           |
| MS-02019  | F6   | AFW Steam Supply       | 2     | B/C | 3    | SCK  | MO    | S   | BT-O<br>CV-O<br>BT-C<br>PIT | QR<br>QR<br>QR<br>2Y |                  |
| MS-02020  | E6   | AFW Steam Supply       | 2     | B/C | 3    | SCK  | MO    | S   | BT-O<br>CV-O<br>BT-C<br>PIT | QR<br>QR<br>QR<br>2Y |                  |
| MS-02082  | B5   | Main Steam to AFW Pump | 2     | B   | 3    | GL   | SA/MA | O   | BT-C<br>BT-O<br>PIT         | QR<br>QR<br>2Y       | VRR-1            |
| MS-02083  | C9   | S/G Sample Isol        | 2     | A   | .75  | DI   | AO    | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                  |
| MS-02084  | F9   | S/G Sample Isol        | 2     | A   | .75  | DI   | AO    | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                  |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Main and Reheat Steam  
DRAWING NO.: M0-201, Sheet 1

| VALVE    | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|----------|------|--------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| MS-02090 | C8   | SW to AFW Pump<br>P-029  | 3     | B   | 1    | GL   | SO  | O   | BT-O<br>FST                 | QR<br>QR             | VRR-20  |
| MS-05958 | B10  | S/G Blowdown Isol        | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| MS-05959 | E10  | S/G Blowdown Isol        | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RS-SA-09 | F7   | Radwaste Steam<br>Supply | 2     | B   | 3    | GA   | AO  | O   | BT-C<br>FST<br>PIT          | QR<br>QR<br>2Y       |         |



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APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Post-Accident Containment Vent/Monitoring  
DRAWING NO.: M-224

| VALVE   | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS           |
|---------|------|--------------------------|-------|-----|------|------|-----|-----|---------------|----------|-------------------|
| H2-V-04 | D6   | Post-Acc Purge Disch     | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-05 | D6   | Post-Acc Purge Disch     | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-06 | D6   | Post-Acc Purge Drain     | 2     | A   | .75  | GA   | MA  | C   | SLT-1         | 2Y       | VRR-23<br>Passive |
| H2-V-07 | D6   | Post-Acc Purge Drain     | 2     | A   | .75  | GA   | MA  | C   | SLT-1         | 2Y       | VRR-23<br>Passive |
| H2-V-08 | E6   | Post-Acc Atmos. Samp     | 2     | A   | .75  | DI   | MA  | C   | SLT-1         | 2Y       | Passive           |
| H2-V-09 | E6   | Post-Acc Atmos. Samp     | 2     | A   | .75  | DI   | MA  | C   | SLT-1         | 2Y       | Passive           |
| H2-V-12 | D6   | Post-Acc Service Air Sup | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-13 | D6   | Post-Acc Service Air Sup | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-19 | D7   | Post-Acc Alt Vent        | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-20 | D7   | Post-Acc Alt Vent        | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |
| H2-V-22 | D7   | Post-Acc Sup Drain       | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23  |





APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Post-Accident Containment Vent/Monitoring  
DRAWING NO.: M-224

| VALVE   | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS          |
|---------|------|--------------------|-------|-----|------|------|-----|-----|---------------|----------|------------------|
| H2-V-23 | D7   | Post Acc Sup Drain | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRP 23 |





APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Primary Sampling  
DRAWING NO.: 541F092

| VALVE     | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|-------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| SC-00951  | G12  | Press Strm Sample | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00953  | F12  | Press Liq Sample  | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00955  | E12  | Hot Leg Sample    | 1     | A   | .375 | GL   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00959  | E12  | RHR Sample        | 2     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00966A | G10  | Press Strm Sample | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00966B | F10  | Press Liq Sample  | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Primary Sampling  
DRAWING NO.: 541F032

| VALVE     | CORD | FUNCTION       | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|----------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| SC-00966C | E10  | Hot Leg Sample | 1     | A   | .375 | GL   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F091, Sheet 1

| VALVE     | COPD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                      | FREC                 | REMARKS                    |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|----------------------------|----------------------|----------------------------|
| RC-00430  | H5   | Power-Operated Rel | 1     | B   | 2    | GL   | AO  | C   | BT-C<br>BT-O<br>FST<br>PIT | CS<br>CS<br>CS<br>2Y | CSJ-18<br>CSJ-18<br>CSJ-18 |
| RC-00431C | I5   | Power-Operated Rel | 1     | B   | 2    | GL   | AO  | C   | BT-C<br>BT-O<br>FST<br>PIT | CS<br>CS<br>CS<br>2Y | CSJ-18<br>CSJ-18<br>CSJ-18 |
| RC-00434  | I7   | Pressurizer Safety | 1     | C   | 3    | SRV  | SA  | C   | RVT                        | 5Y                   |                            |
| RC-00435  | I6   | Pressurizer Safety | 1     | C   | 3    | SRV  | SA  | C   | RVT                        | 5Y                   |                            |
| RC-00515  | I5   | PORV Block Valve   | 1     | B   | 3    | GA   | MO  | O   | BT-C<br>PIT                | QR<br>2Y             | Note 4                     |
| RC-00516  | H5   | PORV Block valve   | 1     | B   | 3    | GA   | MO  | O   | BT-C<br>PIT                | QR<br>2Y             | Note 4                     |

APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F091, Sheet 2

| VALVE     | CORID | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|-------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| RC-00508  | D2    | PRT Fill Line Iso  | 2     | A   | 2    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00528  | D3    | PRT Nitrogen Sup   | 2     | A/C | .75  | CK   | SA  | O/C | CV-C<br>SLT-1               | RR<br>RR             | VRR-11  |
| RC-00529  | D3    | PRT Fill Line Ck   | 2     | A/C | 2    | CK   | SA  | O/C | CV-C<br>SLT-1               | RR<br>RR             | VRR-18  |
| RC-00538  | E3    | PRT Sample         | 2     | A   | .375 | GL   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00539  | E3    | PRT Sample         | 2     | A   | .375 | GL   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00570A | F5    | RX Vessel Vent     | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00570B | F5    | RX Vessel Vent     | 1     | B   | 1    | GL   | SO  | C   | BT-C<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00575A | F5    | RX Vess/Press Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00575B | F5    | RX Vess/Press Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F091, Sheet 2

| VALVE     | CORD | FUNCTION         | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS |
|-----------|------|------------------|-------|-----|------|------|-----|-----|---------------|----------|---------|
| RC-00580A | G5   | Pressurizer Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT   | CS<br>2Y | CSJ-19  |
| RC-00580B | G5   | Pressurizer Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT   | CS<br>2Y | CSJ-19  |
| RC-00595  | D3   | PRT Nitrogen Sup | 2     | A   | .75  | DI   | MA  | O/C | BT-C<br>SLT-1 | QR<br>2Y |         |



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APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 1

| VALVE     | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                                   | FREQ                         | REMARKS                                   |
|-----------|------|-----------------------|-------|-----|------|------|-----|-----|---|------------------------------|---|
| SI-00830A | H7   | SIS Accum Relief      | 2     | C   | 1    | SRV  | SA  | C   | RVT                                     | 10Y                          |   |
| SI-00830B | D7   | SIS Accum Relief      | 2     | C   | 1    | SRV  | SA  | C   | RVT                                     | 10Y                          |   |
| SI-00834A | H7   | SIS Accum Vent        | 2     | B   | 1    | GL   | AO  | C   | BT-O<br>FST<br>PIT                      | CS<br>CS<br>2Y               | CSJ-30<br>CSJ-30                          |
| SI-00834B | D7   | SIS Accum Vent        | 2     | B   | 1    | GL   | AO  | C   | BT-O<br>FST<br>PIT                      | CS<br>CS<br>2Y               | CSJ-30<br>CSJ-30                          |
| SI-00841A | G8   | SIS Accum Disch       | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT                             | CS<br>2Y                     | CSJ-20                                    |
| SI-00841B | B7   | SIS Accum Disch       | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT                             | CS<br>2Y                     | CSJ-20                                    |
| SI-00842A | G8   | SIS Accum Disch<br>Ck | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>INSP<br>SLT-4 | E-CS<br>QR<br>RR<br>SP<br>QR | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4 |
| SI-00842B | B8   | SIS Accum Disch<br>Ck | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>INSP<br>SLT-4 | E-CS<br>QR<br>RR<br>SP<br>QR | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4 |
| SI-00845A | F8   | SIS Cold Leg Inj      | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2                   | RR<br>RR<br>2Y               | VRR-2<br>VRR-2<br>VRR-22                  |



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UNIT 1 VALVE PROGRAM TABLES

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| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS                  |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|--------------------------|
| SI-00845B | D8   | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845C | E8   | SIS Core Deluge    | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845D | F8   | SIS Core Deluge    | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845E | F8   | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845F | E8   | SIS Cold leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00846  | H3   | Accum Nit Supply   | 2     | A   | 1    | GL   | AO  | C   | BT-C<br>FST<br>PIT<br>SLT-1 | QR<br>QR<br>2Y<br>2Y |                          |
| SI-00850A | A4   | Cont Sump Hyd Isol | 2     | B   | 10   | GA   | HO  | C   | BT-O<br>PIT                 | QR<br>2Y             |                          |
| SI-00850B | B6   | Cont Sump Hyd Isol | 2     | B   | 10   | GA   | HO  | C   | BT-O<br>PIT                 | QR<br>2Y             |                          |
| SI-00852A | B7   | RHR/LH Core Deluge | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT         | CS<br>CS<br>2Y       | CSJ-21<br>CSJ-21         |





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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 1

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                                  | FREQ                           | REMARKS                                    |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|--|--------------------------------|--|
| SI-00852B | A7   | RHR/LH Core Deluge | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT                    | CS<br>CS<br>2Y                 | CSJ-21<br>CSJ-21                           |
| SI-00853A | B8   | RHR/LH Inj Check   | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |
| SI-00853B | A8   | RHR/LH Inj Check   | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |
| SI-00853C | B9   | RHR/Core Deluge    | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |
| SI-00853D | A10  | RHR/Core Deluge    | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |
| SI-00861A | B4   | RHR RX Ves Inj S/R | 2     | C   | .75  | SRV  | SA  | C   | RVT                                    | 10Y                            |  |



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UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal

DRAWING NO.: 110E017, Sheet 1

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT  | FREQ                                       | REMARKS  |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|--|--|--|
| SI-00867A | G9   | SIS Cold Leg Inj Ck  | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>CV-C<br>INSP<br>SLT-2          | E-CS<br>E-CS<br>RR<br>RR<br>SP<br>2Y       | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-22          |
| SI-00867B | B9   | SIS Cold Leg Inj Ck  | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-PO<br>CV-C<br>CV-PO<br>CV-C<br>INSP<br>SLT-2 | CS<br>E-CS<br>E-CS<br>RR<br>RR<br>SP<br>2Y | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-22 |
| SI-00875A | F6   | SIS Test Recirc Ck   | 2     | A/C | .75  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5                                    | QR<br>QR<br>2Y                             |  |
| SI-00875B | F5   | SIS Test Recirc Ck   | 2     | A/C | .75  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5                                    | QR<br>QR<br>2Y                             |  |
| SI-00878A | E8   | RX Vessel Safety Inj | 2     | B   | 2    | GL   | MO  | C   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-22<br>CSJ-22   |
| SI-00878B | D6   | SIS Loop Inj         | 2     | B   | 2    | GL   | MO  | O   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-23<br>CSJ-23   |



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SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 1

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|------------------|
| SI-00878C | E8   | RX Vessel Safety Inj | 2     | B   | 2    | GL   | MO  | C   | BT-O<br>BT-C<br>PIT         | CS<br>CS<br>2Y       | CSJ-22<br>CSJ-22 |
| SI-00878D | F8   | SIS Loop Inj         | 2     | B   | 2    | GL   | MO  | O   | BT-O<br>BT-C<br>PIT         | CS<br>CS<br>2Y       | CSJ-23<br>CSJ-23 |
| SI-00887  | E4   | Test Line Saf        | 2     | C   | .75  | SRV  | SA  | C   | RVT                         | 10Y                  |                  |
| SI-00957  | H4   | N2 Supply Vent/Rel   | 2     | A   | 1    | GL   | AO  | C   | BT-O<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-30<br>CSJ-30 |



## APPENDIX D

## UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 2

| VALVE     | CORD | FUNCTION                   | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS                 |
|-----------|------|----------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|-------------------------|
| SI-00825A | F5   | SIS Pump Suction           | 2     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00825B | F5   | SIS Pump Suction           | 2     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00826B | H7   | SIS Pump Redundant<br>Suct | 2     | B   | 8    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT   | CS<br>CS<br>2Y | CSJ-24<br>CSJ-24        |
| SI-00826C | G7   | SIS Pump Redundant<br>Suct | 2     | B   | 8    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT   | CS<br>CS<br>2Y | CSJ-24<br>CSJ-24        |
| SI-00851A | B4   | Cont Sump Isol             | 2     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00851B | B4   | Cont Sump Isol             | 2     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00854A | D3   | RHR Pump Suct Ck           | 2n    | A/C | 10   | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-6 | RR<br>RR<br>RR | VRR-6<br>VRR-6<br>VRR-6 |
| SI-00854B | C3   | RHR Pump Suct Ck           | 2     | A/C | 10   | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-6 | RR<br>RR<br>RR | VRR-6<br>VRR-6<br>VRR-6 |
| SI-00856A | D3   | RHR Pump Suct              | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT           | QR<br>2Y       |                         |
| SI-00856B | C3   | RHR Pump Suct              | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT           | QR<br>2Y       |                         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 2

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS          |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|---------------------|----------------|------------------|
| SI-00857A | E7   | RHR to SIS Pump Suct | 2     | B   | 6    | GA   | MA  | C   | BT-O                | QR             |                  |
| SI-00857B | E7   | RHR to SIS Pump Suct | 2     | B   | 6    | GA   | MA  | C   | BT-O                | QR             |                  |
| SI-00866A | F3   | SIS Pump Disch       | 2     | B   | 4    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |                  |
| SI-00866B | E3   | SIS Pump Disch       | 2     | B   | 4    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |                  |
| SI-00889A | F8   | SIS Pump Disch Ck    | 2     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-O       | QR<br>RR       | VRR-7<br>VRR-7   |
| SI-00889B | F8   | SIS Pump Disch Ck    | 2     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-O       | QR<br>RR       | VRR-7<br>VRR-7   |
| SI-00891A | E8   | SIS Pump Mini-rec Ck | 2     | C   | 2    | CK   | SA  | C   | CV-PO<br>INSP       | QR<br>SP       | VRR-27<br>VRR-27 |
| SI-00891B | E8   | SIS Pump Mini-rec Ck | 2     | C   | 2    | CK   | SA  | C   | CV-PO<br>INSP       | QR<br>SP       | VRR-27<br>VRR-27 |
| SI-00895  | E5   | SIS Pump Mini-rec Ck | 2     | C   | 2    | CK   | SA  | C   | CV-O                | QR             |                  |
| SI-00896A | F6   | SIS Pump Suction     | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT         | QR<br>2Y       |                  |
| SI-00896B | E6   | SIS Pump Suction     | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT         | QR<br>2Y       |                  |



APPENDIX D  
UNIT 6 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E017, Sheet 2

| VALVE     | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|-------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|------------------|
| SI-00897A | E2   | SIS Test Line Ret | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>SLT-5<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-25<br>CSJ-25 |
| SI-00897B | E2   | SIS Test Line Ret | 2     | A   | 2    | GL   | AC  | O   | BT-C<br>FST<br>SLT-5<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-25<br>CSJ-25 |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E018, Sheet 1

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS           |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|---------------|----------|-------------------|
| RH-00710A | E4   | RHR Pump Disch<br>Ck | 2     | C   | 8    | CK   | SA  | C   | CV-PO<br>CV-O | QR<br>CS | CSJ-26            |
| RH-00710B | B4   | RHR Pump Disch<br>Ck | 2     | C   | 8    | CK   | SA  | C   | CV-PO<br>CV-O | QR<br>CS | CSJ-26            |
| RH-00742  | H6   | RHR/RWST Isol        | 2     | A   | 8    | GA   | MA  | C   | SLT-5         | 2Y       |                   |
| RH-00742A | H6   | RHR/RWST Isol        | 2     | A   | 2    | GL   | MA  | C   | SLT-5         | 2Y       |                   |
| RH-00624  | G7   | RHR HX Outlet        | 2     | B   | 8    | BTF  | AO  | C   | PIT           | 2Y       | Note 2<br>Passive |
| RH-00625  | G7   | RHR HX Outlet        | 2     | B   | 8    | BTF  | AO  | O   | PIT           | 2Y       | Note 2<br>Passive |





APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Service Air  
DRAWING NO.: M-209, Sheet 2

| VALVE    | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS |
|----------|------|-------------------|-------|-----|------|------|-----|-----|---------------|----------|---------|
| SA-00015 | F7   | Serv Air Cont Sup | 2     | A   | 4    | GA   | MA  | C   | SLT-1         | 2Y       | Passive |
| SA-00017 | F7   | Serv Air Cont Sup | 2     | A/C | 4    | CK   | SA  | C   | CV-C<br>SLT-1 | OR<br>2Y |         |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLE J

