ATTACHMENT A

ORGANIZATION OF BYRON 1 FIRST 10-YEAR

INSERVICE INSPECTION AND TESTING PROGRAM

SECTION 1.0 - Introduction

SECTION 2.0 - Inservice Inspection Program Plan for Nondestructive Examination

SECTION 3.0 - Preservice/Inspection Testing Program Plan for Pumps

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9447N

Revision 3

SECTION 3.0

PRESERVICE/INSERVICE TESTING

PROGRAM PLAN FOR PUMPS

Prepared by: David F. Flowers

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3.1

PROGRAM DESCRIPTION

Program Description

The Pump Preservice/Inservice Testing Program for Byron Nuclear Power Station Unit 1, is implemented in accordance with the requirements of Subsection IWP of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition, through the Winter of 1981 Addenda. Where these requirements are determined to be impractical, specific relief is requested. Additional pump relief requests may be necessary and these will be identified during subsequent inservice tests. The pumps subject to ISI testing are those pumps which are identified in the Byron FSAR as Active, and have an emergency power source. Active pumps are defined as those which are called on to perform a safety function as well as to accomplish and maintain a safe reactor shutdown. The only exceptions are the diesel driven auxiliary feedwater pump, (1AF01PB), and essential service water makeup pumps, (OSX02PA, OSX02PB), which are included in the program, although they are not supplied by an emergency power source.

Pump reference values shall be determined from the results of a preservice test, which may be run during preoperational testing, or from the results of the first inservice test run during power operation. Reference values shall be at points of operation readily duplicated during subsequent inservice testing. Additional reference values may be necessary and these will be taken in accordance with IWP-3111 and 3112.

In the event a pump must be declared inoperable as a result of inservice testing, limitations on plant operation will be as stated in the Technical Specifications.

Section XI of the ASME Boiler and Pressure Vessel Code shall not be construed to supersede the requirements of any Technical Specification.

3.2

PROGRAM TABLES

TABLE DESCRIPTION

The following information is included in the summary tables:

The first four columns include the unique Byron Station Equipment Piece Number, the Pump Name, the Code Class, and the P & ID on which the pumps are located.

Speed: Speed will be measured by a tachometer for variable speed drives.

Inlet pressure: Inlet pressure will be measured via permanently installed gauges or other means, provided the equipment accuracy meets the requirements of IWP-4150. This is to be measured both before pump startup and during the test.

Differential pressure: Differential pressures will be measured using calibrated differential pressure gauges or by recording the difference between calibrated inlet and outlet pressure gauges.

Flow rate: Flow rates will be measured using permanently installed instrumentation or other means, provided that equipment accuracy meets the requirements of IWP-4150.

Vibration: Vibration measurement shall be made using portable or hand held instruments at locations as marked on the pumps.

Bearing Temperature: Bearing temperature will be measured by permanently installed devices where such devices are present. Portable measurement devices will be used where temperature wells are provided.

Per IWP-3300, bearing temperatures are required only once per year. Byron Station takes the data for bearing temperatures once per year during summer testing.

Test Interval: An inservice test shall be run on each pump nominally every 3 months during normal plant operation, in accordance with IWP-3400.

Lubrication Level: Lubrication level will be observed through sight glasses for the pumps listed in the program.

Revision: The current revision of the program is listed.

Table Page: The table pages are numbered sequentially and show the total number of pages.

(0297M)

3.3

NOTES

NOTE 1

Revision 3

"Deleted"

NOTE 2

The Diesel Oil Transfer, Residual Heat Removal and Containment Spray pumps cannot be measured for lubrication level. These pumps are lubricated by the fluid pumped and hence have no indication for lubrication level.

NOTE 3

These pumps are in a system which is in continuous operation. The idle inlet pressure, therefore cannot be obtained. Proper pump operation is assured by continuous pump operation as well as quarterly monitoring of the remaining ISI pump parameters.

NOTE 4

The Diesel Oil Transfer pumps are positive displacement pumps. The pump differential pressure is not a factor affecting pump performance but rather dependent only on the inlet pressure to the pump. As the pump discharge pressure is constant, and the inlet pressure varies with tank level, the differential pressure is not a valid operational parameter. For this reason, pump discharge pressure will be used to evaluate pump performance in lieu of using pump differential pressure.

3.4

RELIEF REQUESTS

Revision 3

RELIEF REQUEST NO. PR-1

1. PUMP NUMBER: All pumps in the program plan.

2. NUMBER OF ITEMS: 23 pumps.

3. ASME CODE CLASS: 2 & 3

4. ASME CODE, SECTION XI REQUIREMENTS: In reference to Table IWP-3100-2, "Allowable Ranges of Test Quantities", pump vibration is to be measured in and compared to values given in mils displacement.

5. BASIS FOR RELIEF: The measurement of pump vibration is required so that developing problems can be detected and repairs initiated prior to a pump becoming inoperable. Measurement of vibration only in displacement quantities does not take into account frequency which is also an important factor in determining the severity of the vibration.

6. ALTERNATE TESTING: The ASME Code minimum standards require measurement of the vibration amplitude in mils (displacement). Byron Station proposes an alternate program of measuring vibration velocity (inches per second) which is more comprehensive than that required by Section XI. This technique is an industry-accepted method which is much more meaningful and sensitive to small changes that are indicative of developing mechanical problems. These velocity measurements detect not only high amplitude vibration, that indicate a major mechanical problem, but also the equally harmful low amplitude, high frequency vibration due to misalignment, unbalance, or bearing wear, that usually go undetected by simple displacements measurements.

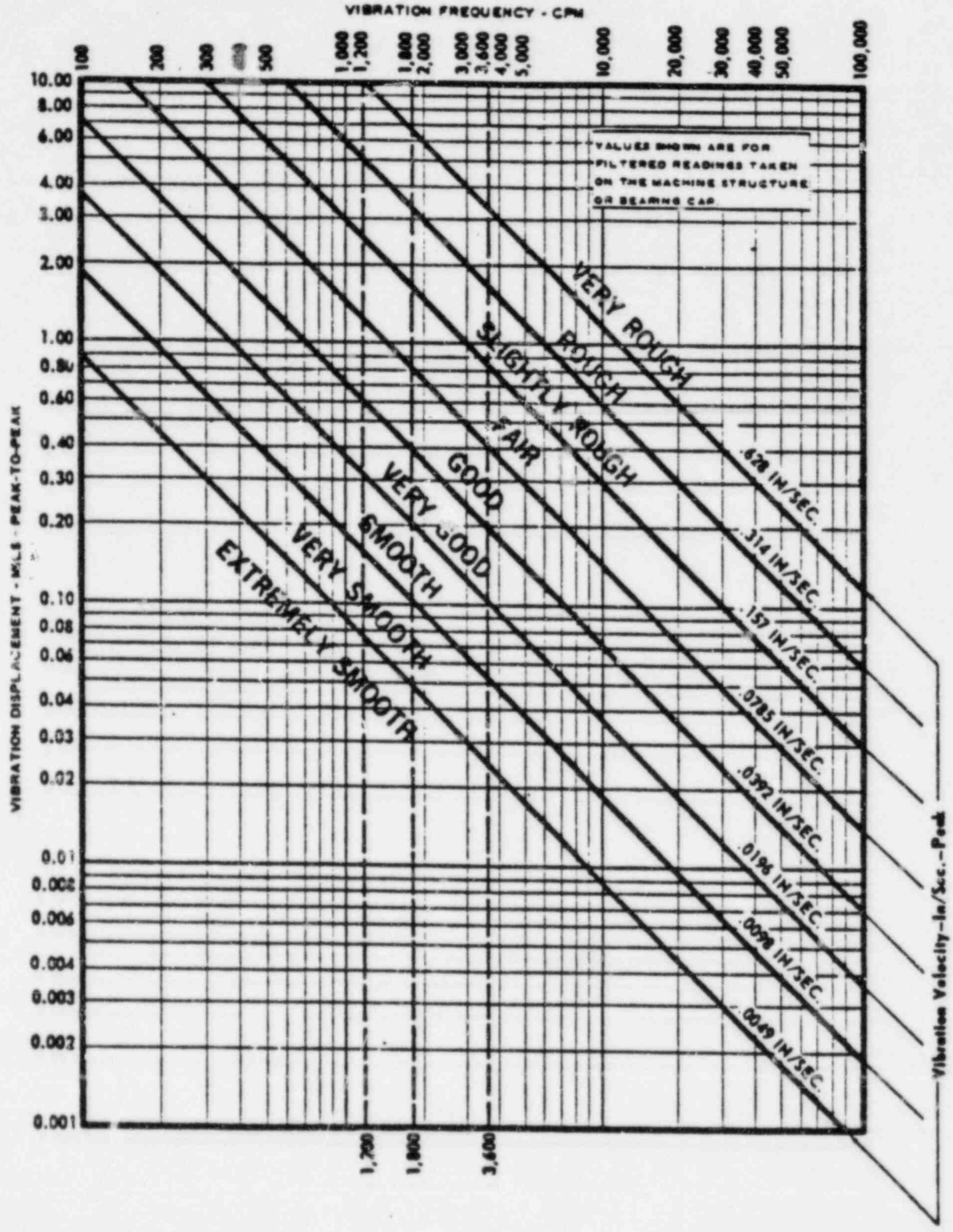
The "General Machinery Vibration Severity Chart" published by IRD Mechanalysis, Inc., (see attached) will be used in place of Table IWP-3100-2 for the Allowable vibration ranges. The "Alert Range" will be .314 in/sec $\leq V <$ .628 in/sec. The required action range will be $V \geq$ .628 in/sec. Evaluation of data, to assign equipment to the alert or action ranges, will be done within 96 hours (per IWP-3220 of Section XI). This will be done using industry accepted vibration analysis equipment, such as a full spectrum analyzer.

7. JUSTIFICATION: Measurements of vibration in mils displacement are not sensitive to small changes that are indicative of developing mechanical problems. Therefore, the proposed alternate of measuring vibration amplitude in inches/second provides added assurance of the continued operability of the pumps.

8. APPLICABLE TIME PERIOD: This relief is requested once per quarter during the first inspection interval.

GENERAL MACHINERY
VIBRATION SEVERITY CHART

For use as a GUIDE in judging vibration as a warning of impending trouble.