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 1

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|------------------|
| SW-00032A | D2   | SW Pp P-032A Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00032B | D1   | SW Pp P-032B Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00032C | D1   | SW Pp P-032C Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00032D | E2   | SW Pp P-032D Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00032E | E1   | SW Pp P-032E Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00032F | E1   | SW Pp P-032F Disc<br>Ck | 3     | A/C | 16   | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |                  |
| SW-00135A | C7   | SW to AFW Pp<br>P-029   | 3     | C   | 1    | CK   | SA  | O   | CV-PO<br>INSP         | QR<br>RR       | VRR-15<br>VRR-15 |
| SW-02818  | G6   | Cable Sp Rm Clr<br>Sup  | 3     | B   | 3    | GL   | MO  | O   | BT-O<br>PIT           | QR<br>2Y       |                  |
| SW-02818A | F6   | Cable Sp Rm Clr<br>T/C  | 3     | B   | 1.5  | GL   | AO  | O   | FST                   | QR             |                  |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 1

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT              | FREQ           | REMARKS |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|--------------------|----------------|---------|
| SW-02818B | F6   | Cable Sp Rm Clr<br>T/C  | 3     | B   | 1.5  | GL   | AO  | O   | FST                | QR             |         |
| SW-02819  | D6   | Control Rm Clr Sup      | 3     | B   | 3    | GL   | MO  | O   | BT-O<br>PIT        | QR<br>2Y       |         |
| SW-02819A | C6   | Control Rm Clr T/C      | 3     | B   | 1.5  | GL   | AO  | O   | FST                | QR             |         |
| SW-02819B | D6   | Control Rm Clr T/C      | 3     | B   | 1.5  | GL   | AO  | O   | FST                | QR             |         |
| SW-02838  | C3   | G02 EDG HX Outlet       | 3     | B   | 4    | GA   | AO  | C   | BT-O<br>FST<br>PIT | QR<br>QR<br>2Y |         |
| SW-02839  | B3   | G01 EDG HX Outlet       | 3     | B   | 4    | GA   | AO  | C   | BT-O<br>FST<br>PIT | QR<br>QR<br>2Y |         |
| SW-02869  | H3   | SW Hdr (West) Isol      | 3     | B   | 14   | BTF  | MO  | O   | BT-C<br>PIT        | QR<br>2Y       |         |
| SW-02870  | B8   | SW Hdr (West) Isol      | 3     | B   | 14   | BTF  | MO  | O   | BT-C<br>PIT        | QR<br>2Y       |         |
| SW-02890  | E2   | SW Header<br>Cross-Tie  | 3     | B   | 24   | BTF  | MO  | O   | BT-C<br>PIT        | QR<br>2Y       |         |
| SW-02891  | E2   | SW Header Cross-<br>Tie | 3     | B   | 24   | BTF  | MO  | O   | BT-C<br>PIT        | QR<br>2Y       |         |
| SW-02929A | G5   | AFW Pump Rm Clr<br>T/C  | 3     | B   | 2    | GL   | AO  | O   | FST                | QR             |         |
| SW-02929B | B5   | AFW Pump Rm Clr<br>T/C  | 3     | B   | 2    | GL   | AO  | O   | FST                | QR             |         |



POINT BEACH NUCLEAR PLANT  
INSERVICE TESTING PROGRAM

INSERVICE TESTING PROGRAM  
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May 28, 1991

APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 2

| VALVE    | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|----------|------|-------------------|-------|-----|------|------|-----|-----|-------------|----------|---------|
| SW-02880 | F5   | Turb Hall Ctrs In | 3     | B   | 6    | GA   | MC  | O   | BT-C<br>PIT | CS<br>2Y | CSJ-27  |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 3

| VALVE     | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS           |
|-----------|------|--------------------------|-------|-----|------|------|-----|-----|-------------|----------|-------------------|
| SW-00012A | E7   | CCW HX-12A Outlet        | 3     | B   | 2    | GL   | AO  | O   | FST         | QR       |                   |
| SW-00012B | E6   | CCW HX-12B Outlet        | 3     | B   | 2    | GL   | AO  | O   | FST         | QR       |                   |
| SW-00012C | E5   | CCW HX-12C Outlet        | 3     | B   | 2    | GL   | AO  | O   | FST         | QR       |                   |
| SW-00012D | E5   | CCW HX-12D Outlet        | 3     | B   | 2    | GL   | AO  | O   | FST         | QR       |                   |
| SW-00307  | E5   | CCW HX-12D Outlet        | 3     | B   | 12   | GA   | MA  | C   | BT-O        | CS       | CSJ-32            |
| SW-00315  | E5   | CCW HX-12C Outlet        | 3     | B   | 12   | GA   | MA  | C   | BT-O        | CS       | CSJ-32            |
| SW-00322  | E7   | CCW HX-12A Outlet        | 3     | B   | 12   | GA   | MA  | C   | BT-O        | CS       | CSJ-32            |
| SW-00360  | E6   | CCW HX-12B Outlet        | 3     | B   | 12   | GA   | MA  | C   | BT-O        | CS       | CSJ-32            |
| SW-00396A | H6   | Battery Rm Cooler<br>Sup | 3     | C   | 2    | CK   | SA  | O   | CV-O        | QR       |                   |
| SW-00397A | H6   | Battery Rm Cooler<br>Sup | 3     | C   | 2    | CK   | SA  | O   | CV-O        | QR       |                   |
| SW-02816  | B3   | Svc Bldg HVAC Clg<br>Iso | 3     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT | QR<br>2Y |                   |
| SW-02930A | B6   | SFP Clr Sup              | 3     | B   | 8    | GA   | MO  | O   | BT-C<br>PIT | QR<br>2Y |                   |
| SW-02930B | C6   | SFP Clr Sup              | 3     | B   | 8    | GA   | MO  | O   | BT-C<br>PIT | QR<br>2Y |                   |
| SW-02977  | D5   | RHR Pump Rm Clr<br>T/C   | 3     | B   | 2    | GL   | AO  | O   | FST         | QR       | See H&V<br>System |



APPENDIX D

UN. 1 VALVE PROGRAM TABLES

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 3

| VALVE    | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT              | FREQ           | REMARKS |
|----------|------|----------------------|-------|-----|------|------|-----|-----|--------------------|----------------|---------|
| SW-LW-61 | G4   | BDE/Vent Cond In     | 3     | B   | 8    | GA   | AO  | O   | BT-C<br>FST<br>PIT | QR<br>QR<br>2Y |         |
| SW-LW-62 | G3   | BDE/Vent Cond<br>Out | 3     | B   | 8    | GA   | AO  | O   | BT-C<br>FST<br>PIT | QR<br>QR<br>2Y |         |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 4

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|-------------|----------|---------|
| SW-00015A | B4   | Cont Clr Supply Ck     | 3     | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015B | B2   | Cont Clr Supply Ck     | 3     | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015C | B4   | Cont Clr Supply Ck     | 3     | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015D | B3   | Cont Clr Supply Ck     | 3     | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-02907  | G2   | Cont Clr Emerg<br>Flow | 3     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| SW-02908  | G4   | Cont Clr Emerg<br>Flow | 3     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| SW-02959  | D5   | Cont Clr Disch S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02963  | D2   | Cont Clr Disch S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02967  | D4   | Cont Clr Disch S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02971  | D3   | Cont Clr Disch S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-04300  | D1   | Cavity Clr Ret S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-04301  | D1   | Cavity Clr Ret S/R     | 3     | C   |      | SRV  | SA  | C   | RVT         | 10Y      |         |





APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Spent Fuel Plt Cooling  
DRAWING NO.: 110E018, Sheet 4

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|---------|
| SF-00009A | F6   | SFP Pp P-12A<br>Disc Ck | 3     | A/C | 8    | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |         |
| SF-00010A | F6   | SFP Pp P-12B<br>Disc Ck | 3     | A/C | 8    | CK   | SA  | O/C | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>2Y |         |



APPENDIX D

UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Waste Disposal  
DRAWING NO.: 684J971, Sheet 1

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS           |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-------------------|
| SF-00816  | C6   | P-033 RWCP<br>Suction  | 2     | A   | 2    | DI   | MA  | C   | SLT-1                       | 2Y                   | VRR-23<br>Passive |
| WL-01003A | C6   | RCDT Pump<br>Suction   | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01003B | C6   | RCDT Pump<br>Suction   | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01698  | C6   | RCDT to -19' Sump      | 2     | A   | 2    | DI   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01721  | C6   | RCDT Pumps Suct<br>Con | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |
| WL-01723  | C6   | Cont Sump Dr           | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01728  | C6   | Cont Sump Dr           | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |



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APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

SYSTEM: Waste Disposal  
DRAWING NO.: 684J971, Sheet 1

| VALVE    | CORD | FUNCTION    | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|----------|------|-------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| WG-01786 | B5   | RCDT Vent   | 2     | A   | 1    | DI   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WF-01787 | B5   | RCDT Vent   | 2     | A   | 1    | DI   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WG-01788 | B5   | RCDT Sample | 2     | A   | .75  | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WG-01789 | B5   | RCDT Sample | 2     | A   | .75  | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



APPENDIX D  
UNIT 1 VALVE PROGRAM TABLES

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NOTES

1. These valves and their respective test requirements are included in the IST Program for information and tracking purposes only. They do not necessarily meet the requirements for inclusion per IWV-1100, but are identified for testing per NRC Generic Letter 90-06. Thus, the tests specified must not necessarily satisfy the corresponding requirements of Subsection IWV or NRC Generic Letter 89-04.
2. (11-08-90) Physical modifications are required to allow testing. Testing will commence upon completion of modifications.
3. (11-08-90) These valves fail in a position opposite of that required. Manual stroke capability will be demonstrated.
4. If a PORV is isolated in accordance with Technical Specifications, the associated block valve will be exercised at cold shutdown.



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLES

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|---|-------------|
| Auxiliary Feedwater System                      | 5           |
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| Component Cooling Water                         | 11          |
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APPENDIX E  
UNIT 2 VALVE PROGRAM TABLES

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LEGEND

|       |  |   |
|-------|--|---|
| VALVE | The plant alpha-numerical designator for the subject valve.                      |   |
| CORD  | The coordinate location of the valve on the designated drawing.                  |   |
| CLASS | The ISI classification of the valve as per the respective ISI boundary drawings. |   |
| CAT   | The valve category per Paragraph IWV-2200.                                       |   |
| SIZE  | The valve's nominal size in inches.  |   |
| TYPE  | The valve type   |   |
|       | AP   | Pneumatic Pilot   |
|       | BA   | Ball  |
|       | BTF  | Butterfly   |
|       | CK   | Check   |
|       | DI   | Diaphragm   |
|       | GA   | Gate  |
|       | GL   | Globe   |
|       | SCK  | Stop/Check  |
|       | SRV  | Safety/Relief   |
|       | NE   | Needle (throttle)   |
| ACT   | The valve actuator type as follows:  |   |
|       | AO   | Air-operated  |
|       | HO   | Hydraulic-operated  |
|       | MA   | Manual valve  |
|       | MO   | Electric motor-operated   |
|       | SA   | Self-actuated   |
|       | SO   | Solenoid-operated   |
| POS   | Designates the normal position of the valve during plant operation at power.     |   |
| REQMT | Identifies the test requirements for a valve as follows:                         |   |
|       | BT-C   | Exercise to closed position. For power-operated valves, stroke times will be measured unless excluded by an associated relief request.                                      |
|       | BT-O   | Exercise to open position. For power-operated valves, stroke times will be measured unless excluded by an associated relief request.  |
|       | BT-EE  | Exercise valve to verify proper operation and stroking with no stroke time measurements. Requires observation of system parameters or local observation of valve operation. |
|       | BT-PV  | Exercise of pneumatic pilot valve. Proper operation of the associated main valve verifies operability.  |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLES

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|       |   |
|-------|---|
| CV-C  | Exercise check valve to the closed position.  |
| CV-O  | Exercise check valve to the full-open position.   |
| CV-PO | Partial-stroke exercise check valve in the open position.   |
| CV-PC | Partial-stroke exercise check valve in the close direction.   |
| FST   | Fail safe test  |
| INSP  | Disassembly and inspection of check valves  |
| PIT   | Position indication verification per IWV-3300   |
| RVT   | Safety/Relief valve setpoint test per ASME OMa-1  |
| SLT-1 | Seat leakrate test per 10 CFR 50, App J   |
| SLT-2 | Seat leakrate test for pressure isolation valves per Technical Specification 15.3.16.   |
| SLT-3 | Seat leakrate test for pneumatic check valves to verify capability of maintaining accumulator gas inventory following loss of supply system pressure.   |
| SLT-4 | Leaktesting of safety injection accumulator check valves  |
| SLT-5 | Seat leakrate test to identify gross leakage. Specific leakage rates will not be measured, but leakage will be determined and evaluated with respect to system operability and its capability to perform its safety function. |
| SLT-6 | Seat leakrate test to identify gross leakage. Specific leakage rates will be measured and evaluated with respect to system operability and its capability to perform its safety function.                                     |

TEST FREQ      The required test interval abbreviations are defined as follows:

|      |   |
|------|---|
| RR   | Each reactor refueling outage (cycle)                     |
| CS   | Cold shutdown (per Technical Specifications)              |
| E-CS | Cold shutdown with Event V testing required               |
| QR   | Quarterly (during plant operation)                        |
| 1Y   | Once Per Calendar Year                                    |
| 2Y   | Every 2 years   |
| 5Y   | Every 5 years   |
| 10Y  | Every 10 years  |
| SR   | Prior to placing a system or component in operable status |
| SP   | Other (see applicable request for relief)                 |





APPENDIX E  
UNIT 2 VALVE PROGRAM TABLES

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REMARKS

Applicable requests for relief from Code requirements (see Appendix F) are noted in the REMARKS column adjacent to the associated test requirement and designated VRR-XX.

Applicable notes are included in the REMARKS column and are designated NOTE-XX. A list of notes is attached as the last page of the appendix.

Cold shutdown testing justifications are provided in Appendix G. Each explanation is identified by a reference number (CSJ-XX) that appears in the respective REMARKS column adjacent to the pertinent test requirement.

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Auxiliary Feedwater  
DRAWING NO.: M-217

| VALVE    | CORD | FUNCTION        | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS        |
|----------|------|-----------------|-------|-----|------|------|-----|-----|-----------------------|----------------|----------------|
| AF-00064 | G4   | 2P-29 Suction   | 3     | B   | 6    | GA   | M   | O   | BT-C                  | QR             |                |
| AF-00100 | F9   | AFW to 2A S/G   | 2     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-1          |
| AF-00101 | G9   | AFW to 2B S/G   | 2     | C   | 3    | CK   | SA  | C   | CV-O                  | CS             | CSJ-1          |
| AF-00103 | E8   | AFW to 2A S/G   | 2     | A/C | 3    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00105 | G8   | AFW to 2B S/G   | 2     | A/C | 3    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00106 | E8   | AFW to 2A S/G   | 2     | A/C | 3    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00107 | G8   | AFW to 2B S/G   | 2     | A/C | 3    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5 | CS<br>CS<br>2Y | CSJ-1<br>CSJ-1 |
| AF-00108 | G7   | 2P-29 Disch Ck  | 3     | C   | 4    | CK   | SA  | C   | CV-O                  | CS             | CSJ-2          |
| AF-00111 | G5   | 2P-29 Suct Ck   | 3     | C   | 6    | CK   | SA  | C   | CV-PO<br>CV-O         | QR<br>CS       | CSJ-3          |
| AF-04000 | G8   | 2B S/G AFW Isol | 3     | B   | 3    | GL   | MO  | C   | BT-C<br>PIT           | QR<br>2Y       |                |
| AF-04001 | F8   | 2A S/G AFW Isol | 3     | B   | 3    | GL   | MO  | C   | BT-C<br>PIT           | QR<br>2Y       |                |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Auxiliary Feedwater  
DRAWING: M-217

| VALVE    | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS                  |
|----------|------|--------------------|-------|-----|------|------|-----|-----|---------------------|----------------|--------------------------|
| AF-04002 | F6   | 2P-29 Mini-flow    | 3     | B   | 1    | GA   | AO  | O   | BT-C<br>FST<br>PIT  | CS<br>CS<br>2Y | VRR-28, CSJ-31<br>CSJ-31 |
| AF-04006 | G5   | 2P-29 Ser Wtr Sup  | 3     | B   | 6    | GA   | MO  | O   | BT-O<br>PIT         | QR<br>2Y       |                          |
| AF-04020 | F7   | AFW to 2B S/G      | 3     | B   | 3    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |                          |
| AF-04022 | E8   | AFW to 2A S/G      | 3     | B   | 3    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT | QR<br>QR<br>2Y |                          |
| AF-04026 | G6   | 2P-029 Suction Rel | 3     | C   | 1    | SRV  | SA  | C   | RVT                 | 10Y            |                          |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Aux Steam, Heating Steam, Chilled and Hot Water  
DRAWING NO.: M-2214, Sheet

| VALVE    | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS           |
|----------|------|-----------------------|-------|-----|------|------|-----|-----|-------|------|-------------------|
| HV-00263 | E2   | Aux Steam to Cont     | 2     | A   | 3    | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23<br>Passive |
| HV-00286 | C2   | Aux Steam Cond<br>Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23<br>Passive |
| HV-00287 | C2   | Aux Steam Cond<br>Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23<br>Passive |
| HV-00636 | D2   | Aux Steam to Cont     | 2     | A   | 3    | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23<br>Passive |
| HV-00637 | C3   | Aux Steam Cond<br>Ret | 2     | A   | 1.5  | GA   | MA  | C   | SLT-1 | 2Y   | VRR-23<br>Passive |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 685J175

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                | FREQ           | REMARKS |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|----------------------|----------------|---------|
| CV-00112B | B6   | RWST to Chg Pump   | 2     | B   | 4    | GA   | MO  | C   | BT-O<br>PIT          | QR<br>2Y       |         |
| CV-00112C | C6   | VCT to Chg Pump    | 2     | B   | 4    | GA   | MO  | O   | BT-C<br>PIT          | CS<br>2Y       | CSJ-4   |
| CV-00142  | C8   | Charging Flow Cont | 2     | B   | 3    | GL   | AO  | O   | BT-O<br>FST<br>PIT   | CS<br>CS<br>2Y | CSJ-5   |
| CV-00283A | B8   | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | RVT                  | 10Y            |         |
| CV-00283B | B8   | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | RVT                  | 10Y            |         |
| CV-00283C | A8   | Chg Pump Disc Saf  | 2     | C   | .75  | SRV  | SA  | C   | RVT                  | 10Y            |         |
| CV-00295  | C10  | Charging Hdr Ck    | 1     | C   | 3    | CK   | SA  | O   | CV-O                 | QR             |         |
| CV-00300A | C10  | RCP Seal Inj Thrft | 2     | A   | 1    | NE   | MA  | T   | BT-C<br>SLT-1        | RR<br>2Y       | VRR-19  |
| CV-00300B | C11  | RCP Seal Inj Thrft | 2     | A   | 1    | NE   | MA  | T   | BT-C<br>SLT-1        | RR<br>2Y       | VRR-19  |
| CV-00304C | C10  | RCP Seal Wtr Sup   | 1     | A/C | 2    | CK   | SA  | O   | CV-C<br>SLT-1        | RR<br>2Y       | VRR-12  |
| CV-00304D | C11  | RCP Seal Wtr Sup   | 1     | A/C | 2    | CK   | SA  | O   | CV-C<br>SLT-1        | RR<br>2Y       | VRR-12  |
| CV-00313  | C8   | RCP Seal Wtr Ret   | 2     | A   | 3    | GA   | MO  | O   | BT-C<br>PIT<br>SLT-1 | CS<br>2Y<br>2Y | CSJ-6   |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 685J175

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                          | FREQ                 | REMARKS           |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|--------------------------------|----------------------|-------------------|
| CV-00313A | C9   | RCP Seal Wtr Ret   | 2     | A   | 3    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1    | CS<br>CS<br>2Y<br>2Y | CSJ-6<br>CSJ-6    |
| CV-00323A | A9   | Aux Chrging Isol   | 2     | A   | 2    | GL   | MA  | C   | SLT-1                          | 2Y                   | Passive           |
| CV-00323B | C9   | Chg HCV Bypass     | 2     | A   | 2    | GL   | MA  | C   | SLT-1                          | 2Y                   | VRR-23<br>Passive |
| CV-00333A | A3   | BA Xfer Pump Disch | 2     | A/C | 2    | CK   | SA  | C   | CV-PO<br>CV-O<br>CV-C<br>SLT-5 | QR<br>RR<br>QR<br>2Y | VRR-26<br>VRR-26  |
| CV-00333B | A3   | BA Xfer Pump Disch | 2     | A/C | 2    | CK   | SA  | C   | CV-PO<br>CV-O<br>CV-C<br>SLT-5 | QR<br>RR<br>QR<br>2Y | VRR-26<br>VRR-26  |
| CV-00350  | A5   | Emerg Boration     | 2     | B   | 2    | GA   | MO  | C   | BT-O<br>PIT                    | QR<br>2Y             |                   |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Chemical and Volume Control  
DRAWING NO.: 684J741

| VALVE     | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS         |
|-----------|------|-------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-----------------|
| CV-00351  | A6   | Emerg Boration Ck | 2     | C   | 2    | CK   | SA  | C   | CV-O                        | RR                   | VRR-24          |
| CV-00357  | B6   | HWST to Chg Pump  | 2     | C   | 4    | CK   | SA  | C   | CV-O                        | QR                   |                 |
| CV-00370  | C9   | Charging Hdr Ck   | 2     | A/C | 3    | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-1       | QR<br>RR<br>RR       | VRR-13          |
| CV-00371  | D9   | RCS Letdown Iso   | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1 | CS<br>CS<br>2Y<br>2Y | CSJ-7<br>CSJ-7  |
| CV-00371A | D9   | RCS Letdown Iso   | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>PIT<br>SLT-1 | CS<br>CS<br>2Y<br>2Y | CSJ-7<br>CSJ-7  |
| CV-00384B | C8   | Chg Line HCV Out  | 2     | A   | 3    | GL   | MA  | O   | BT-C<br>SLT-1               | CS<br>2Y             | CSJ-8<br>VRR-23 |
| CV-01296  | All  | Aux Charging Iso  | 1     | A   | 2    | GL   | AO  | C   | PIT<br>SLT-1                | 2Y<br>2Y             | Passive         |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E029, Sheet 1

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|-------------|----------|---------|
| CC-00738A | G4   | RHR Cooling Wtr<br>Sup | 3     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| CC-00738B | G3   | RHR Cooling Wtr<br>Sup | 3     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E029, Sheet 2

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                | FREQ           | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|----------------------|----------------|------------------|
| CC-00719  | G12  | Cont CCW Sup            | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT          | CS<br>2Y       | CSJ-9            |
| CC-00754A | F13  | RCP Clg Water Sup       | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10           |
| CC-00754B | F10  | RCP Clg Water Sup       | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10           |
| CC-00755A | E13  | RCP Clg Wtr Sup<br>Ck   | 2     | A/C | 4    | CK   | SA  | O   | CV-C<br>SLT-1        | 2Y<br>2Y       | VRR-10<br>VRR-23 |
| CC-00755B | E10  | RCP Clg Wtr Sup<br>Ck   | 2     | A/C | 4    | CK   | SA  | O   | CV-C<br>SLT-1        | 2Y<br>2Y       | VRR-10<br>VRR-23 |
| CC-00759A | F11  | RCP Clg Water Ret       | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10<br>VRR-23 |
| CC-00759B | F2   | RCP Clg Water Ret       | 2     | A   | 4    | GA   | MO  | O   | BT-C<br>SLT-1<br>PIT | CS<br>2Y<br>2Y | CSJ-10<br>VRR-23 |
| CC-00763A | E12  | RCP Clg Wtr Ret<br>S/R  | 2     | C   | 2    | SRV  | SA  | C   | RVT                  | 10Y            |                  |
| CC-00763B | E8   | RCP Clg Wtr Ret<br>S/R  | 2     | C   | 2    | SRV  | SA  | C   | RVT                  | 10Y            |                  |
| CC-00767  | E7   | Ex LD HX Clg Wtr<br>Sup | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1        | RR<br>RR       | VRR-30<br>VRR-30 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E029, Sheet 2

| VALVE    | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| CC-00769 | F5   | Ex LD HX Clg Wtr<br>Ret | 2     | A   | 2    | GL   | AO  | C   | BT-C<br>FST<br>PIT<br>SLT-1 | QR<br>QR<br>2Y<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Component Cooling Water  
DRAWING NO.: 110E029, Sheet 3

| VALVE     | CORD | FUNCTION                    | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS |
|-----------|------|-----------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|---------|
| CC-00724A | G7   | CCW Pump Disch<br>Check     | 3     | A/C | 10   | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>QR |         |
| CC-00724B | F7   | CCW Pump Disch<br>Check     | 3     | A/C | 10   | CK   | SA  | O   | CV-O<br>CV-C<br>SLT-5 | QR<br>QR<br>QR |         |
| CC-00773  | F9   | CCW Normal<br>Makeup        | 3     | B   | 2    | GL   | MA  | C   | SLT-6                 | 2Y             | Passive |
| CC-00779  | H9   | CCW Surge Tank<br>Relief    | 3     | C   | 3    | SRV  | SA  | C   | RVT                   | 10Y            |         |
| CC-00773A | H9   | CCW Surge Tk Vac<br>Breaker | 3     | C   | 1    | CK   | SA  | C   | CV-O<br>CV-C          | QR<br>QR       |         |
| CC-00815  | F9   | CCW Emerg<br>Makeup         | 3     | B   | 2    | GL   | MO  | C   | SLT-6<br>PIT          | 2Y<br>2Y       | Passive |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Containment Spray  
DRAWING NO.: M-110E035, Sheet 3

| VALVE     | CORD | FUNCTION                      | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT              | FREQ           | REMARKS          |
|-----------|------|-------------------------------|-------|-----|------|------|-----|-----|--------------------|----------------|------------------|
| SI-00836A | F7   | NaOH Supply                   | 2     | B   | 2    | GL   | AO  | C   | BT-O<br>FST<br>PIT | CS<br>CS<br>2Y | CSJ-11<br>CSJ-11 |
| SI-00836B | E7   | NaOH Supply                   | 2     | B   | 2    | GL   | AO  | C   | BT-O<br>FST<br>PIT | CS<br>CS<br>2Y | CSJ-11<br>CSJ-11 |
| SI-00840A | G5   | Spray Add Tank<br>Vac Breaker | 2     | C   | .75  | SRV  | SA  | C   | RVT                | 10Y            |                  |
| SI-00840B | G5   | Spray Add Tank<br>Vac Breaker | 2     | C   | .75  | SRV  | SA  | C   | RVT                | 10Y            |                  |
| SI-00847A | H8   | Spray Add Educt<br>Check      | 2     | C   | 2    | CK   | SA  | C   | CV-O               | QR             |                  |
| SI-00847B | D8   | Spray Add Educt<br>Check      | 2     | C   | 2    | CK   | SA  | C   | CV-O               | QR             |                  |
| SI-00858A | I3   | RWST to CS Pump<br>P14A       | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>INSP      | QR<br>SP       | VRR-8<br>VRR-8   |
| SI-00858B | C3   | RWST to CS Pump<br>P14B       | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>INSP      | QR<br>SP       | VRR-8<br>VRR-8   |
| SI-00860A | I10  | CS Pump 1-P14A<br>Disch       | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT        | QR<br>QR       |                  |
| SI-00860B | I10  | CS Pump 1-P14A<br>Disch       | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT        | QR<br>QR       |                  |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Containment Spray  
DRAWING NO.: M-110E035, Sheet 3

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                        | FREQ                 | REMARKS             |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|------------------------------|----------------------|---------------------|
| SI-00860C | C10  | CS Pump 1-P14B<br>Disch | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT                  | QR<br>QR             |                     |
| SI-00860D | C10  | CS Pump 1-P14B<br>Disch | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>PIT                  | QR<br>QR             |                     |
| SI-00862A | I11  | CS Pump 1-P14A<br>Disch | 2     | A/C | 6    | CK   | SA  | C   | INSP<br>SLT-1                | SP<br>RR             | VRR-9<br>VRR-23, 29 |
| SI-00862E | C11  | CS Pump 1-P14B<br>Disch | 2     | A/C | 6    | CK   | SA  | C   | INSP<br>SLT-1                | SP<br>RR             | VRR-9<br>VRR-23, 29 |
| SI-00864A | H11  | CS Pump Test<br>Recirc  | 2     | A   | .75  | GL   | MA  | C   | SLT-1                        | 2Y                   | Passive<br>VRR-23   |
| SI-00864B | C11  | CS Pump Test<br>Recirc  | 2     | A   | .75  | GL   | MA  | C   | SLT-1                        | 2Y                   | Passive<br>VRR-23   |
| SI-00870A | I3   | RWST to CS Pump<br>P14A | 2     | A   | 6    | GA   | MO  | O   | BT-O<br>BT-C<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y | Note 3<br>Note 2    |
| SI-00870B | C3   | RWST to CS Pump<br>P14B | 2     | A   | 6    | GA   | MO  | O   | BT-O<br>BT-C<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y | Note 3<br>Note 2    |
| SI-00871A | I5   | RHR to CS Pump<br>P14A  | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT          | QR<br>QR<br>2Y       |                     |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Containment Spray  
DRAWING NO.: M-110E035, Sheet 3

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS |
|-----------|------|------------------------|-------|-----|------|------|-----|-----|---------------------|----------------|---------|
| SI-00871B | C5   | RHR to CS Pump<br>P14B | 2     | B   | 6    | GA   | MO  | C   | BT-C<br>BT-C<br>PIT | QR<br>QR<br>2Y |         |
| SI-00872  | G6   | Spray Add Tank Saf     | 2     | C   | .75  | RV   | SA  | C   | RVT                 | 10Y            |         |



APPENDIX E  
 UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Deionized/Reactor Makeup Water  
 DRAWING NO.: PBM-231, Sheet 2

| VALVE    | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT | FREQ | REMARKS |
|----------|------|-------------------------|-------|-----|------|------|-----|-----|-------|------|---------|
| DI-00009 | E2   | DI Water Sup to<br>Cont | 2     | A   | 2    | DI   | MA  | C   | SLT-1 | 2Y   | Passive |
| DI-00011 | E1   | DI Water Sup to<br>Cont | 2     | A   | 2    | DI   | MA  | C   | SLT-1 | 2Y   | Passive |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-2215, Sheet 1

| VALVE       | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS                        |
|-------------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|--------------------------------|
| VNPSE-03212 | G3   | Cont Purge Exhaust | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03213 | G3   | Cont Purge Exhaust | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03244 | D3   | Cont Purge Supply  | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |
| VNPSE-03245 | D3   | Cont Purge Supply  | 2     | A   | 36   | BTF  | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-12<br>CSJ-12<br>VRR-23, 29 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Heating and Ventilation  
DRAWING NO.: M-2215, Sheet 2

| VALVE      | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|------------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| RM-03200AA | G3   | Cont Atmos Samp<br>Retr | 2     | A/C | 1    | CK   | SA  | O   | CV-C<br>SLT-1               | RR<br>3R             | VRR-16  |
| RM-03200A  | F3   | Cont Atmos Samp<br>Retr | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RM-03200B  | F8   | Cont Atmos Samp<br>Sup  | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RM-03200C  | G8   | Cont Atmos Samp<br>Sup  | 2     | A   | 1    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 7

| VALVE    | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS           |
|----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-------------------|
| IA-00876 | E8   | Purge Vlv 3244 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3       | QR<br>QR<br>2Y       | VRR-14            |
| IA-00877 | E8   | Purge Vlv 3212 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3       | QR<br>QR<br>2Y       | VRR-14            |
| IA-01315 | E3   | Inst Air to Cont   | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1               | QR<br>2Y             | VRR-23            |
| IA-01316 | E4   | Inst Air to Cont   | 2     | A   | 1    | GA   | MA  | C   | SLT-1                       | 2Y                   | VRR-23<br>Passive |
| IA-01324 | F3   | Inst Air to Cont   | 2     | A/C | 2    | CK   | SA  | C   | CV-C<br>SLT-1               | QR<br>2Y             |                   |
| IA-03047 | E3   | Inst Air to Cont   | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |
| IA-03048 | F3   | Inst Air to Cont   | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 11

| VALVE    | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQ/MT                | FREQ           | REMARKS                              |
|----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|--------------------------------------|
| IA-01335 | F4   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-01338 | G4   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-01401 | H2   | Purge Vlv 3245 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-13<br>CSJ-13<br>VRR-14           |
| IA-01402 | H1   | Purge Vlv 3213 Sup | NC    | A/C | .25  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-13<br>CSJ-13<br>VRR-14           |
| IA-01418 | F4   | Nit Sup to PORV    | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>Note 1           |
| IA-01419 | G4   | Nit Sup to PORV    | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>Note 1           |
| IA-01652 | F4   | Inst Air to PORV   | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Instrument Air  
DRAWING NO.: M-209, Sheet 11

| VALVE    | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS                              |
|----------|------|--------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|--------------------------------------|
| IA-01653 | G4   | Inst Air to PORV         | NC    | A/C |      | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-3 | CS<br>CS<br>2Y | CSJ-28<br>CSJ-28<br>VRR-32<br>Note 1 |
| IA-06308 | F4   | PORV Nit Sup S/R         | NC    | C   |      | SRV  | SA  | C   | RVT                   | 10Y            | Note 1                               |
| IA-06309 | G4   | PORV Nit Sup S/R         | NC    | C   |      | SRV  | SA  | C   | RVT                   | 10Y            | Note 1                               |
| IA-06310 | F5   | PORV 430 Nit Sup<br>Reg  | NC    | C   |      | GL   | SA  | O/C | BT-EE                 | CS             | CSJ-28                               |
| IA-06311 | G5   | PORV 431C Nit Sup<br>Reg | NC    | C   |      | GL   | SA  | O/C | BT-EE                 | CS             | CSJ-28                               |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Main Feedwater  
DRAWING NO.: M-2202, Sheet 2

| VALVE      | CORD | FUNCTION     | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS          |
|------------|------|--------------|-------|-----|------|------|-----|-----|---------------|----------|------------------|
| CS-00466AA | C2   | S/G 1A FW Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00466BB | D1   | S/G 1A FW Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00476AA | G2   | S/G 1B FW Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |
| CS-00476BB | H1   | S/G 1B FW Ck | 2     | A/C | 16   | CK   | SA  | O   | CV-C<br>SLT-6 | RR<br>RR | VRR-21<br>VRR-21 |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Main and Reheat Steam  
DRAWING NO.: M-2201, Sheet 1