Revision 3

RELIEF REQUEST NO. PR-2

1. PUMP NUMBER: OCC01P, 1CC01PA, 1CC01PB, 1CS01PA, 1CS01PB, 1RH01PA, 1RH01PB, OSX02PA, OSX02PB, 1D001PA, 1D001PB, 1D001PC, 1D001PD, OWO01PA, OWO01PB

2. NUMBER OF ITEMS: 15 pumps

3. ASME CODE CLASS: 2 & 3

4. ASME CODE, SECTION XI REQUIREMENTS: Per IWP-3100, Inservice Test Procedure pump bearing temperatures are required to be measured to detect any change in the mechanical characteristics of a bearing. IWP-3500(b) requires three successive readings taken at ten minute intervals that do not vary more than 3%.

5. BASIS FOR RELIEF:

   a. These pumps' bearings are not provided with permanent temperature detectors or thermal wells. Therefore, gathering data on bearing temperature is impractical.

   b. The only temperature measurements possible are from the bearing housing. To detect high bearing temperature at the bearing housing would require that the bearings in question be seriously degraded.

   c. Measurement of housing temperature on many of these pumps does not provide information on bearing condition or degradation. For example, the bearings on the Essential Service Water pumps (OSX02PA, OSX02PB) and Diesel Oil Transfer Pumps (1D001PA, 1D001PB, 1D001PC, 1D001PD) are cooled by the fluid pumped.

Therefore, any heat generated by degraded bearings is carried away by the cooling fluid and would not be directly measured at the bearing housing.

6. ALTERNATE TESTING: No direct alternate test is proposed for bearing temperatures. However, measurement of hydraulic parameters and vibration readings do provide a more positive method of monitoring pump condition and bearing degradation.

7. JUSTIFICATION: By measuring pump hydraulic parameters and vibration velocity, (as described in PR-1), pump operability and the trending of mechanical degradation is assured. Also, since these parameters (i.e., Hydraulic parameters and vibration) are measured quarterly, the pump mechanical condition will be more accurately determined than would be possible by measuring bearing temperature on a yearly basis.

8. APPLICABLE TIME PERIOD: This relief is requested once per year, during the first inspection interval.

RELIEF REQUEST NO. PR-3

1. PUMP NUMBER: OSX02PA, OSX02PB

2. NUMBER OF ITEMS: 2 pumps

3. ASME CODE CLASS: 3

4. ASME CODE, SECTION XI REQUIREMENT: Per IWP-3100, differential pressure shall be measured on all pumps that are tested.

5. BASIS FOR RELIEF: It is impractical to measure the inlet pressures of these pumps. Instrumentation for directly measuring the inlet pressure for these pumps does not exist. These pumps are vertical well type pumps which take a suction from the river screen house forebay.

6. ALTERNATE TESTING: These pumps will be evaluated using pump discharge pressure. Additionally, delta level across the traveling screens will be measured to assure adequate suction level. There is differential level instrumentation provided, which indicates the difference in level between the river height and the reservoir height in inches. This delta level will be recorded in lieu of inlet pressure for the pumps.

7. JUSTIFICATION: The level of plant safety is not affected by not taking suction pressure data on vertical well type pumps. These pumps cannot suffer from cavitation as long as their impellers are submersed in the pumped fluid reservoir. Recording the delta level across the traveling screens ensures that the pumps will be submersed in the river since no other possible obstructions between the river and pump bays exist.

8. APPLICABLE TIME PERIOD: This relief is requested once per quarter during the first inspection interval.

Revision 3

RELIEF REQUEST NO. PR-4

"Deleted"

RELIEF REQUEST NO. PR-5

1. PUMP NUMBER: OCC01P, 1CC01PA&B, 1CV01PA&B, 0SX02PA&B, 1SX01PA&B, 1D001PA-D

2. NUMBER OF ITEMS: 13 pumps

3. ASME CODE CLASS: 2 & 3

4. ASME CODE, SECTION XI REQUIREMENTS: Per IWP-4120, the full scale range of each instrument shall be three times the reference value or less.

5. BASIS FOR RELIEF: The full scale range of ultrasonic flowmeters, used to collect Section XI flow data, exceed three times the reference value.

6. ALTERNATE TESTING: Ultrasonic flowmeters, with digital readouts and totalizer features will be utilized to obtain Section XI flow data.

7. JUSTIFICATION: Ultrasonic flowmeters provide an accurate means of measuring flowrate. They utilize a digital display whose accuracy is independent of the full scale range. In addition, use of the totalizer feature, and integrating the flow for five minutes provides an accuracy of less than $\pm$ 1% of the reading. This is well within the requirements of IWP-4110, which refers to an instrument accuracy of $\pm$ 2% of full scale.