| VALVE     | CORD | FUNCTION            | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT               | FREQ           | REMARKS          |
|-----------|------|---------------------|-------|-----|------|------|-----|-----|---------------------|----------------|------------------|
| MS-02005  | G3   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02006  | G4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02007  | G4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02008  | G4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02010  | D3   | main Stm Safety     | 2     | C   | 6    | PV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02011  | D4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02012  | D4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02013  | D4   | Main Stm Safety     | 2     | C   | 6    | RV   | SA  | C   | RVT                 | 5Y             |                  |
| MS-02015  | H5   | MS Atmos Stm<br>Dmp | 2     | B   | 6    | GL   | AO  | C   | BT-C<br>BT-O<br>PIT | Q<br>Q<br>2Y   |                  |
| MS-02016  | E5   | MS Atmos Stm<br>Dmp | 2     | B   | 6    | GL   | AO  | C   | BT-C<br>BT-O<br>PIT | Q<br>Q<br>2Y   |                  |
| MS-02017  | G5   | Main Stm Isolation  | 2     | B   | 30   | SCK  | AO  | O   | BT-C<br>FST<br>PIT  | CS<br>CS<br>2Y | CSJ-15<br>CSJ-15 |
| MS-02017A | G7   | Main Stm Nonreturn  | 2     | C   | 30   | CK   | SA  | O   | CV-C                | CS             | CSJ-16           |
| MS-02017C | H6   | MSIV 2017 Air Pilot | NC    | B   | 1    | AP   | SC  | C   | BT-PV               | CS             | CSJ-17           |
| MS-02017D | H6   | MSIV 2017 Air Pilot | NC    | B   | 1    | AP   | SO  | C   | BT-PV               | CS             | CSJ-17           |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Main and Reheat Steam  
DRAWING NO.: M-2201, Sheet 1

| VALVE     | CORD | FUNCTION               | CLASS | CAT | SIZE | TYPE | ACT       | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|------------------------|-------|-----|------|------|-----------|-----|-----------------------------|----------------------|------------------|
| MS-02018  | D5   | Main Strm Isolation    | 2     | B   | 30   | SCK  | AO        | O   | BT-C<br>FST<br>PIT          | CS<br>CS<br>2Y       | CSJ-15<br>CSJ-15 |
| MS-02018A | D7   | Main Strm Nonreturn    | 2     | C   | 30   | CK   | SA        | O   | CV-C                        | CS                   | CSJ-16           |
| MS-02018C | E6   | MSIV 2018 Air Pilot    | NC    | B   | 1    | AP   | SO        | C   | BT-PV                       | CS                   | CSJ-17           |
| MS-02018D | E6   | MSIV 2018 Air Pilot    | NC    | B   | 1    | AP   | SO        | C   | BT-PV                       | CS                   | CSJ-17           |
| MS-02019  | F6   | AFW Steam Supply       | 2     | B/C | 3    | SCK  | MO        | C   | BT-O<br>CV-O<br>BT-C<br>PIT | QR<br>QR<br>QR<br>2Y |                  |
| MS-02020  | E6   | AFW Steam Supply       | 2     | B/C | 3    | SCK  | MO        | C   | BT-O<br>CV-O<br>BT-C<br>PIT | QR<br>QR<br>QR<br>2Y |                  |
| MS-02082  | B8   | Main Steam to AFW Pump | 2     | B   | 3    | GL   | SA/<br>MA | O   | BT-C<br>BT-O<br>PIT         | QR<br>QR<br>2Y       | VRR-1            |
| MS-02083  | B2   | S/G Sample Isol        | 2     | A   | .75  | DI   | AO        | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                  |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Main and Reheat Steam  
DRAWING NO.: M-2201, Sheet 1

| VALVE    | CORD | FUNCTION                 | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|----------|------|--------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| MS-02084 | F2   | S/G Sample Isol          | 2     | A   | .75  | DI   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| MS-02090 | B9   | SW to AFW Pump<br>P-029  | 3     | B   | 1    | GL   | SO  | O   | BT-O<br>FST                 | QR<br>QR             | VRR-20  |
| MS-05958 | E2   | S/G Blowdown Isol        | 2     | A   | 2    | GA   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| MS-05959 | B2   | S/G Blowdown Isol        | 2     | A   | 2    | C    | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RS-SA-10 | F9   | Radwaste Steam<br>Supply | 2     | B   | 3    | GA   | AO  | O   | BT-C<br>FST<br>PIT          | QR<br>QR<br>2Y       |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Post-Accident Containment Vent/Monitoring  
DRAWING NO.: M-224

| VALVE   | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS                     |
|---------|------|----------------------|-------|-----|------|------|-----|-----|---------------|----------|-----------------------------|
| H2-V-04 | D5   | Post-Acc Purge Disch | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23            |
| H2-V-05 | D5   | Post-Acc Purge Disch | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23            |
| H2-V-06 | D5   | Post-Acc Purge Drain | 2     | A   | .75  | GA   | MA  | C   | SLT-1         | 2Y       | VRR-23<br>Passive           |
| H2-V-07 | D5   | Post-Acc Purge Drain | 2     | A   | .75  | GA   | MA  | C   | SLT-1         | 2Y       | VRR-23<br>Passive           |
| H2-V-08 | E5   | Post-Acc Atmos Samp  | 2     | A   | .75  | DI   | MA  | C   | SLT-1         | 2Y       | Passive                     |
| H2-V-09 | E5   | Post-Acc Atmos Samp  | 2     | A   | .75  | DI   | MA  | C   | SLT-1         | 2Y       | Passive                     |
| H2-V-12 | D5   | Post-Acc Svc Air Sup | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23            |
| H2-V-13 | D5   | Post-Acc Svc Air Sup | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23            |
| H2-V-19 | D5   | Post-Acc Alt Vent    | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23<br>Passive |
| H2-V-20 | D5   | Post-Acc Alt Vent    | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23<br>Passive |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Post-Accident Containment Vent/Monitoring  
DRAWING NO.: M-224

| VALVE   | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS                     |
|---------|------|--------------------|-------|-----|------|------|-----|-----|---------------|----------|-----------------------------|
| H2-V-22 | D4   | Post-Acc Sup Drain | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23<br>Passive |
| H2-V-23 | D4   | Post-Acc Sup Drain | 2     | A   | 2    | DI   | MA  | C   | BT-O<br>SLT-1 | 1Y<br>2Y | VRR-34<br>VRR-23<br>Passive |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Primary Sampling  
DRAWING NO.: 541F448

| VALVE     | CORD | FUNCTION          | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|-------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| SC-00951  | F9   | Press Strm Sample | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00953  | E9   | Press Liq Sample  | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00955  | E9   | Hot Leg Sample    | 1     | A   | .375 | GL   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00959  | D9   | RHR Sample        | 2     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-6<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00966A | F8   | Press Strm Sample | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| SC-00966B | E8   | Press Liq Sample  | 1     | A   | .375 | GL   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Primary Sampling  
DRAWING NO.: 541F448

| VALVE     | CORD | FUNCTION   | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| SC-00966C | E8   | Leg Sample | 1     | A   | .375 | GL   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F445, Sheet 1

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REOMT                      | FREQ                 | REMARKS                    |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|----------------------------|----------------------|----------------------------|
| RC-00430  | H5   | Power-Operated Rel | 1     | B   | 2    | GL   | AO  | C   | BT-C<br>BT-O<br>FST<br>PIT | CS<br>CS<br>CS<br>2Y | CSJ-18<br>CSJ-18<br>CSJ-18 |
| RC-00431C | I5   | Power-operated Rel | 1     | B   | 2    | GL   | AO  | C   | BT-C<br>BT-O<br>FST<br>PIT | CS<br>CS<br>CS<br>2Y | CSJ-18<br>CSJ-18<br>CSJ-18 |
| RC-00434  | I7   | Pressurizer Safety | 1     | C   | 3    | SRV  | SA  | C   | RVT                        | 5Y                   |                            |
| RC-00435  | I6   | Pressurizer Safety | 1     | C   | 3    | SRV  | SA  | C   | RVT                        | 5Y                   |                            |
| RC-00515  | I5   | PORV Block Valve   | 1     | B   | 3    | GA   | MO  | O   | BT-C<br>PIT                | QR<br>2Y             | Note 4                     |
| RC-00516  | H5   | PORV Block Valve   | 1     | B   | 3    | GA   | MO  | O   | BT-C<br>PIT                | QR<br>2Y             | Note 4                     |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F445, Sheet 2

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| RC-00508  | D2   | PRT Fill Line Iso  | 2     | A   | 2    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00528  | D3   | PRT Nitrogen Sup   | 2     | A/C | .75  | CK   | SA  | O/C | CV-C<br>SLT-1               | RR<br>RR             | VRR-11  |
| RC-00529  | D3   | PRT Fill Line Cl   | 2     | A/C | 2    | CK   | SA  | O/C | CV-C<br>SLT-1               | RR<br>RR             | VRR-18  |
| RC-00538  | E3   | PRT Sample         | 2     | A   | .375 | GL   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00539  | E2   | PRT Sample         | 2     | A   | .375 | GL   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| RC-00570A | F5   | RX Vess Vent       | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00570B | F5   | RX Vess Vent       | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00575A | F5   | RX Vess/Press Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |
| RC-00575B | F4   | RX Vess/Press Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT                 | CS<br>2Y             | CSJ-19  |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Reactor Coolant  
DRAWING NO.: 541F445, Sheet 2

| VALVE     | CORD | FUNCTION         | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS |
|-----------|------|------------------|-------|-----|------|------|-----|-----|---------------|----------|---------|
| RC-00580A | G5   | Pressurizer Vent | 1     | B   | 1    | GL   | SO  | C   | BT-O<br>PIT   | CS<br>2Y | CSJ-19  |
| RC-00580B | G5   | Pressurizer Vent | 1     | B   | 1    | GL   | SO  | C   | BT-C<br>PIT   | CS<br>2Y | CSJ-19  |
| RC-00595  | D3   | PRT Nitrogen Sup | 2     | A   | .75  | DI   | MA  | O/C | BT-C<br>SLT-1 | QR<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE     | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                                   | FREQ                         | REMARKS                                   |
|-----------|------|-----------------------|-------|-----|------|------|-----|-----|---|------------------------------|---|
| SI-00830A | J10  | SIS Accum Relief      | 2     | C   | 1    | SRV  | SA  | C   | RVT                                     | 10Y                          |   |
| SI-00830B | F10  | SIS Accum Relief      | 2     | C   | 1    | SRV  | SA  | C   | RVT                                     | 10Y                          |   |
| SI-00834A | H7   | SIS Accum Vent        | 2     | B   | 1    | GL   | AO  | C   | BT-O<br>FST<br>PIT                      | CS<br>CS<br>2Y               | CSJ-30<br>CSJ-30                          |
| SI-00834B | D7   | SIS Accum Vent        | 2     | B   | 1    | GL   | AO  | C   | BT-O<br>FST<br>PIT                      | CS<br>CS<br>2Y               | CSJ-30<br>CSJ-30                          |
| SI-00841A | H10  | SIS Accum Disch       | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT                             | CS<br>2Y                     | CSJ-20                                    |
| SI-00841B | E10  | SIS Accum Disch       | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT                             | CS<br>2Y                     | CSJ-20                                    |
| SI-00842A | H12  | SIS Accum Disch<br>Ck | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>INSP<br>SLT-4 | E-CS<br>QR<br>RR<br>SP<br>QR | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4 |
| SI-00842B | E12  | SIS Accum Disch<br>Ck | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>INSP<br>SLT-4 | E-CS<br>QR<br>RR<br>SP<br>QR | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE     | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS                  |
|-----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|--------------------------|
| SI-00845A | H12  | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845B | D12  | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845C | G12  | SIS Core Deluge    | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845D | D12  | SIS Core Deluge    | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845E | E12  | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00845F | G12  | SIS Cold Leg Inj   | 1     | A/C | 2    | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-2       | RR<br>RR<br>2Y       | VRR-2<br>VRR-2<br>VRR-22 |
| SI-00846  | J5   | Accum Nit Supply   | 2     | A   | 1    | GL   | AO  | C   | BT-C<br>FST<br>PIT<br>SLT-1 | QR<br>QR<br>2Y<br>2Y |                          |
| SI-00850A | B7   | Cont Sump Hyd Isol | 2     | B   | 10   | GA   | HO  | C   | BT-O<br>PIT                 | QR<br>2Y             |                          |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE     | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                                  | FREQ                           | REMARKS                                    |
|-----------|------|-----------------------|-------|-----|------|------|-----|-----|--|--------------------------------|--|
| SI-00850B | B10  | Cont Sump Hyd Isol    | 2     | B   | 10   | GA   | HO  | C   | BT-O<br>PIT                            | QR<br>2Y                       |  |
| SI-00851A | B5   | Cont Sump Isol        | 2     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT                            | QR<br>2Y                       |  |
| SI-00851B | A5   | Cont Sump Isol        | 2     | B   | 10   | GA   | MO  | C   | BT-O<br>PIT                            | QR<br>2Y                       |  |
| SI-00852A | C11  | RHR/LH Core<br>Deluge | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT                    | CS<br>CS<br>2Y                 | CSJ-21<br>CSJ-21                           |
| SI-00852B | B11  | RHR/LH Core<br>Deluge | 2     | B   | 6    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT                    | CS<br>CS<br>2Y                 | CSJ-21<br>CSJ-21                           |
| SI-00853A | C12  | RHR/LH Inj Check      | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |
| SI-00853B | B12  | RHR/LH Inj Check      | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>2Y | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE     | CORD | FUNCTION            | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT   | FREQ                                 | REMARKS   |
|-----------|------|---------------------|-------|-----|------|------|-----|-----|---|--------------------------------------|---|
| SI-00853C | C13  | RHR/Core Deluge     | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2          | E-CS<br>E-CS<br>RR<br>RR<br>2Y       | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22          |
| SI-00853D | B13  | RHR/Core Deluge     | 1     | A/C | 6    | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-O<br>CV-C<br>SLT-2          | E-CS<br>E-CS<br>RR<br>RR<br>2Y       | VRR-3<br>VRR-3<br>VRR-3<br>VRR-3<br>VRR-22          |
| SI-00861A | C8   | RHR RX Ves Inj S/R  | 2     | C   | .75  | SRV  | SA  | C   | RVT   | 10Y                                  |   |
| SI-00866A | H5   | SIS Pump Disch      | 2     | B   | 4    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT                             | QR<br>QR<br>2Y                       |   |
| SI-00866B | H5   | SIS Pump Disch      | 2     | B   | 4    | GA   | MO  | O   | BT-O<br>BT-C<br>PIT                             | QR<br>QR<br>2Y                       |   |
| SI-00867A | H13  | SIS Cold Leg Inj Ck | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-C<br>CV-PO<br>CV-C<br>INSP<br>SLT-2 | E-CS<br>E-CS<br>RR<br>RR<br>SP<br>2Y | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-22 |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT  | FREQ                                       | REMARKS  |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|--|--|--|
| SI-00667B | E13  | SIS Cold Leg Inj ck  | 1     | A/C | 10   | CK   | SA  | C   | CV-PO<br>CV-PO<br>CV-C<br>CV-PO<br>CV-C<br>INSP<br>SLT-2 | CS<br>E-CS<br>E-CS<br>RR<br>RR<br>SP<br>2Y | VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-4<br>VRR-22 |
| SI-00875A | F7   | SIS Test Recirc Ck   | 2     | A/C | .75  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5                                    | QR<br>QR<br>2Y                             |  |
| SI-00875B | F7   | SIS Test Recirc Ck   | 2     | A/C | .75  | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-5                                    | QR<br>QR<br>2Y                             |  |
| SI-00878A | D12  | RX Vessel Safety Inj | 2     | B   | 2    | GL   | MO  | C   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-22<br>CSJ-22   |
| SI-00878B | D12  | SIS Loop Inj         | 2     | B   | 2    | GL   | MO  | O   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-23<br>CSJ-23   |
| SI-00878C | G12  | RX Vessel Safety Inj | 2     | B   | 2    | GL   | MO  | C   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-22<br>CSJ-22   |
| SI-00878D | H12  | SIS Loop Inj         | 2     | B   | 2    | GL   | MO  | O   | BT-O<br>BT-C<br>PIT                                      | CS<br>CS<br>2Y                             | CSJ-23<br>CSJ-23   |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 1

| VALVE    | CORD | FUNCTION           | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS          |
|----------|------|--------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|------------------|
| SI-00887 | F6   | Test Line S/R      | 2     | C   | .75  | SRV  | SA  | C   | RVT                         | 10Y                  |                  |
| SI-00957 | I6   | N2 Supply Vent/Rel | 2     | A   | 1    | GL   | AO  | C   | BT-O<br>FST<br>SLT-1<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-30<br>CSJ-30 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 2

| VALVE     | CORD | FUNCTION                   | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                 | FREQ           | REMARKS                 |
|-----------|------|----------------------------|-------|-----|------|------|-----|-----|-----------------------|----------------|-------------------------|
| SI-00825A | H5   | SIS Pump Suction           | 2     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00825B | H5   | SIS Pump Suction           | 2     | B   | 12   | GA   | MO  | C   | BT-O<br>PIT           | QR<br>2Y       |                         |
| SI-00826B | J7   | SIS Pump Redundant<br>Suct | 2     | B   | 8    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT   | CS<br>CS<br>2Y | CSJ-24<br>CSJ-24        |
| SI-00826C | I7   | SIS Pump Redundant<br>Suct | 2     | B   | 8    | GA   | MO  | C   | BT-O<br>BT-C<br>PIT   | CS<br>CS<br>2Y | CSJ-24<br>CSJ-24        |
| SI-00854A | E4   | RHR Pump Suct Ck           | 2     | A/C | 10   | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-6 | RR<br>RR<br>RR | VRR-6<br>VRR-6<br>VRR-6 |
| SI-00854B | E4   | RHR Pump Suct Ck           | 2     | A/C | 10   | CK   | SA  | C   | CV-O<br>CV-C<br>SLT-6 | RR<br>RR<br>RR | VRR-6<br>VRR-6<br>VRR-6 |
| SI-00856A | E4   | RHR Pump Suct              | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT           | QR<br>2Y       |                         |
| SI-00856B | E4   | RHR PUMP Suct              | 2     | B   | 10   | GA   | MO  | O   | BT-C<br>PIT           | QR<br>2Y       |                         |
| SI-00857A | G8   | RHR to SIS Pump<br>Suct    | 2     | B   | 6    | GA   | MA  | C   | BT-O                  | QR             |                         |
| SI-00857B | G7   | RHR to SIS Pump<br>Suct    | 2     | B   | 6    | GA   | MA  | C   | BT-O                  | QR             |                         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E035, Sheet 2