8. APPLICABLE TIME PERIOD: This relief is requested once per quarter, during the first inspection interval.

INSERVICE TESTING PROGRAM PLAN

UNIT 1

CLASS 1, 2, & 3 PUMPS
BYRON NUCLEAR POWER STATION

REVISION 3

PUMP NUMBER	PUMP NAME	CLASS	P & ID	TEST PARAMETERS						TEST INTERVAL	LUBRICATION LEVEL	REMARKS
				SPEED	INLET PRES	DIFF PRES	FLOW RATE	VIBRATION	BEARING TEMP			
1AF01PA	Auxiliary feedwater pump	2	M-37	No	Yes	Yes	Yes	PR-1	Yes	Quarterly	Yes	
1AF01PB	Auxiliary feedwater pump (Diesel)	2	M-37	Yes	Yes	Yes	Yes	PR-1	Yes	Quarterly	Yes	
0CC01P	Component cooling pump	3	M-66-3	No	Yes	Yes	PR-5	PR-1	PR-2	Quarterly	Yes	Note 3
1CC01PA	Component cooling pump	3	M-66-3	No	Yes	Yes	PR-5	PR-1	PR-2	Quarterly	Yes	Note 3
1CC01PB	Component cooling pump	3	M-66-3	No	Yes	Yes	PR-5	PR-1	PR-2	Quarterly	Yes	Note 3
1CS01PA	Containment spray pump	2	M-46	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	No	Note 2
1CS01PB	Containment spray pump	2	M-46	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	No	Note 2
1CV01PA	Centrifugal charging pump	2	M-64-3	No	Yes	Yes	PR-5	PR-1	Yes	Quarterly	Yes	Note 3
1CV01PB	Centrifugal charging pump	2	M-54-3	No	Yes	Yes	PR-5	PR-1	Yes	Quarterly	Yes	Note 3

INSERVICE TESTING PROGRAM PLAN

UNIT 1

CLASS 1, 2, & 3 PUMPS
BYRON NUCLEAR POWER STATION

REVISION 3

PUMP NUMBER	PUMP NAME	CLASS	P & ID	TEST PARAMETERS						TEST INTERVAL	LUBRICATION LEVEL	REMARKS
				SPEED	INLET PRES	DIFF PRES	FLOW RATE	VIBRATION	BEARING TEMP			
1RH01PA	Residual heat removal pump	2	M-62	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	No	Note 2
1RH01PB	Residual heat removal pump	2	M-62	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	No	Note 2
1SI01PA	Safety injection pump	2	M-61-1	No	Yes	Yes	Yes	PR-1	Yes	Quarterly	Yes	
1SI01PB	Safety injection pump	2	M-61-1	No	Yes	Yes	Yes	PR-1	Yes	Quarterly	Yes	
1SX01PA	Essential service water pump	3	M-42-1	No	Yes	Yes	PR-5	PR-1	Yes	Quarterly	Yes	Note 3
1SX01PB	Essential service water pump	3	M-42-1	No	Yes	Yes	PR-5	PR-1	Yes	Quarterly	Yes	Note 3
0SX02PA	Essential service water makeup pump (Diesel)	3	M-42-6	Yes	PR-3	PR-3	PR-5	PR-1	PR-2	Quarterly	Yes	
0SX02PB	Essential service water makeup pump (Diesel)	3	M-42-6	Yes	PR-3	PR-3	PR-5	PR-1	PR-2	Quarterly	Yes	
1DO01PA	Diesel oil transfer pump	3	M-50-1	No	Yes	No	PR-5	PR-1	PR-2	Quarterly	No	Note 2, 4
1DO01PB	Diesel oil transfer pump	3	M-50-1	No	Yes	No	PR-5	PR-1	PR-2	Quarterly	No	Note 2, 4

INSERVICE TESTING PROGRAM PLAN

UNIT 1

CLASS 1, 2, & 3 PUMPS
BYRON NUCLEAR POWER STATION

REVISION 3

PUMP NUMBER	PUMP NAME	CLASS	P & ID	TEST PARAMETERS						TEST INTERVAL	LUBRICATION LEVEL	REMARKS
				SPEED	INLET PRES	DIFF PRES	FLOW RATE	VIBRATION	BEARING TEMP			
1D001PC	Diesel oil transfer pump	3	M-50-1	No	Yes	No	PR-5	PR-1	PR-2	Quarterly	No	Note 2
1D001PD	Diesel oil transfer pump	3	M-50-1	No	Yes	No	PR-5	PR-1	PR-2	Quarterly	No	Note 2
0WO01PA	Control room chilled water	3	M-118-1	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	Yes	
0WO01PB	Control room chilled water	3	M-118-1	No	Yes	Yes	Yes	PR-1	PR-2	Quarterly	Yes	

Revision 4

SECTION 4.0

PRESERVICE/INSERVICE TESTING

PROGRAM PLAN FOR VALVES

Prepared by: David F. Flowers

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4.1

PROGRAM DESCRIPTION

Program Description

The Preservice/Inservice Testing Program for Class 1, 2, & 3 valves meets the requirements of Subsection IWV of the ASME Section XI Code, 1980 Edition, through the Winter of 1981 Addenda. Where code requirements are determined to be impractical, specific requests for relief are written, referenced, and included with the tables. Additional valve relief requests may be necessary and these will be identified during subsequent inservice tests. The tables list all code Class 1, 2 & 3 valves which have been assigned a specific code category as directed by Subsection IWV of Section XI. The tables are organized by system and further identified by code class and code category, using P & ID references.

After installation and prior to service, all valves identified in this program will be tested as required by Subsection IWV-3100 of Section XI of the ASME Code. These tests will be conducted under conditions similar to those to be experienced during subsequent inservice tests. When a valve or its control system has been replaced or undergone maintenance that could affect its performance, it will be retested, prior to its return to service, to demonstrate that all performance parameters are within acceptable limits.

In the event a valve must be declared inoperable as a result of inservice testing, limitations on plant operations will be as stated in the Technical Specifications.

Section XI of the ASME Boiler and Pressure Vessel Code shall not be construed to supersede the requirements of the Technical Specifications.

4.2

PROGRAM TABLES

Table Description

The following information is included in the summary tables:

A. SYSTEM

The system in which a valve is located is denoted by the abbreviated system identification.

B. P & ID

The P & ID column references the specific P & ID number and sheet number, which the valves are located on.

C. REVISION

The revision corresponds to the current revision of the program.

D. PAGE

The pages are numbered sequentially and show the total number of tables.

E. VALVE NUMBER

The valve number references the unique Byron Station equipment piece number (EPN). This specific valve number identifies the unit and system.

F. COORD

The coordinates reference a specific location on a particular P & ID, via an X-Y coordinate system.

G. CLASS

The class refers to the ASME class assigned to the specific valve.

H. VALVE CATEGORY

The valve category identifies the valve category defined in subarticle IWV-2200 of ASME Section XI.

I. VALVE SIZE

The valve size lists the nominal pipe size of each valve in inches.

1. 製品概要

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

2. 仕様、性能

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

3. 使用場所、使用方法等

[redacted]

4. 使用制限、注意事項等

[redacted]

[redacted]

[redacted]

4. Test Methods

The test methods include identification specific tests which will be performed on applicable valves to fulfill the requirements of Subsection IWV of Section XI. The tests and abbreviations used are as follows:

a. Seat Leakage Test (Lt)

The seat leakage tests will meet the requirements of IWV-3420 for Category A valves. On these valves, seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their safety function.

b. Full Stroke Test (St)

Valve exercising tests of Category A and B valves will be performed in accordance with IWV-3412. The test will include full stroke testing to verify operability in the direction required to fulfill the required safety function.

c. Check Valve Exercise Test (Ct)

The check valve disc will be exercised to the position required to fulfill the safety function in accordance with IWV-3520.

d. Safety Valve Setpoint Check (St)

Safety valve setpoints will be verified in accordance with IWV-3510 of ASME Section XI.

e. Fail Safe Test (Ft)

Valves with fail safe actuators will be tested to verify the valve operator moves the valve disc to the required fail safe position upon loss of actuating power in accordance with IWV-3415.

This will be accomplished during the normal stroking of the valve. Upon actuating a valve to its fail position, the solenoid operator is de-energized causing air to be vented which, in turn, allows the spring to move the valve to its fail position. This condition simulates loss of actuating power (Electric and/or Air) and hence satisfies the fail safe requirements of IWV-3415.

f. Position Indication Check (Ct)

Valves which are identified to require a Position Indication Test (Ct) will be inspected in accordance with IWV-3300 of ASME Section XI.

7. Part-Stroke Test (Xt)

If only limited operation is practical during plant operation, the valves shall be part-stroke (Xt) exercised during plant operation and full-stroke exercised during cold shutdowns, in accordance with IWV-3412 or IWV-3522.

O. MAX STROKE TIME

For power operated valves requiring a full stroke test (St), in order to meet the requirements of IWV-3413, the maximum allowable stroke time is specified in seconds. N/A indicates that time is not a factor affecting valve operability.

P. TEST MODE

Denotes the frequency and plant condition necessary to perform a given test. The following abbreviations are used:

Normal Operation (OP)

Tests designated "OP" will be performed once every 3 months, except in those modes in which the valve is not required to be operable.

Cold Shutdown (CS)

Valves that cannot be operated during plant operation shall be full stroke exercised during cold shutdowns. Completion of cold shutdown valve testing is not a prerequisite to plant startup. Valve testings which are not completed during a cold shutdown shall be completed during subsequent cold shutdowns to meet the code specified testing frequency. In case of frequent cold shutdowns, valve testing need not be performed more often than once during any three-month period.

Reactor Refueling (RR)

Tests with this designation will be conducted during reactor refueling outages only.

Q. RELIEF REQUEST

Relief requests reference a specific request for relief from code requirements. All relief requests are included immediately following the presentation tables.

4.3

NOTES

NOTE 1

Closure of the Main Steam isolation valves, 1MS001A-D, during unit operation would result in reactor trip and safety injection actuation. To avoid this transient, these valves will be partially stroked every three months. Full stroke testing will be done during Mode 4 following, or preceding cold shutdown, per IWV-3412.

NOTE 2

The testing of any emergency boration flowpath valves during unit operation is not practical. Stroke testing the Boric Acid injection isolation valve, 1CV8104, and check valve, 1CV8442, the RWST to CV pump suction check valve, 1CV8546, the RH to CV pump suction isolation valve, 1CV8804A, or the RWST to CV pump suction isolation valves 1CV112D,E, could result in boration of the RCS, resulting in a cooldown transient. Aligning the system in this configuration, even for a short duration, is therefore, unacceptable. These valves will be stroke tested during cold shutdown in accordance with IWV-3412.

NOTE 3

These valves are the Main Feedwater isolation valves, 1FW009A-D, and cannot be fully stroked during operation as feedwater would be terminated causing a reactor trip. They will, however, be partially stroked tested during operation as well as full stroke tested during cold shutdown per the requirements of IWV-3412.