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS          |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|------------------|
| SI-00889A | I10  | SIS Pump Disch Ck       | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>CV-O               | QR<br>RR             | VRR-7<br>VRR-7   |
| SI-00889B | H10  | SIS Pump Disch Ck       | 2     | C   | 6    | CK   | SA  | C   | CV-PO<br>CV-O               | QR<br>RR             | VRR-7<br>VRR-7   |
| SI-00891A | G9   | SIS Pump Mini-rec<br>Ck | 2     | C   | 2    | CK   | SA  | C   | CV-PO<br>INSP               | QR<br>SP             | VRR-27<br>VRR-27 |
| SI-00891B | G9   | SIS Pump Mini-rec<br>Ck | 2     | C   | 2    | CK   | SA  | C   | CV-PO<br>INSP               | QR<br>SP             | VRR-27<br>VRR-27 |
| SI-00895  | H5   | SIS Pump Mini-Rec<br>Ck | 2     | C   | 2    | CK   | SA  | C   | CV-O                        | QR                   |                  |
| SI-00896A | I7   | SIS Pump Suction        | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT                 | QR<br>2Y             |                  |
| SI-00896B | H7   | SIS Pump Suction        | 2     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT                 | QR<br>2Y             |                  |
| SI-00897A | I2   | SIS Test Line Ret       | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>SLT-5<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-25<br>CSJ-25 |
| SI-00897B | H2   | SIS Test Line Ret       | 2     | A   | 2    | GL   | AO  | O   | BT-C<br>FST<br>SLT-5<br>PIT | CS<br>CS<br>2Y<br>2Y | CSJ-25<br>CSJ-25 |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: 110E029, Sheet 1

| VALVE     | CORD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS |
|-----------|------|----------------------|-------|-----|------|------|-----|-----|---------------|----------|---------|
| RH-00710A | E4   | RHR Pump Disch<br>Ck | 2     | C   | 8    | CK   | SA  | C   | CV-PO<br>CV-O | QR<br>CS | CSJ-26  |
| RH-00710B | B4   | RHR Pump Disch<br>Ck | 2     | C   | 8    | CK   | SA  | C   | CV-PO<br>CV-O | QR<br>CS | CSJ-26  |
| RH-00742  | H6   | RHR/PWST Isol        | 2     | A   | 8    | GA   | MA  | C   | SLT-5         | 2Y       |         |
| RH-00742A | H6   | RHR/PWST Isol        | 2     | A   | 2    | GL   | MA  | C   | SLT-5         | 2Y       |         |
| RH-00624  | G7   | RHR HX Outlet        | 2     | B   | 8    | BTF  | AO  | O   | PIT           | 2Y       | Note 2  |
| RH-00625  | G7   | RHR HX Outlet        | 2     | B   | 8    | BTF  | AO  | O   | PIT           | 2Y       | Note 2  |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Safety Injection and Residual Heat Removal  
DRAWING NO.: M-209, Sheet 2

Service Air

| VALVE    | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS |
|----------|------|-------------------------|-------|-----|------|------|-----|-----|---------------|----------|---------|
| SA-00015 | F4   | Service Air Cont<br>Sup | 2     | A   | 4    | GA   | MA  | C   | SLT-1         | 2Y       | Passive |
| SA-00017 | F4   | Service Air Cont<br>Sup | 2     | A/C | 4    | CK   | SA  | C   | CV-C<br>SLT-1 | QR<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 1

| VALVE     | CORD | FUNCTION              | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT         | FREQ     | REMARKS                  |
|-----------|------|-----------------------|-------|-----|------|------|-----|-----|---------------|----------|--------------------------|
| SW-00112A | G7   | SW TO AFW PP<br>P-029 | 3     | C   | 1    | CK   | SA  | O   | CV-P0<br>INSP | QR<br>RR | VRR-15<br>VRR-15         |
| SW-02976  | B8   | Spray PP Room<br>T/C  | 3     | B   | 2    | GL   | SO  | O   | FST           | QR       | See Unit 1<br>H&V System |



APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Service Water  
DRAWING NO.: M-2207, Sheet 1

| VALVE    | COHD | FUNCTION             | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|----------|------|----------------------|-------|-----|------|------|-----|-----|-------------|----------|---------|
| SW-02817 | C6   | WT Service Wtr Inlet | 3     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT | QR<br>2Y |         |
| SW-02880 | C5   | Turb Hall Cirs In    | 3     | B   | 6    | GA   | MO  | O   | BT-C<br>PIT | CS<br>2Y | CSJ-27  |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Service Water  
DRAWING NO.: M-207, Sheet 4

| VALVE     | CORD | FUNCTION            | ASS | CAT | SIZE | TYPE | ACT | POS | REQMT       | FREQ     | REMARKS |
|-----------|------|---------------------|-----|-----|------|------|-----|-----|-------------|----------|---------|
| SW-00015A | G8   | Cont Clr Supply Ck  | 3   | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015B | G6   | Cont Clr Supply Ck  | 3   | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015C | G7   | Cont Clr Supply Ck  | 3   | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-00015D | G7   | Cont Clr Supply Ck  | 3   | C   | 8    | CK   | SA  | O   | CV-O        | QR       |         |
| SW-02907  | C8   | Cont Clr Emerg Flow | 3   | B   | 12   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| SW-02908  | C7   | Cont Clr Emerg Flow | 3   | B   | 12   | GA   | MO  | C   | BT-O<br>PIT | QR<br>2Y |         |
| SW-02959  | E8   | Cont Clr Disch S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02963  | E6   | Cont Clr Disch S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02967  | E7   | Cont Clr Disch S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-02971  | E6   | Cont Clr Disch S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-04300  | E5   | Cavity Clr Ret S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |
| SW-04301  | E5   | Cavity Clr Ret S/R  | 3   | C   | 1    | SRV  | SA  | C   | RVT         | 10Y      |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Waste Disposal  
DRAWING NO.: 684J971, Sheet 1

| VALVE     | CORD | FUNCTION                | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS           |
|-----------|------|-------------------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|-------------------|
| SF-00816  | C6   | P-033 RWCP<br>Suction   | 2     | A   | 2    | DI   | MA  | C   | SLT-1                       | 2Y                   | VRR-23<br>Passive |
| WL-01003A | C6   | RCDT Pump<br>Suction    | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01003B | C6   | RCDT Pump<br>Suction    | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01698  | C6   | RCDT to EI -19'<br>Sump | 2     | A   | 2    | DI   | AO  | C   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01721  | C6   | RCDT Pumps Suct<br>Con  | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |                   |
| WL-01723  | C6   | Containment Sump<br>Dr  | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |
| WL-01728  | C6   | Containment Sump<br>Dr  | 2     | A   | 3    | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y | VRR-23            |

APPENDIX E  
 UNIT 2 VALVE PROGRAM TABLE

SYSTEM: Waste Disposal  
 DRAWING NO.: 684J971, Sheet 1

| VALVE    | CORD | FUNCTION    | CLASS | CAT | SIZE | TYPE | ACT | POS | REQMT                       | FREQ                 | REMARKS |
|----------|------|-------------|-------|-----|------|------|-----|-----|-----------------------------|----------------------|---------|
| WG-01786 | B5   | RCDT Vent   | 2     | A   | 1    | DI   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WG-01787 | B5   | RCDT Vent   | 2     | A   | 1    | DI   | AO  | O   | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WG-01788 | B5   | RCDT Sample | 2     | A   | .75  | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |
| WG-01789 | B5   | RCDT Sample | 2     | A   | .75  | DI   | AO  | O/C | BT-C<br>FST<br>SLT-1<br>PIT | QR<br>QR<br>2Y<br>2Y |         |

APPENDIX E  
UNIT 2 VALVE PROGRAM TABLE

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NOTES

1. These valves and their respective test requirements are included in the IST Program for information and tracking purposes only. They do not necessarily meet the requirements for inclusion per IWV-1100, but are identified for testing per NRC Generic Letter 90-06. Thus, the tests specified must not necessarily satisfy the corresponding requirements of Subsection IWV or NRC Generic Letter 89-04.
2. (11-08-90) Physical modifications are required to allow testing. Testing will commence upon completion of modifications.
3. (11-08-90) These valves fall in a position opposite of that required. Manual stroke capability will be demonstrated.
4. If a PORV is isolated in accordance with Technical Specifications, the associated block valve will be exercised at cold shutdown.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-1

SYSTEM: Various  
COMPONENTS: MS-02082  
CATEGORY: Various  
FUNCTION: This is a generic Request for Relief

SECTION XI REQUIREMENT:

If, for power-operated valves, an increase in stroke time of 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. (IWV-3417(a))

BASIS FOR RELIEF:

The stroke time measurements taken during testing of fast-acting valves (those less than 2 seconds) are subject to considerable variation due to conditions unrelated to the material condition of the valve (eg. test conditions, operator reaction time). In accordance with Reference 2.8, Position 6, an alternate method of evaluating stroke times is considered acceptable.

ALTERNATE TESTING:

The stroke time evaluation for those valves designated in the IST Program Valve Tables (Appendices D & E) as "fast-acting" will not account for successive increases of measured stroke time per IWV-3417(a) with the change in test frequency as required. In lieu of this, the assigned maximum limiting value of stroke time will be established at two seconds. Upon exceeding the two-second limit, a valve will be declared inoperable and corrective action taken in accordance with IWV-3417(b).

Status: IST Program 1980; Submitted as VRR-0 (Approved via GL 89-04)





APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-2

SYSTEM: Safety Injection (110E017, Sh 1 / 110E035, Sh 1)

COMPONENTS: SI-00845, A through F

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the safety injection pumps to the reactor coolant system for emergency core cooling. They close to prevent backflow from the associated SIS Accumulators and from the low-pressure safety injection system should portions of a train become faulted. In the normally closed position, they provide pressure isolation from the reactor coolant system.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating a safety injection pump at nominal accident flowrate and injecting into the reactor coolant system since no full flow recirculation path exists. During normal operation the safety injection discharge pressure of 1500 psig is insufficient to overcome reactor coolant system pressure. During shutdown conditions, injection via the SIS pumps is precluded by restrictions related to low-temperature over-pressurization protection concerns in accordance with Technical Specifications, Section 15.3.15.B.

The lack of a recirculation flowpath precludes partial stroking during operation and cold shutdown conditions. These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. Such testing requires that the valve first be taken out of its safety position when it may operationally be left undisturbed, i.e., moved solely for test purposes. This reduction in plant safety is not warranted. Additionally, such testing occurs in radiation areas, thereby increasing personnel radiation exposure.

ALTERNATE TESTING:

At each reactor refueling outage these valves will be full-stroke exercised to the open position.

Valve seat leak testing will be performed in accordance with Point Beach Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."

Status: IST Program 1980; Submitted as VRR-2 (Approved via GL 89-04)



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-3

SYSTEM: Safety Injection (110E017, Sh 1 / 110E035, Sh 1)

COMPONENTS: SI-00853 A through D

CATEGORY: A/C

FUNCTION:

Valves SI-00853A&B open with differential pressure to provide flowpaths from the low-head safety injection pumps to the reactor vessel for emergency core cooling. Valves SI-00853C&D open with differential pressure to provide flowpaths from the low- and high-head safety injection pumps to the reactor vessel for emergency core cooling. In the closed position, they provide pressure isolation from the reactor coolant system.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full or partial stroking during normal operation is not possible because low-head safety injection pump discharge pressure is insufficient to overcome reactor coolant system pressure. Even if pump discharge pressure were adequate, any stroking would cause the injection of cold bixrated water into the system, resulting in power and thermal transients.

Stroke testing the subject valves during cold shutdowns is possible, however, not desirable unless "Event V" leak testing is also scheduled. The "Event V" testing assures valve integrity, thus minimizing the possibility of an inter-system LOCA which bypasses containment. Exercising these valves during every cold shutdown may reduce the assurance that a valve is, in fact, properly seated, as established via the "Event V" testing.

ALTERNATE TESTING:

These valves will be full-stroke exercised during pump full flow testing performed during refueling. In addition, they will be full stroke exercised during cold shutdown periods when performance of "Event V" valve testing is required.

Seat leakage testing will be performed in accordance with Point Beach Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-4

SYSTEM: Safety Injection (110E017, Sh 1 / 110E035, Sh 1)

COMPONENTS: SI-00867 A&B  
SI-00842 A&B

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the safety injection pumps and/or the SI accumulators to the reactor coolant system cold legs during an accident. They are normally closed. In the closed position they serve as reactor coolant system pressure isolation valves.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

During normal operation, neither safety injection pump discharge pressure of 1500 psig nor accumulator pressure of 760 psig, are sufficient to overcome reactor coolant system pressure. Full or partial stroke testing is, therefore, not possible.

During cold shutdown, partial or full stroke testing of valves SI-00867A, SI-00842A, and SI-00842B via the use of the accumulators or safety injection pumps is not permitted so as to prevent the possibility of a low-temperature over-pressurization event. Partial stroking of SI-00867B is, however, possible using the RHR pumps.

A full-stroke test by dumping the accumulator to the reactor coolant system could be possible during refueling when the reactor vessel head is removed, but the volume and flowrate required for the test could result in damage to the core internals. There is also the potential of forcing a nitrogen bubble into the reactor coolant system piping and refueling cavity resulting in possible safety implications which makes this testing concept inadvisable.

BASIS FOR EXTENDED INSPECTION INTERVAL:

Our response to NRC Generic Letter (GL) 89-04 contained a justification of the long frequency surveillance intervals for 1-SI-00842A&B, 1-SI-00867A, and 2-SI-00842A&B, and 2-SI-00867A. Valves 1-SI-00842A, 1-SI-00867A&B, 2-SI-00842A, and 2-SI-00867A&B are opened and inspected every ten (10) years. Valves 1-SI-00842B and 2-SI-00842B are not periodically opened and inspected because they require a complete core offload and RCS draindown.

The NRC, in position 2 of GL 89-04, requested three items of information to support extension of the valve discharge/inspection intervals to longer than once every six years. Two of these items, review of industry experience and review of the installation of each valve, were addressed in the response to the generic letter. Since this information is current, no additional response is necessary.



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VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

The third item requires a disassembly and inspection of each valve in the valve group. Valves 2-SI-00842A and 2-SI-00867A were disassembled in 1987. Valve 2-SI-842B was not disassembled for the reasons presented above in the basis discussion.

In response to NRC Information Notice 88-05, in 1989 the retaining block studs in each of the valves in Unit 2 were replaced, and in the process each of these valves was disassembled and inspected for freedom of motion as per the requirements of NRC Generic Letter 89-04, Position 2.

During all inspections that have been performed on these valves to date, no defects have been discovered that would signify that they were not fully functional and capable of performing their required function to full stroke. These valves have now performed acceptably at Point Beach for over 19 years with no indications of degradation. This is in agreement with industry experience that shows these valves to be extremely reliable. The extended frequency inspection is, therefore, considered to be adequate with respect to the capability of effectively detecting valve degradation.

The above justification satisfies the NRC's guidelines for extending the frequency for valve disassembly and inspection. It does not specifically address our need for extending this frequency, however. This need is based on such factors as man-hours required to perform this work, radiation exposure received, effect or potential effect on plant operation, and the cost-benefit value of the additional inspections.