NOTE 4

Closure of these letdown and makeup valves, 1CV112B, C, 1CV8149A-C, 1CV8105, 1CV8106, 1CV8152 and 1CV8160 during normal unit operation would cause a loss of charging flow which would result in a reactor coolant inventory transient, and possibly, a subsequent reactor trip. These valves will be full stroke exercised during cold shutdown as required by IWV-3412.

NOTE 5

The 1RH8701A,B and 1RH8702A,B are the isolation boundary between the Residual Heat Removal Pumps and the Reactor Coolant System. Opening one of these valves during unit operation will leave only one valve isolating RHR from the high RCS pressure. This would place the plant in an undesirable condition. Therefore, the valves will be a full stroke tested during cold shutdown, per IWV-3522.

NOTE 6

The following valves have been identified as intersystem LOCA valves. They form a pressure boundary between the RCS and other essential components in order to protect these components from damage. These valves will be leak tested in accordance with the Byron Technical Specifications.

Byron Unit 1 Intersystem
LOCA Valves

1RH8701A,B	1SI8702A,B
1RH8705A,B	1SI8815
1SI8818A-D	1SI8905A-D
1SI8819A-D	1SI8948A-D
1SI8841A,B	1SI8949A-D
1SI8900A-D	1SI8956A-D

NOTE 7

The reactor pressure vessel vent valves, 1RC014A-D, cannot be stroked during unit operation as they provide a pressure boundary between the Reactor Coolant system and containment atmosphere. Failure of one of these valves in the open position would result in leaving only one valve as the high pressure boundary. These valves will be stroked when the RCS pressure is at a minimum during cold shutdown, per IWV-3412.

NOTE 8

The Residual Heat Removal Pump discharge check valves, 1RH8739A,B, and the Centrifugal Charging Pump discharge check valves, 1CV8481A,B, cannot be full stroke exercised during unit operation due to the high RCS pressure. These check valves will be partial stroke tested, however, on a quarterly basis and full stroke exercising during cold shutdown. This is in accordance with IWV-3522.

NOTE 9

Due to the RCS pressure, the check valves listed below cannot be full stroke exercised during unit operation:

1SI8818A-D	RHR Cold Leg Injection
1SI8948A-D	RHR/Accumulator/SI Cold Leg Injection
1SI8841A,B	RHR Hot Leg Injection
1SI8949A,C	RHR/SI Hot Leg Injection
1SI8958A,B	RWST to RHR Pump Suction
1SI8815	CV Cold Leg Injection
1SI8900A-D	CV Cold Leg Injection

These valves will be full stroke exercised during cold shutdown, in accordance with IWV-3522.

NOTE 10

The 1FW039A-D valves cannot be stroke tested during unit operation as closure of these valves would result in termination of the waterhammer prevention feedwater flow. This would result in undesirable affects on the Steam Generators. These valves will be full stroke tested during cold shutdown per IWV-3412.

NOTE 11

The Primary Containment Purge Supply and Exhaust Valves, 1VQ001A,B, and 1VQ002A,B, cannot be stroke timed during unit operation. These 48 inch valves are the only isolation points between the containment atmosphere and the environment. Stroking these valves at any time other then mode 5 or 6 would be a violation of the Byron Technical Specifications. These valves will be full stroke tested during cold shutdown in accordance with IWV-3412.

NOTE 12

The Auxiliary Feedwater check valves, 1AF001A,B, 1AF003A,B, 1AF014A-H and 1AF029A,B cannot be full stroke tested during unit operation, as this would induce potentially damaging thermal stresses in the upper feedwater nozzle piping. The 1AF001A,B and 1AF003A,B valves will be partially stroke tested during operation, and all valves full stroke tested during cold shutdown. This will be performed per Tech. Spec. 4.7.1.2.2 and is in accordance with IWV-3522.

NOTE 13

The High Head Injection Isolation Valves, 1SI8801A,B, cannot be stroke tested during unit operation. These valves isolate the CV system from the RCS. Opening them during operation would enable charging flow to pass directly into the RCS, bypassing the regenerative heat exchanger. The temperature difference of the charging flow and the RCS could result in damaging thermal stresses to the cold leg nozzles as well as causing a reactivity change which would, in turn, cause a plant transient. These valves will be full stroke tested during cold shutdown in accordance with IWV-3412.

NOTE 14

The safety injection system SVAG (Spurious Valve Actuation Group) valves cannot be stroke tested during unit operation. These valves are required by the Technical Specifications to be de-energized in their proper positions during unit operation. Stroking them would be a violation of the Technical Specifications as well as defeating the de-energized SVAG valve principle. These valves will be stroked tested during cold shutdown when they are not required to be de-energized. This is in accordance with IWV-3412.

4.4

RELIEF REQUESTS

1. Valve Number:

All primary containment isolation valves in this program are listed as Category A:

	VALVE #		VALVE #		VALVE #
1)	1CC685	45)	1PS9354A	89)	1VQ002A
2)	1CC9413A	46)	1PS9354B	90)	1VQ002B
3)	1CC9414	47)	1PS9355A	91)	1VQ003
4)	1CC9416	48)	1PS9355B	92)	1VQ004A
5)	1CC9438	49)	1PS9357A	93)	1VQ004B
6)	1CC9486	50)	1PS9357B	94)	1VQ005A
7)	1CC9518	51)	1PS9356A	95)	1VQ005B
8)	1CC9534	52)	1PS9356B	96)	1VQ005C
9)	1CS007A	53)	1RE9159A	97)	1VQ016
10)	1CS007B	54)	1RE9159B	98)	1VQ017
11)	1CS008A	55)	1RE9160A	99)	1VQ018
12)	1CS008B	56)	1RE9160B	100)	1VQ019
13)	1CV8100	57)	1RE9157	101)	1WM190
14)	1CV8112	58)	1RE9170	102)	1WM191
15)	1CV8113	59)	1RE1003	103)	1WO006A
16)	1CV8160	60)	1RF026	104)	1WO006B
17)	1CV8152	61)	1RF027	105)	1WO007A
18)	1FC009	62)	1RY8026	106)	1WO007B
19)	1FC010	63)	1RY8025	107)	1WO020A
20)	1FC011	64)	1RY8028	108)	1WO020B
21)	1FC012	65)	1RY8046	109)	1WO056A
22)	1IA066	66)	1RY8047	110)	1WO056B
23)	1IA065	67)	1RY8033	111)	1PR002E
24)	1IA091	68)	1SA033	112)	1PR002G
25)	1OG057A	69)	1SA032	113)	1PR033A
26)	1OG079	70)	1SD002A	114)	1PR033B
27)	1OG080	71)	1SD002B	115)	1PR002F
28)	1OG081	72)	1SD002C	116)	1PR002H
29)	1OG082	73)	1SD002D	117)	1PR033C
30)	1OG083	74)	1SD002E	118)	1PR033D
31)	1OG084	75)	1SD002F		
32)	1OG085	76)	1SD002G		
33)	1PR001A	77)	1SD002H		
34)	1PR001B	78)	1SD005A		
35)	1PR066	79)	1SD005B		
36)	1PR032	80)	1SD005C		
37)	1PS228A	81)	1SD005D		
38)	1PS228B	82)	1SI8888		
39)	1PS229A	83)	1SI8880		
40)	1PS229B	84)	1SI8871		
41)	1PS230A	85)	1SI8964		
42)	1PS230B	86)	1SI8968		
43)	1PS231A	87)	1VQ001A		
44)	1PS231B	88)	1VQ001B		

2. Number of Items: 118.

3. ASME Code Category: A.

4. ASME Code, Section XI Requirements:

Seat Leakage Measurement per IWV-3420.

5. Basis for Relief:

Primary containment isolation valves will be seat leak tested in accordance with 10 CFR 50, Appendix J. For these valves, Section XI testing requirements are essentially equivalent to those of Appendix J.

6. Alternate Testing:

Primary containment isolation valves will be seat leak tested in accordance with the Appendix J requirements of 10 CFR 50.

7. Justification:

No additional information concerning valve leakage would be gained by performing separate tests to both Section XI and Appendix J. Therefore, overall plant safety is not affected.

8. Applicable Time Period:

This relief is requested once per year during the first inspection interval.

1. Valve Number: 1CS020A
1CS020B

2. Number of Items: 2

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per IWV 3521.

5. Basis for Relief:

The check valves in the spray additive system cannot be stroked without introducing NaOH into the CS system.

6. Alternate Testing:

These valves will be dismantled each refueling outage in order to demonstrate operability. In addition to this, they will be full flow tested once every five years. The full flow test will be performed in lieu of dismantling the valves.

7. Justification:

This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as is safely possible.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1SI8905A-D
   1SI8949B,D
   1SI8819A-D
   1SI8922A,B

2. Number of Items: 12

3. ASME Code Category: AC & C

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for Relief:

   These check valves cannot be full flow tested during operation as the shutoff head of the Safety Injection pumps is lower than the reactor coolant system pressure. Performance of this test with the RCS depressurized, but intact, could lead to inadvertent overpressurization of the system. The alternate method of protecting against overpressurization by partially draining the RCS to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

6. Alternative Testing:

   These valves will be full stroke tested during cold shutdowns provided the reactor vessel head is removed. The testing period will be each refueling outage as a minimum, but no more frequently than once per quarter.

7. Justification:

   This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

   This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1CS008A, B
   1CS003A, B

2. Number of Items: 4

3. ASME Code Category: AC & C

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for Relief:

   The 1CS008A, B and 1CS003A, B valves cannot be full flow tested during unit operation as water from the CS pumps would be discharged through the CS ring headers causing undesirable effects on system components inside containment.

6. Alternate Testing:

   The 1CS008A, B valves will be partial stroke tested, using air, on a quarterly basis and full flow tested, or dismantled to demonstrate operability, each refueling outage. The 1CS003A, B valves will be partial stroke tested during the quarterly pump surveillance and dismantled, to demonstrate operability, each refueling outage.

7. Justification:

   Partial stroke testing of the 1CS008A, B check valves, using air, is an adequate means to demonstrate operability. Positive verification of disk movement will be accomplished by noting the rush of air of through the test connection. Performance of a partial stroke test, during the CS pump quarterly surveillance, on the 1CS003A, B check valves will ensure adequate check valve operation.

8. Applicable Time Period:

   This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1SI8956A-D

2. Number of Items: 4

3. ASME Code Category: AC

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for Relief:

The accumulator check valves cannot be tested during unit operation due to the pressure differential between the accumulators (650 psig) and the reactor coolant system (2235 psig). Full stroke exercising of these valves could occur only with a rapid depressurization of the reactor coolant system.