ALTERNATE TESTING:

The following alternate testing will be performed:

1. At a minimum for these valves, partial open and shut stroke tests will be done at each refueling outage. For SI-00867B only, a partial open stroke test will be performed during any cold shutdown which utilizes an RHR pump. In addition for these valves, partial open and shut stroke tests will be conducted at each cold shutdown which requires an Event V test. (See Technical Specification 15.3.16.)
2. Seat leakage tests of SI-00867A and SI-00867B will be performed in accordance with Point Beach Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."
3. Seat leakage tests of SI-00842A and SI-00842B will be performed quarterly coincident with the SI pump tests. A seat leakage rate of 5 gpm or less will be considered acceptable.
4. At least once within each 120-month inspection interval, valves 1-SI-00842A, 2-SI-00842A, 1-SI-00867A&B, and 2-SI-00867A&B will be opened and their discs will be checked to verify freedom of movement. The inspections will be staggered such that one valve from the group of six (including both Unit 1 and 2 valves) will be inspected approximately every two to three years.

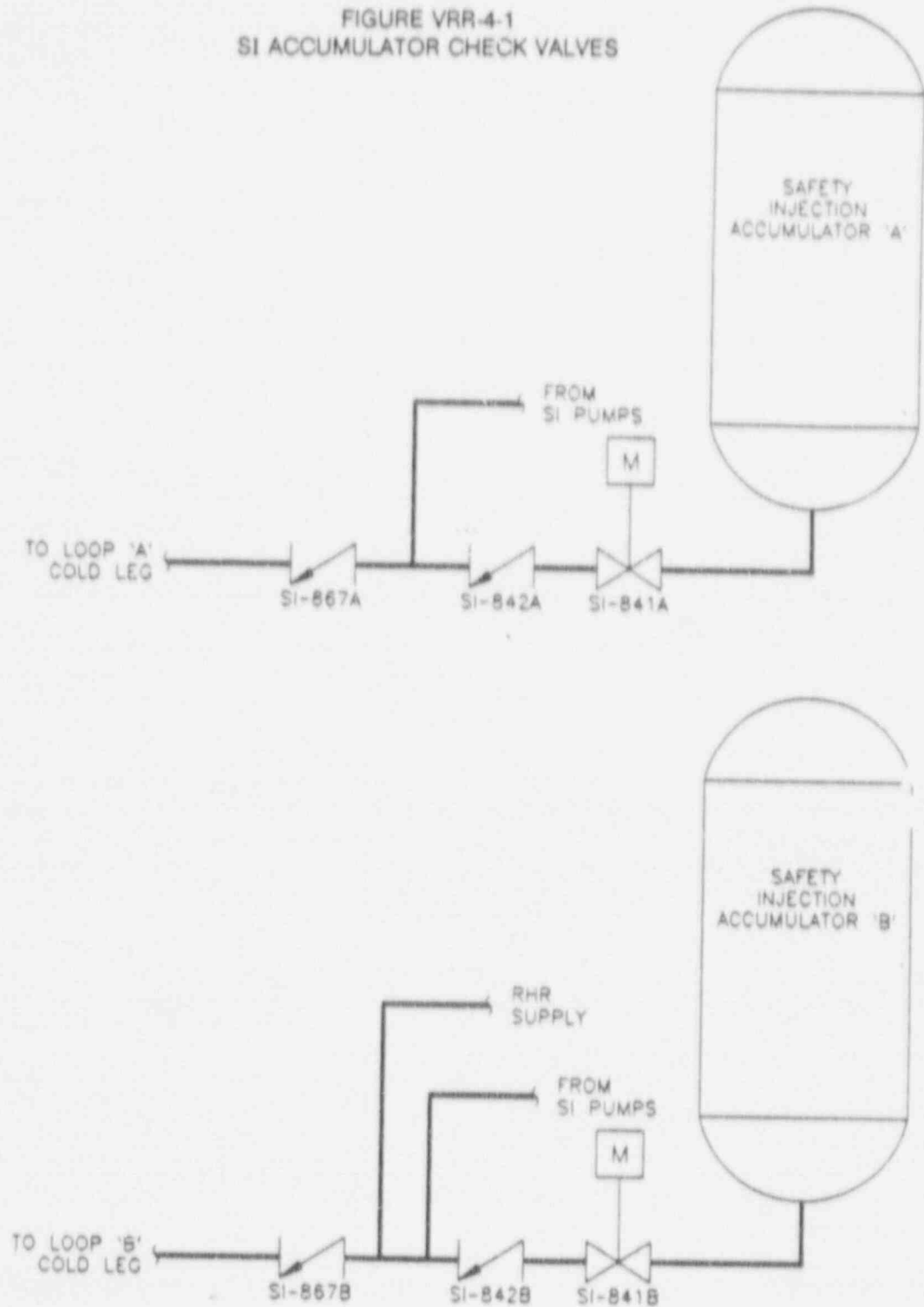
If a condition is discovered during an inspection of a given valve that would have prevented it from stroking full open, the inspection sample will be expanded. A second identical check valve in the same unit will be opened and inspected. Also, during the next refueling outage on the opposite unit, the sister valve to the inoperable valve will be inspected. If a second valve is found inoperable in the expanded sample, all six (6) remaining valves from the group of eight (8) like valves will be inspected.

If the inspection must be expanded to include all eight valves, the inspections of those valves in the unit which is not in a refueling shutdown condition shall be performed during the next regularly scheduled refueling shutdown.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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FIGURE VRR-4-1  
SI ACCUMULATOR CHECK VALVES



Status: IST Program 1990





APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-5

SYSTEM: Various

COMPONENTS: All valves tested during cold shutdown conditions.

CATEGORY: Various

FUNCTION: Various

SECTION XI REQUIREMENT:

Valves shall be exercised ... unless such operation is not practical during plant operation. If only limited operation is practical during plant operation, the valve shall be part-stroke exercised during plant operation and full stroke exercised during cold shutdowns. Full stroke exercising during cold shutdowns for all valves not full-stroke exercised during plant operation shall be on a frequency determined by the intervals between shutdowns as follows:

For intervals of 3 months or longer - exercise during each shutdown. (IWW-3412 and IWW-3522)

BASIS FOR RELIEF:

In many instances testing of all valves designated for testing during cold shutdown cannot be completed due to the brevity of an outage or the lack of plant conditions needed for testing specific valves. It has been the policy of the NRC that if testing commences in a reasonable time and reasonable effort are made to test all valves, then outage extension or significant changes in plant conditions are not required when the only reason is to provide the opportunity for completion of valve testing.

ASME/ANSI OMA-1987, Operation and Maintenance Of Nuclear Power Plants, Part 10 (Paragraphs 4.2.1.2 and 4.3.2.2) recognizes this issue and allows deferred testing as set forth below.

ALTERNATE TESTING:

For those valves designated to be exercised or tested during cold shutdown, exercising shall commence as soon as practical after the plant reaches a stable cold shutdown condition as defined by the applicable Technical Specification but no later than 48 hours after reaching cold shutdown. If an outage is sufficiently long enough to provide for testing of all valves required to be tested during the cold shutdown period, then the 48-hour requirement need not apply if all valves are tested during the outage. Valve testing need not be performed more often than once every three (3) months except as provided for in IWP-3417(a). Completion of all valve testing during a cold shutdown outage is not required if plant conditions preclude testing of specific valves or if the length of the shutdown period is insufficient to complete all testing. Testing not completed prior to startup will be rescheduled for the next cold shutdown in a sequence such that the test schedule does not omit nor favor certain valves or groups of valves. For the purpose of this requirement, the term 'cold shutdown' refers to the respective condition as defined in the Technical Specifications. The program tables identify those valves to which cold shutdown testing applies.

Status: IST Program 1990



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-6

SYSTEM: Safety Injection (110E017, Sh 2 / 110E035, Sh 2)

COMPONENTS: SI-00854 A&B

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the Refueling Water Storage Tank (RWST) to the suctions of the Residual Heat Removal (RHR) Pumps for low-head safety injection into the reactor vessel. During post-LOCA recirculation, they close to prevent sump water from returning to the RWST.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWW-3522. (IWW-3521)

BASIS FOR RELIEF:

Valve stroking is not possible during normal operation because the RHR pump discharge pressure is insufficient to overcome reactor coolant system pressure during normal operation. During cold shutdown periods, full stroke testing of these valves is not possible because the reactor coolant system does not contain a sufficient expansion volume and there is no return flowpath to the refueling water storage tank for recirculation.

ALTERNATE TESTING:

At least once during each reactor refueling these valves will be full-stroke exercised (open and closed) and their leak tight integrity verified by means of a seat leak test.





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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-7

SYSTEM: Safety Injection (110E017, Sh 2 / 110E035, Sh 2)

COMPONENTS: SI-00889 A&B

CATEGORY: C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the safety injection pumps to the reactor coolant system for emergency core cooling.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating a safety injection pump at nominal accident flowrate and injecting into the reactor coolant system since no full flow recirculation path exists. During normal operation the safety injection pump discharge pressure of 1500 psig is insufficient to overcome reactor coolant system pressure. During cold shutdown conditions, injection via the SIS pumps is precluded by restrictions related to low-temperature over-pressurization protection concerns.

ALTERNATE TESTING:

These valves will be part-stroke exercised quarterly.

At least once during each reactor refueling outage these valves will be full-stroke exercised to the open position.



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RELIEF REQUEST NO. VRR-8

SYSTEM: Containment Spray (110E017, Sh 3 / 110E035, Sh 3)

COMPONENTS: SI-00858 A&B

CATEGORY: C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the refueling water storage tank to the suctions of the containment spray pumps.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating the containment spray pumps at nominal accident flowrate and spraying into the containment building since no full flow recirculation path exists. This is obviously impractical and undesirable.

ALTERNATE TESTING:

These valves will be part-stroke exercised during plant operation.

Each of these valves will be disassembled and inspected for operability during refueling shutdowns.



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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-9

SYSTEM: Containment Spray (110E017, Sh 3 / 110E035, Sh 3)

COMPONENTS: SI -00862 A&B

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the refueling water storage tank to the suction of the containment spray pumps.

In the closed position, these valves serve as containment isolation valves.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full or part-stroke exercising of these valves would require operating the containment spray pumps at nominal accident flowrate and spraying into the containment building since no recirculation path is available. This is obviously impractical and undesirable.

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. Performing such tests of these valves involves considerable effort and system realignment such that routine testing during plant operation or cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages these valves will be seat leak tested in accordance with 10 CFR 50, Appendix J.

These valves will be disassembled and inspected for operability at reactor refueling outages.

Status: IST Program 1980; Submitted as VRR-9 (Approved via GL 89-04)



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-10

SYSTEM: Component Cooling Water (110E018, Sh 2 / 110E029, Sh 2)

COMPONENTS: CC-00755 A&B

CATEGORY: V/C

FUNCTION:

These valves open to provide flowpaths for cooling water to the reactor coolant pumps (RCP's are non-safety related) and close to provide containment isolation for the component cooling water system in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by TWV-3522 (TWV-3521)

BASIS FOR RELIEF:

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. During plant operation, such testing would require securing the RCP's which is not practical. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during cold shutdown outages is impractical.

ALTERNATE TESTING:

These valves will be exercised to the closed position during seat leak tests performed in accordance with 10 CFR 50, Appendix J.



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RELIEF REQUEST NO. VRR-11

SYSTEM: Reactor Coolant (541F091, Sh 2 / 541E445, Sh 2)

COMPONENTS: RC-00528

CATEGORY: A/C

FUNCTION:

These valves open to provide flowpaths for nitrogen supply to the pressurizer relief tanks (PRT's are non-safety related) and close to provide containment isolation for the nitrogen system in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Because nitrogen makeup to the PRT is seldom required, these valves are normally closed. These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during plant operation or cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages each of these valves will be full-stroke exercised to the closed position and seat leak tested in accordance with 10 CFR 50, Appendix J.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-1.

SYSTEM: Chemical and Volume Control (684J741 / 685J175)

COMPONENTS: CV-00304 C&D

CATEGORY: A/C

FUNCTION:

These valves open to provide flowpaths for seal water injection to the reactor coolant pumps (RCP's are non-safety related) and close to provide containment isolation for the CVCS system in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

These valves are normally open. They are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. During plant operation, such testing would require securing the RCP's which is not practical. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages these valves will be verified shut by means of seat leakage testing performed in accordance with 10 CFR 50, Appendix J.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-13

SYSTEM: Chemical and Volume Control (684J741 / 685J175)

COMPONENTS: CV-00370

CATEGORY: A/C

FUNCTION:

These valves open to provide flowpaths for charging water into the reactor coolant system from the charging pumps. They close to provide containment isolation for the CVCS system in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

This valve is normally open. It is a simple check valve with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. During plant operation, such testing would require securing the charging pumps which is not practical or prudent and could result in a plant trip if done. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages these valves will be verified shut by means of seat leakage testing performed in accordance with 10 CFR 50, Appendix J.





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RELIEF REQUEST NO. VRR-14

SYSTEM: Instrument Air (M-209, Sheets 5, 7, 11)

COMPONENTS: IA-00644, 645, 1280, 1281 (Unit 1)  
IA-00876, 877, 1401, 1402 (Unit 2)

CATEGORY: A/C

FUNCTION:

These valves open to provide air to inflate the purge valve boot seals. They close on a loss of supply air pressure to maintain the boot seals inflated.

SECTION XI REQUIREMENTS:

Valve leakage shall be determined by one of two methods; measuring leakage directly or measuring feed rate required to maintain test pressure. (IWW-3424)

BASIS FOR RELIEF:

There are other acceptable techniques available which demonstrate leak rates through valves. OM Part 10, Section 4.2.2.3 describes such techniques.

ALTERNATE TESTING:

Leakage will be assessed by measuring pressure decay in the test volume. All leakage will be assigned to the valve being tested. Differential pressure will be applied in the same direction as when the valve is performing its function.



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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-15

SYSTEM: Service Water (M-207, Sh 1)

COMPONENTS: SW-00112A (Unit 2)  
SW-00135A (Unit 1)

CATEGORY: C

FUNCTION:

These valves open to provide flowpaths to the steam-driven auxiliary feedwater pumps (P-029) for bearing cooling water.

SECTION XI REQUIREMENTS:

Check valves shall be exercised to the position required to fulfill their function. Confirmation that the disc moves away from the seat shall be by visual observation, by electrical signal, by observation of substantially free flow through the valve, or by other positive means. (IWV-3522) Per NRC Generic Letter 89-04, if valve exercising is performed with system flow, there must be a quantitative measurement of flow to verify that full accident flow is attained.

BASIS FOR RELIEF:

There is no practical means of measuring flow through these check valves. In accordance with NRC Generic Letter, an acceptable alternative is a program of valve disassembly and inspection to verify operability.

ALTERNATE TESTING:

During quarterly testing of the related auxiliary feedwater pumps, the valves will be exercised and pump and turbine bearing temperatures will be monitored.

During each reactor refueling outage, the valve associated with the unit undergoing refueling will be disassembled and inspected to verify operability.



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RELIEF REQUEST NO. VRR-16

SYSTEM: Heating and Ventilation (M-215, Sh 2, M-2215, Sh 2)

COMPONENTS: RM-03200AA

CATEGORY: A/C

FUNCTION:

These valves open to provide a return flowpath to the containment from the containment atmospheric monitoring system. They close for containment isolation.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWR 352.1 (1.1V-4521)

BASIS FOR RELIEF:

During normal plant operation, gases from a continuous sampling system return sample flow to the containment through these lines/valves. To test these valves during operation or cold shutdown, it will be necessary to discharge potentially radioactive gases to the environment. There is no mechanism to partially stroke these valves.

ALTERNATE TESTING:

During refueling outages each of these valves will be exercised to the closed position during seat leak tests performed in accordance with 10 CFR 50, Appendix J.



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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-17

SYSTEM: Emergency Diesel Generator Air Start (M-209, Sh 12)

COMPONENTS: DA-03057 A&B  
DA-03058 A&B

CATEGORY: B

FUNCTION:

These valves operate to supply starting air on demand to the emergency diesel generator air starting motors and to isolate air to the motors after startup.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to ...., whenever such a valve is full-stroke tested.

(IWV-3413(b))

If, for power-operated valves, an increase in stroke time of 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. (IWV-3417(a))

BASIS FOR RELIEF:

These are enclosed air-pilot operated valves with no remote or local position indication and where the valve design prohibits visual observation of valve operation or position. Thus, stroke time measurements are not possible.

Failure of a valve to operate properly would result in unacceptable start and operation of the associated diesel generators.

ALTERNATE TESTING:

Valve stroke testing will be performed monthly in conjunction with the associated emergency diesel generator start testing. Valve stroking parameters will be considered acceptable if the diesel generator start is acceptable. If a diesel generator fails to start, at no fault of the respective valve(s), the valve stroking parameters will be considered acceptable, which will be proven with the restart following diesel generator corrective action.

Status: IST Program 1980; Submitted as VRR-17 (Approved via GL 89-04)



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-18

SYSTEM: Reactor Coolant (541F091, Sh 2 / 541E445, Sh 2)

COMPONENTS: RC-00529

CATEGORY: A/C

FUNCTION:

These valves open to provide flowpaths for makeup water supply to the Pressurizer Relief Tanks (PRT's are non-safety related) and close to provide containment isolation in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

These are simple, normally-closed, check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leak test or backflow test. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during plant operation or cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages each of these valves will be exercised to the closed position during sect leak tests performed in accordance with 10 CFR 50, Appendix J.



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RELIEF REQUEST NO. VRR-19

SYSTEM: Chemical and Volume Control (684J741 / 685J175)

COMPONENTS: 1-CV-00300 A&B  
2-CV-00300 A&B

CATEGORY: A

FUNCTION:

These normally-throttled open valves provide seal water to the RCP's during pump operation (RCPs are nonsafety-related.) and are closed upon direction of the operator for containment isolation.

SECTION XI REQUIREMENT:

Category A and B valves shall be exercised at least once every 3 months, except as provided by IWV-3412(a), IWV-3415, and IWV-3416. (IWV-3411)

BASIS FOR RELIEF:

Exercising these valves during RCP operation would result in significant damage to the pumps. During cold shutdown periods, it is customary to maintain the RCP's in operation unless plant conditions required securing them. Thus, requiring the exercising of these valves would result in a considerable operational burden. Note that these small manual valves are highly reliable with respect to their capability to close and exercising during refueling outages will adequately demonstrate their operability.

ALTERNATE TESTING:

During reactor refueling outages these valves will be exercised to the closed position and seat leak rate tested in accordance with 10CFR50, Appendix J.





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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR 20

SYSTEMS: Main Stearn. (M-201, M-2201)

COMPONENTS: 1-MS-02090  
2-MS-02090

CATEGORY: B

FUNCTION:

These valves open upon start of the associated auxiliary feedwater pump to provide cooling water to the turbine bearings.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to ...., whenever such a valve is full-stroke tested. (IWV-3413(b))

If, for power-operated valves, an increase in stroke time of 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed (IWV-3417(a))

BASIS FOR RELIEF:

These are enclosed solenoid-operated valves with no remote or local position indication and where the valve design prohibits visual observation of valve operation or position. Thus, stroke time measurements are impractical.

Failure of a valve to operate properly would result in a lack of bearing cooling water pressure at the bearing cooling water inlet.

ALTERNATE TESTING:

These valves will be exercised in conjunction with testing of the associated auxiliary feedwater pump. Proper operation of the valves will be determined by observing pump bearing cooling water pressure and bearing temperatures.

Status: IST Program 1980; Submitted as VRR-20 (Approved via GL 89-04)





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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-21

SYSTEM: Main Feedwater (M-202, Sh 2 / M-2202, Sh 2)

COMPONENTS: CS-00466 AA&BB  
CS-00476 AA&BB

CATEGORY: C

FUNCTION:

The main feedwater line to each steam generator has two normally open, in-line, series check valves. The function of these valves is to closed upon reversal of flow to ensure that auxiliary feedwater flow is unimpaired to at least one of the two steam generators while main feedwater is not available. The series check valves also prevent simultaneous blowdown of both steam generators in the event of a main feed pipeline failure.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

Valves that are normally open during plant operation and whose function is to prevent reversed flow shall be tested in a manner that proves that the disc travels to the seat promptly on cessation or reversal of flow. (IWV-522(a))

BASIS FOR RELIEF:

The main feed line to each steam generator consists of two series check valves. There are no position indicators on these valves nor are there any pressure taps between the valves. It is therefore not feasible, with the present plant configuration, to verify individual valve closure. Closure of at least one of the two series check valves can be verified by measuring the differential pressure across, or leakage past the combination of both valves. This is adequate to ensure the safety function of the valve combination is maintained and verified.

Prompt seating of each valve on cessation or reversal of flow cannot be verified at the instant of closure since no direct indication of valve disc position is available.

Valve testing can be conducted only during unit shutdowns since the flow of main feedwater to the steam generators must be secured in order to perform the tests.

ALTERNATE TESTING:

A valve exercise test of the main feedwater check valves will be conducted once each refueling outage. At least one of the series valves will be verified closed after flow is secured by measuring the differential pressure across, or the leakage past, the series combination of valves.

Additionally, once every 10 years, the main feedwater check valves will be opened and inspected. The inspections will be distributed so that at least one valve is inspected every two-to-three years, and all valves are inspected within a 10-year interval.



APPENDIX F  
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Since the split body construction of the second-off check valves 466AA and 476AA limits access to the valve internals, only those portions of the valve internals accessible from a side access port will be inspected. Complete disassembly of these valves is not practical since it would require that large pipe support structures would have to be cut and piping be moved.

The construction of the first-off check valves 466BB and 476BB permits access to valve internals for inspection with no known limitations.



APPENDIX F  
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RELIEF REQUEST NO. VRR-22

UNITS: 1 and 2

SYSTEM: Safety Injection/Residual Heat Removal (110E017 & 110E035)

COMPONENTS: SI-00845 A through F  
SI-00853 A through D  
SI-00867 A&B

CATEGORY: A/C (Check Valves)

FUNCTION:

These check valves open to provide for high-pressure and low-pressure safety injection to the RCS. The motor-operated valves open for residual heat removal recirculation during shutdown. Each of these valves is designated as a pressure isolation valve (PIV) and provides isolation of safeguard systems from the RCS.

SECTION XI REQUIREMENT:

The leakage rate for valves 6-inches or greater shall be evaluated per Subsection IWV-3427(b). (IWV-3521)

BASIS FOR RELIEF:

Leak testing of these valves is primarily for the purpose of confirming their capability of preventing over-pressurization and catastrophic failure of the safety injection piping and components. In this regard, special leakage acceptance criteria is established and included in the Point Beach Technical Specifications 15.3.16 that addresses the question of valve integrity in a more appropriate manner for these valves. Satisfying both the Technical Specification and the Code acceptance criteria is not warranted and implementation would be difficult and confusing.

ALTERNATE TESTING:

The leakage rate acceptance criteria for these valves will be established per the Point Beach Technical Specifications,

1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.
2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
3. Leakage rates greater than 1.0 gpm, but less than or equal to 5.0 gpm, are unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
4. Leakage rates greater than 5.0 gpm are unacceptable.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-23

SYSTEM: Primary Containment

COMPONENTS: Containment Isolation Valves per Table VR-5-1

CATEGORY: A or A/C

FUNCTION: These valves are closed to provide containment isolation.

SECTION XI REQUIREMENT:

Category A valves shall be seat leak tested and a maximum permissible leakage rate shall be specified. Individual valve leakage rates shall be evaluated per IWV-3426 and IWV-3427. (IWV-3426, IWV-3427, NRC Generic Letter 89-04)

BASIS FOR RELIEF:

Due to the configuration of the system piping and components, in many cases individual leakage rate tests are impractical. In these cases it is customary to perform tests with the test volume between valves in series or behind valves in parallel paths. This concept of testing and evaluation is consistent with the intent of 10CFR50, Appendix J.

ALTERNATE TESTING:

In those cases where individual valves testing is impractical, valves will be leaktested simultaneously in multiple valve arrangements and a maximum permissible leakage rate will be applied to each combination of valves. Test results from tests of multiple valves will be evaluated in accordance with IWV-3426 and IWV-3427 and 10 CFR 50, Appendix J.



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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-23 (Cont.)

TABLE VR-5-1

| <u>SYSTEM</u>                           | <u>VALVES</u>                                       |   |
|---|---|---|
| Auxiliary Steam                         | HV-00632<br>HV-00633<br>HV-00808                    | HV-00809<br>HV-00818                                |
| Chemical & Vol. Control                 | CV-00323B<br>CV-00384B                              |   |
| Component Cooling Water                 | CC-00755 A&B<br>CC-00759 A&B                        |   |
| Containment Spray                       | SI-00862 A&B<br>SI-00864 A&B                        |   |
| Heating & Ventilation                   | VNPSE-03212<br>VNPSE-03213                          | VNPSE-03244<br>VNPSE-03245                          |
| Instrument Air                          | IA-01182<br>IA-01184                                |   |
| Post-Acc Containment<br>Vent/Monitoring | H2-V-04<br>H2-V-05<br>H2-V-06<br>H2-V-07<br>H2-V-12 | H2-V-13<br>H2-V-19<br>H2-V-20<br>H2-V-22<br>H2-V-23 |
| Waste Disposal                          | WL-00816<br>WL-01698<br>WL-01723                    | WL-01728<br>WL-01003A<br>WL-01003B                  |



APPENDIX F  
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RELIEF REQUEST NO. VRR-24

SYSTEM: Chemical and Volume Control (684J971)

COMPONENTS: CV-00351

CATEGORY: C

FUNCTION:

These valves open to provide a flowpath for emergency boration from the boric acid transfer pumps to the suction of the charging pumps providing for emergency boration of the RCS.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF

Testing these valves in the open direction requires the introduction of highly concentrated boric acid solution from the boric acid makeup tanks to the suction of the charging pumps. This, in turn, would result in the addition of excess boron to the RCS which would adversely affect plant power level and operational parameters with the potential for an undesirable plant transient and a plant trip or shutdown. During cold shutdown, the introduction of excess quantities of boric acid is undesirable from the aspect of maintaining proper plant chemistry and the inherent difficulties that may be encountered during the subsequent startup.

ALTERNATE TESTING:

These valves will be exercised as required during each reactor refueling outage.



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RELIEF REQUEST NO. VRR-25

UNITS: 1 and 2

SYSTEM: Emergency Diesel Generator Air Start (M-209, Sh 12)

COMPONENTS:

|          |              |
|----------|--------------|
| DA-00125 | DA-06316 A&B |
| DA-00126 | DA-06317 A&B |
| DA-00225 | DA-06318 A&B |
| DA-00226 | DA-06319 A&B |

CATEGORY: B/C

FUNCTION:

These valves operate as required to supply starting air and to sequence starting operations of the emergency diesel generators.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to the nearest second, ..., whenever such a valve is full-stroke tested. (IWV-3413(b))

Check valves are to be full-stroke tested per Reference 2.8, Position 1 including quantitative measurements verifying design flow through a valve.

BASIS FOR RELIEF:

These valves are integral (skid-mounted) with the diesel air start system for each emergency diesel generator with no valve position indication mechanism and, as such, there is no practical method for measuring the stroke times or flowrates of each individual valve. If a valve were to fail to stroke as required it would be reflected in an unacceptable starting time and/or performance of the respective diesel generator.

ALTERNATE TESTING:

These valves will be exercised in conjunction with testing of the emergency diesel generators. Stroke times of Category B valves will not be measured nor will flowrates through check valves, but the starting time for each diesel generator will be verified to be acceptable.





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VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-26

UNITS: 1 and 2

SYSTEM: Chemical and Volume Control System (684J971)

COMPONENTS: CV-00333 A&B

CATEGORY: C

FUNCTION:

These valves open to provide a flowpath from the boric acid makeup pumps to the emergency boration header and close to prevent recirculation flow through an idle pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full-stroke testing these valves requires operating the boric acid makeup pumps at or near rated flow and verifying full accident flow through each valve. This can be performed during plant operation, however there is no instrumentation available in the test loop by which flow can be measured.

Flow through the individual valves can be measured by pumping into the charging pump suction header and measuring charging flow using installed instrumentation. This, however, requires the introduction of highly concentrated boric acid solution from the boric acid makeup tanks to the suction of the charging pumps. This, in turn, would result in the addition of excess boron to the RCS which would adversely affect plant power level and operations! parameters with the potential for an undesirable plant transient and a plant trip or shutdown. During cold shutdown, the introduction of excess quantities of boric acid is undesirable from the aspect of maintaining proper plant chemistry and the inherent difficulties that may be encountered during the subsequent startup in over-boration of the RCS. In addition to the above, there is no flowrate measurement instrumentation installed in this flowpath.

ALTERNATE TESTING:

Each of these valves will be partial stroke exercised quarterly.

During testing of the boric acid makeup pumps performed during each reactor refueling, system flowrate will be measured to verify full stroke of these valves.



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VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-27

SYSTEM: Safety Injection (110E017, Sh 2 / 110E035, Sh 2)

COMPONENTS: SI-00891 A&B

CATEGORY: C

FUNCTION:

These valves open to provide flowpaths from the safety injection pumps to the refueling water storage tank to provide for minimum flow through the respective pumps in the event they are operating under low or no flow conditions.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWW-3522. (IWW-3521)

BASIS FOR RELIEF:

There is no flowrate instrumentation available to verify valve full-stroke exercising as required by Reference 2.8, Position 1.

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be partial-stroke exercised via recirculation through the minimum flow test circuits with no flow measurements.

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valve in that unit will be inspected during the same outage, after which the rotational inspection schedule will be re-initiated. This satisfies the requirements of Generic Letter 89-04, Position 2.

Status: IST Program 1990 (Approved via GL 89-04)



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

RELIEF REQUEST NO. VRR-28

UNITS: 1 and 2  
SYSTEM: Auxiliary Feedwater  
COMPONENTS: AF-4002, AF-4007, AF-4014  
CATEGORY: B

FUNCTION:

These valves open to ensure minimum recirculation flow from the pumps to prevent pump damage. These valves shut in response to main line flow increases such that they are fully shut when pump damage due to insufficient flow is no longer a concern. These are air-operated valves.

SECTION XI REQUIREMENT:

Power-operated valves shall have their stroke timed in accordance with IWV-3413.

BASIS FOR RELIEF:

These valves are actually control valves, in that they respond to discharge flow and may actually end up in a throttled position. As control valves, according to IWV-1200, they could be exempt from testing. They do provide an important function, to shut when sufficiently large main line flows are achieved, thereby ensuring full pump capacity is available to meet any accident requirements. The appropriate acceptance criteria for these valves is to assure they respond properly to flow.

ALTERNATE TESTING:

Verify that the valve is closed when main line flow reaches a value which assures the pump will not be damaged. This will be performed on a cold shutdown frequency because sufficiently large main line flow rates of cold feedwater during operation would produce unacceptable thermal stresses of feedwater system piping components.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-29

UNITS: 1 and 2

SYSTEM: Primary Containment

COMPONENTS: Valves 6-inches NPS and larger subject to leakage rate testing per 10 CFR 50, Appendix J.

CATEGORY: A/C (Check Valves)  
A (Motor-operated valves)

FUNCTION:

Each of these valves is designated as a containment isolation valve maintaining the leakrate integrity of the primary containment in the case of an accident.

SECTION XI REQUIREMENT:

The leakage rate for valves 6-inches or greater shall be evaluated per Subsection IWV-3427(b). (IWV-3521)

BASIS FOR RELIEF:

The usefulness of applying this requirement does not justify the burden of compliance. This position is supported by NRC Generic Letter, Position 10

ALTERNATE TESTING:

Leakrate test results for valves 6-inches or greater (NPS) will be evaluated per IWV-3426 and IWV-3427(a) however, the requirements of IWV-3427(b) will not be applied. This satisfies the requirements of Generic Letter 89-04, Position 10.

Status: IST Program 1990 (Approved via GL 89-04)



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-30

UNITS: 1 and 2

SYSTEM: Component Cooling Water (110E018, Sh 2 / 110E029, Sh 2)

COMPONENTS: 1-CC-00767  
2-CC-00767

CATEGORY: A/C

FUNCTION:

These valves open to provide flowpaths for cooling water to the excess letdown heat exchangers which are non-safety related components. They also close to provide containment isolation for the component cooling water system in the event of an accident.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. Performing such tests of these valves involves considerable effort and system re-alignment such that routine testing during plant operation or cold shutdown outages is impractical.

ALTERNATE TESTING:

During reactor refueling outages each of these valves will be exercised to the closed position during seat leak tests performed in accordance with 10 CFR 50, Appendix J.



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VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-31

SYSTEM: Chilled Water (M-214, Sh 2)  
COMPONENTS: HV-00898A, HV-00900A, HV-00914A, HV-00916A  
CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths from the control room and cable spreading room chilled water pumps to the respective cooler units. Each closes to prevent recirculation flow through an idle pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWW-3522. (IWW-3521)

BASIS FOR RELIEF:

There is no instrumentation available with which to measure system flowrate in order to satisfy the requirements of NRC Generic Letter (GL) 89-04, Position 1 for full-stroke exercising check valves.

ALTERNATE TESTING:

The following alternate testing will be performed:

1. A partial-stroke test of these valves will be performed during inservice testing of the associated chilled water pumps.
2. Each of these valves will be disassembled and inspected for operability at least once every six (6) years. Inspections will be scheduled on a staggered basis such that one valve be inspected every two years. If during a valve inspection a condition is discovered that would have prevented the subject valve from stroking full open, the inspection sample will be expanded to include the second identical check valve in the same chilled water system. If during an expanded sample inspection a condition is discovered that would have prevented the second subject valve from stroking full open, the inspection sample will be expanded to include the remainder of the valves.





POINT BEACH NUCLEAR PLANT  
INSERVICE TESTING PROGRAM

INSERVICE TESTING PROGRAM  
Revision 1  
May 28, 1991

APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
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RELIEF REQUEST NO. VRR-32

SYSTEM:

Instrument Air (M-209, Sh 11)

COMPONENTS:

1-IA-01206, 1-IA-01209, 1-IA-01600, and 1-IA-01606;  
2-IA-01335, 2-IA-01338, 1-IA-01652, and 1-IA-01653

CATEGORY:

A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths for operating air from the plant instrument air system to PORV's. In the event of a loss of air pressure in the instrument air system they close to prevent diversion of the nitrogen backup pneumatic supply that provides gas for operation of the PORV's.

SECTION XI REQUIREMENT:

Category A valves shall be leak tested in accordance with Paragraph IWV-3420.

BASIS FOR RELIEF:

The plant configuration for these valves is such that two valves are installed in series with no test connection in the common piping between them that could be used to test the valves individually. The function of closure and isolation can be accomplished with only one valve, thus if either valve has acceptable leaktight integrity, then the system remains fully functional.

Testing two valves in combination adequately demonstrates the functional adequacy of the system.

Note that these valves are included in the testing program for information and tracking purposes and do not strictly meet the requirements of IWV-1100 for inclusion.

ALTERNATE TESTING:

These valves will be leak tested in combination such that the measured leakrate will be assigned to the combination as though it were a single valve.





APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-32

SYSTEM: Instrument Air (M-209, Sh 11)

COMPONENTS: 1-IA-01206, 1-IA-01209, 1-IA-01600, and 1-IA-01606  
2-IA-01335, 2-IA-01338, 1-IA-01652, and 1-IA-01653

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flowpaths for operating air from the plant instrument air system to PORV's. In the event of a loss of air pressure in the instrument air system they close to prevent diversion of the nitrogen backup pneumatic supply that provides gas for operation of the PORV's.

SECTION XI REQUIREMENT:

Category A valves shall be leak tested in accordance with Paragraph IWV-3420.

BASIS FOR RELIEF:

The plant configuration for these valves is such that two valves are installed in series with no test connection in the common piping between them that could be used to test the valves individually. The function of closure and isolation can be accomplished with only one valve, thus if either valve has acceptable leaktight integrity, then the system remains fully functional.

Testing two valves in combination adequately demonstrates the functional adequacy of the system.

Note that these valves are included in the testing program for information and tracking purposes and do not strictly meet the requirements of IWV-1100 for inclusion.

ALTERNATE TESTING:

These valves will be leak tested in combination such that the measured leakrate will be assigned to the combination as though it were a single valve.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

---

RELIEF REQUEST NO. VRR-33

SYSTEM: Emergency Diesel Generator Fuel Oil (M-219)

COMPONENTS: FO-03940 and FO-03941

CATEGORY: A/C

FUNCTION:

These valves operate to control fuel oil transfer Pump discharge pressure and provide a flowpath to prevent pump or piping damage after pump start before the day tank inlet valves are fully opened. After flow is established to the day tanks, these valves close to prevent diversion of fuel oil back to the Emergency Fuel Tank.

SECTION XI REQUIREMENT:

Valves shall be exercised (full-stroke) to the position required to fulfill their function. (IWV-3412)

BASIS FOR RELIEF:

Since these are essentially back-pressure regulating valves requiring no outside source of power to operate, they are exempt from stroke time measurements per IWV-3413, however, it is not practical to perform a full-stroke test since the position of the valve disc cannot be determined visually or by any other practical means.

Considering the type and function of these valves, an operational (functional) test is an effective way of ascertaining the condition of the valves and proving their operability.

ALTERNATE TESTING:

These valves will be subjected to an operational test to verify proper operation with respect to limiting and controlling the fuel oil piping pressure during fuel oil transfer pump operation. During these tests, system operating parameters will be monitored to determine valve operability.



APPENDIX F  
VALVE PROGRAM REQUESTS FOR RELIEF  
UNITS 1 AND 2

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RELIEF REQUEST NO. VRR-34

SYSTEM: Post-Accident Containment Vent Systems (M-224)  
COMPONENTS: H2-V-04, H2-V-05, H2-V-12, H2-V-13, H2-V-19,  
H2-V-20, H2-V-22, H2-V-23 for Unit 1 and for Unit 2  
CATEGORY: A

FUNCTION:

These valves would be used should a need arise to perform a post-accident vent of containment.

SECTION XI REQUIREMENT:

Category A valves shall be exercised at least once every three months. . . (etc). (IWV-3411)

BASIS FOR RELIEF:

These valves are manual valves which remain shut at all times except to perform stroke testing. They are diaphragm-type valves, thus they do not have a disc which can separate from the stem. Frequent flexing of diaphragms is a failure mechanism. These valves use stainless steel in their construction, thus they are susceptible to galling. Frequent stroking of these valves could lead to inoperability rather than improving operability.

ALTERNATE TESTING:

Exercise these valves once per year.



APPENDIX G  
COLD SHUTDOWN JUSTIFICATIONS

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## APPENDIX G COLD SHUTDOWN JUSTIFICATIONS

This appendix is intended to provide the justification for performing valve exercising only at cold shutdown conditions as permitted by IWV-3412(a), 3415 and 5322. Specifically included in this category are the following:

- \* A valve whose failure in a position other than its normal position could jeopardize the immediate safety of the plant or system components;
- \* A valve whose failure in a position other than its normal position could cause all trains of a safeguard system to be inoperable;
- \* A valve whose failure in a position other than its normal position that might cause a transient that could lead to a plant trip;
- \* When test requirements or conditions are precluded by system operation or access.

Cold shutdown testing is performed under conditions outlined in Relief Request VRR-5.

### Auxiliary Feedwater (M-217)

- CSJ-1 AF-00100, AF-00101, AF-00102, AF-00103, AF-00104, AF-00105, AF-00106, and AF-00107  
Auxiliary Feedwater Supply Check Valves

Full-stroke exercising of these valves would require operation of a related auxiliary feedwater pump and injection of cold water (85°F) into the hot (450°F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components.

- CSJ-2 AF-00108, AF-00109 and AF-00110  
Auxiliary Feedwater Pump Discharge Check Valves

Full-stroke exercising of these valves would require operation of the related auxiliary feedwater pump and injection of cold water (85°F) into the hot (450°F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components.

- CSJ-3 AF-00111, AF-00112 and AF-00113  
Auxiliary Feedwater Pump Suction Check Valves

Full-stroke exercising of these valves would require operation of a related auxiliary feedwater pump and injection of cold water (85°F) into the hot (450°F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components. These valves will be partial stroke tested during quarterly testing via the minimum flow recirculation lines.



## APPENDIX G COLD SHUTDOWN JUSTIFICATIONS

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CSJ-31 AF-4002, AF-4007, AF-4014 (Unit 1 & 2)

Generating a close signal for these valves (which is equivalent to failing the operating air, see Appendix H) requires a large main line flow rate. The addition of large quantities of cold feedwater would cause unacceptable thermal stresses on the feedwater piping.

### Chemical & Volume Control (684J741)

CSJ-4 CV-00112C  
Volume Control Tank Outlet Valve

Closing this valve during operation of a charging pump would isolate the VCT from the charging pump suction header damaging any operating charging pumps and interrupting the flow of charging water flow to the RCS with the potential of RCS transient and plant trip.

CSJ-5 CV-00142  
Charging Flow Control Valve

Closing this valve during operation isolates the charging pumps from the RCS and would result in undesirable pressurizer level transients with the potential for a plant trip and potential damage to the charging pumps. If the valve failed to reopen, then a expedited plant shutdown would be required.

CSJ-6 CV-00313 and CV-313A  
RCP Seal Water Return Valves

Exercising these valves to the closed position when the associated reactor coolant pump (RCP) in operation would interrupt flow from the respective RCP seals and result in pump damage.

CSJ-7 CV-00371 and CV-00371A  
Letdown Line Isolation Valves

Closing either of these valves during operation isolates the letdown line from the RCS and would result in undesirable pressurizer level transients with the potential for a plant trip. If a valve failed to reopen, then a expedited plant shutdown would be required.

CSJ-8 CV-00384B  
Charging Line HCV Outlet Valves

Closing these valves during operation will interrupt flow of charging water flow to the RCS with the potential of RCS transient and plant trip.





APPENDIX G  
COLD SHUTDOWN JUSTIFICATIONS

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Component Cooling Water (110E018)

CSJ-9 CC-00719  
Containment Cooling Water Supply Valves

This valve is required to be open to ensure continued cooling of reactor coolant pump auxiliary components. Closing this valve during plant operation would result in severe RCP damage leading to plant operation in a potentially unsafe mode and a subsequent plant shutdown.

CSJ-10 CC-00754 A&B and CC-00759 A&E  
RCP Cooling Water Supply/Return Isolation Valves

These valves are required to be open to ensure continued cooling of reactor coolant pump auxiliary components. Closing any of these valves during plant operation would result in severe RCP damage leading to plant operation in a potentially unsafe mode and a subsequent plant shutdown.

Containment Spray System (110E017)

CSJ-11 SI-00836 A&B  
Sodium Hydroxide (NaOH) Supply Valves

In order to exercise these valves without contaminating the containment spray piping with sodium hydroxide would require isolating the NaOH supply from the containment spray eductors. This, in turn, renders the sodium hydroxide additive subsystem for both trains of containment spray inoperative during the test period.

Heating and Ventilation (M-215)

CSJ-12 VNPSE-03212, VNPSE-03213, VNPSE-03244, and VNPSE-03245  
Containment Purge Supply and Exhaust Valves

These valves are administratively maintained locked in the closed position at all times when the plant is operating and are considered to be "out-of-service." They are only opened during cold shutdown and refueling outages. Due to the large size of these valves and the potential for damage as a result of frequent cycling, it is not prudent to operate them more than is absolutely necessary.

Instrument Air (M-209)

CSJ-13 Unit 1 IA-01280 and IA-01281, Unit 2 IA-01401 and IA-01402  
Containment Purge Valve Air Supply Check Valves

These valves and other valves required for exercising are located within the containment building and, as such, are not readily accessible during plant operation at power.





APPENDIX G  
COLD SHUTDOWN JUSTIFICATIONS

CSJ-28 Unit 1 IA-01206, 01209, 01301, 01302 and Unit 2 IA-01335, 01338, 01418, 01419, Instrument Air and Nitrogen Supply to PORV's and IA-06310 and IA-06311 Nitrogen Supply Pressure Regulators  
PORV Pneumatic Supply Valves

These valves need only be tested prior to entering a condition where LTOP precautions must be administered (i.e. cold shutdown). Furthermore, exercising these valves requires containment entry and operation of the PORV's which is not advisable during plant operation at power. (GL 90-06)

Main and Reheat Steam (M-201)

CSJ-15 MS-02017 and MS-02018  
Main Steam Isolation Valves

During plant operation at power, closure of either of these valves is not practical as it would require isolating a steam generator which would result in a severe transient on the steam and reactor systems and a reactor plant trip.

CSJ-16 MS-02017A and MS-02018A  
Main Steam Non-Return Valves

Exercising these valves requires isolating the associated steam generator which is not practical without a plant shutdown, and, if performed during plant operation, will result in a plant trip.

CSJ-17 MS-02017CS, MS-02017DS, MS-02017CS, and MS-02017DS  
IV Air Pilot Valves

Testing of these valves can result in closure of the related MSIV. During plant operation at power, closure of any MSIV is not desirable as it would cause isolation of a steam generator which would result in a severe transient on the steam and reactor systems and a reactor plant trip.

Reactor Coolant (541F02 / 541F445)

CSJ-18 RC-00430 and RC-00431C  
Power-Operated Relief Valves (PORV's)

Due to the potential impact of the resulting transient should one of these valves open prematurely or stick in the open position, it is considered imprudent to cycle them during plant operation. In accordance with NRC Generic Letter 90-06, they will be exercised when practical with the reactor shutdown and at reduced reactor coolant system pressure.

CSJ-19 RC-00570 A&B, RC-00575 A&B, and RC-00580 A&B  
Reactor Coolant System Vents

These are isolation valves for the reactor coolant system, failure of a valve to close or significant leakage following closure could result in a loss of coolant in excess of the limits imposed by Technical Specification 15.3.1.D leading to a plant shutdown. Furthermore, if a valve were to fail open or valve indication fail to show the valve returned to the fully closed position following exercising, prudent plant operation would probably likely result in a plant shutdown.



APPENDIX G  
COLD SHUTDOWN JUSTIFICATIONS

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Safety Injection / Residual Heat Removal (110E017 / 110E018)

CSJ-20 SI-00841 A&B

Safety Injection Accumulator Discharge Valves

During plant operation in any mode above cold shutdown these valves are required to remain open and disabled. Closing one of these valves renders the associated accumulator unavailable for injection in the event of a LOCA. Closing either of these valves during plant operation is considered to be imprudent and unsafe.

CSJ-21 SI-00852 A&B

RHR/LH Core Deluge Motor-Operated Valves

Opening these valves with the RCS at normal pressures could expose the downstream safety injection piping to RCS pressure with the only protection being the two check valves. This is considered to be imprudent and an unwarranted challenge to plant safety.

CSJ-22 SI-00878 A&C

Reactor Vessel Safety Injection Motor-Operated Valves

During plant operation in any mode above cold shutdown these valves are required to remain open and disabled. Closing one of these valves renders the associated accumulator unavailable for injection in the event of a LOCA. Closing either of these valves during plant operation is considered to be imprudent and unsafe.

CSJ-23 SI-00878 B&D

Safety Injection Loop Motor-Operated Valves

These valves remain open during power operation. Exercising these valves will result in isolation of one of the injection flowpaths to the RCS. This is considered imprudent and an unwarranted compromise of plant safety.

CSJ-24 SI-00826 B&C

SI Pump Redundant Suction From the BAST's

Exercising these valves requires closure of the downstream valve, SI-00826A or the mini-flow valve from the RWST to preclude overfilling the BAST's from the RWST. Operation in either configuration would isolate all water sources from both SI pumps with the potential of the loss of functionality in the event of an accident.

CSJ-25 SI-00897 A&B

Safety Injection Pump Mini-Recirc To RWST

Closing either of these valves isolates the minimum flow recirc lines from both SI pumps and, in the event of SI initiation at elevated RCS pressure, both pumps could sustain damage with the potential of rendering both safety injection pumps inoperable.



## APPENDIX G COLD SHUTDOWN JUSTIFICATIONS

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CSJ-26 RH-00710 A&B  
RHR Pump Discharge Check Valves

During normal plant operation, the RHR Pumps cannot develop sufficient discharge pressure to pump through these valves to the RCS and full-stroke exercise them in the open direction.

CSJ-30 SI-00957 and SI-00834A&B  
Accumulator Nitrogen Supply Vent Valve and Accumulator Vent Valve

Stroking these valves during operation has the potential for reducing plant safety. If a series valve were to leak, accumulator nitrogen pressure could drop below that required to maintain the accumulator operable. Stroke testing at cold shutdown when accumulators are not required provides a satisfactory demonstration of valve operability without the possibility of compromising plant safety.

Service Water (M-207)

CSJ-27 SW-02880  
Turbine Plant Service Water Supply Valve

Closing this valve results in securing cooling water to the turbine plant auxiliaries including the main turbine, main generator, steam generator feedwater pumps, condensate pumps and other supporting equipment. If, during testing, this valve were to fail to reopen for any extended period of time, the associated turbine generator and various support components would sustain significant damage.

CSJ-32 SW-00307, SW-00315, SW-00322, SW-00360  
Component Cooling Water Heat Exchanger 12D, 12C, 12A, 12B, Outlet Valves

Operating these valves during power operation causes large fluctuations in component cooling water temperature. The effects of these temperature changes is seen on reactor coolant pump performance parameters, particularly the No. 1 seal. The temperature transients are most noticeable when the RCS is at normal operating temperatures when a large temperature gradient exists between the RCS and the CCW system. We think that placing temperature transients on the RCP No. 1 seal and lube oil systems leads to seal and bearing damage and could result in catastrophic failures.

In cold shutdown the RCS temperature has been reduced by at least 350°F. This results in a lower temperature gradient between RCS and CCW and less chance of RCP damage.



## APPENDIX H VALVE FAIL-SAFE TEST DESCRIPTION

ASME Section XI, Article IWW-3415, states the following for valves having fail-safe actuators.

"Valves with fail-safe actuators shall be tested by observing the operation of the valves upon loss of actuator power."

This type of test demonstrates that a valve will go to its required position to fulfill its safety function upon loss of actuator power.

The following describes the requirements for fail-safe tests for the different types of actuators.

| <u>Actuator Type</u> | <u>Fail-Safe Test</u>  |
|----------------------|--|
| Motor                | Valve will fail as is. No test required.   |
| Solenoid             | Valve fails to its safe position upon loss of power to the solenoid.   |
| Air                  | Valve fails to its safe position upon loss of control air to the actuator and/or loss of control power to its associated solenoid valve. |

A fail-safe test can only be performed on solenoid-operated or air-operated valves. Upon loss of power, a motor-operated valve is incapable of moving and fails as is.

Fail-safe testing of motor operators will not be performed.

A fail-safe test of solenoid-operated valves will be conducted by deenergizing the solenoid and observing that the valve moves to its fail-safe position. Deenergization of the solenoid will be performed by operating the valve control switch to the position that corresponds to the fail-safe position (i.e., open or shut).

A fail-safe test of air-operated valves will be conducted by deenergizing the solenoid control valve, which will, in turn, vent air from the valve actuator and result in the valve moving to its fail-safe position. Operation of the AOV control switch to the position corresponding to the fail-safe position (i.e., open or shut) will deenergize the solenoid-operated valve and vent air from the AOV's actuator.

In some cases, a controller, I/P (electric/pneumatic) converter, and a positioner is used to control air to the actuator of an AOV. For these cases, one of the following methods will be used to perform a fail-safe test of the AOV.

1. Secure power to the I/P converter which in turn will secure air to the AOV actuator.
2. With the controller in manual, adjust the valve to its fail-safe position. Operation of a controller in this manner sends a minimum control signal to the I/P converter and causes the I/P converter to cut off air to the valve actuator. This is similar to securing control power to the I/P converter, except a small control signal is still present.