6. Alternate Testing:

These valves will be partial stroke tested during cold shutdown by providing a surge volume in the pressurizer and "burping" the accumulator discharge isolation valves. Positive verification of valve operability will be by noting a change in accumulator level.

7. Justification:

This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1SI8926

2. Number of Items: 1

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for Relief:

Full stroke exercising of the Safety Injection pump suction check valve, 1SI8926, cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full flow injection conditions. Performance of this test with the reactor coolant system intact could lead to an inadvertent overpressurization of the system. The alternate method of protecting against overpressurization by partial draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

6. Alternate Testing:

The 1SI8926 valve will be partial stroke tested during periodic inservice tests with the SI pumps in the recirculation mode. Full stroke exercising for the valve will be done during cold shutdown, providing the reactor vessel head is removed. This testing frequency will be each refueling outage as a minimum, but no more frequently than once per quarter.

7. Justification:

This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number

1PS228A, B
1PS229A, B
1PS230A, B
1RC014A-D
1SX101A

2. Number of Items: 11

3. ASME Code Catagory: A & B

4. ASME Code Section Requirements:

Stroke timing (St) of power operated valves per IWV-3411.

5. Basis for Relief:

Stroke timing of Solenoid Operated valves is impracticle due to the fast actuation of these valves.

6. Alternate Testing:

The PS and SX valves will be demonstrated operable by quarterly full stroke testing and fail testing.

The RC valves will be tested in accordance with Note 7.

7. Justification:

Proper valve operation will be demonstrated by verifying that the valves stroke to their required positions.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1CC685 1CC9438
1CC9413A, B
1CC9414
1CC9416

2. Number of Items: 6

3. ASME Code Category: A

4. ASME Code, Section XI Requirements:

Exercise for operability (St) of Category A and B valves every 3 months, per IWV-3411.

5. Basis for Relief:

Component cooling water flow to the reactor coolant pumps is required at all times while the pumps are in operation and for an extended period of time while in cold shutdown. Failure of one of these valves in a closed position during an exercise test would result in a loss of cooling flow to the pumps and eventual pump damage and/or trip.

6. Alternate Testing:

These valves will be exercised during cold shutdown, provided all of the reactor coolant pumps are not in operation. This testing period will be each refueling outage as a minimum, but no more frequently than once per quarter.

7. Justification:

This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number:

   1CV8100
   1CV8112

2. Number of Items: 2

3. ASME Code Category: A

4. ASME Code, Section XI Requirements:

   Exercise for operability (St) of Category A & B valves every 3 months per IWV-3411.

5. Basis for Relief:

   These valves cannot be tested during unit operation as seal water flow to the reactor coolant pumps is required at all times while the pumps are in operation. Failure of one of these valves in the closed position during an exercise test would result in seal water return flow being diverted to the PRT by lifting a relief valve upstream of the isolation valves.

6. Alternate Testing:

   These valves will be exercise tested during cold shutdown, providing all reactor coolant pumps are not in operation. This testing period will be each refueling outage as a minimum, but no more frequently than once per quarter.

7. Justification:

   This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

   This relief is requested once per quarter during the first inspection interval.

1. Valve Number: 1IA066
1IA065

2. Number of Items: 2

3. ASME Code Category: A

4. ASME Code, Section XI Requirements:

Exercise for operability (St and Ft) of category A and B valves every 3 months per IWV-3411.

5. Basis for Relief:

Stroke testing of these valves during plant operation would isolate the air operated instruments and valves inside the containment building.

6. Alternate Testing:

These valves will be exercised during cold shutdown, providing that all necessary equipment required for cold shutdown operations would not be affected.

This testing period will be each refueling outage as a minimum, but no more frequently than once per quarter.

7. Justification:

Stroke exercising of these valves would be impractical because if these valves failed in the close position during unit operation, instrumentation would not function properly and valves would stroke to their failure position, causing the loss of support equipment and possibly a reactor trip. This alternative will adequately maintain the system in a state of operational readiness, while not sacrificing the safety of the plant, by testing the valves as often as safely possible.

8. Applicable Time Period:

This relief is requested once per quarter during the first inspection interval.

1. Valve Number: All valves subject to Travel/Position Indication Test

2. Number of Items: 183

3. ASME Code Category: A & B

4. ASME Code, Section XI Requirements:

Observation of remote position indicators once every 2 years to verify that the valve operation is accurately indicated per IWV-3300.

5. Basis for Relief:

Position indication checks are required once every two years. Historically, plants have been on a one year refueling cycle and thus, performed this test every other refueling outage. Therefore, the intent of the code appears to be that the test be executed every other refueling outage. Byron Station, however, is on an 18 month refueling cycle. Executing a position indication test by either coming down in power or every refueling outage is not practical. Increasing the frequency of testing, in radiation areas, would increase personnel exposure by as much as 25% over plants on a two year refueling cycle.

6. Alternate Testing:

Position/Travel indication examinations will be performed on a frequency of approximately once every 3 years, or once every other refueling outage. All active power operated valves (except SOV's) listed in the ISI Valve Program will be stroked timed. For valves with remote indication, timing is done remotely. This time is then recorded in a procedure which trends the stroke time of each valve. If the maximum stroke time for the valve is exceeded, a local stroke timing of the valve will be initiated, provided ALARA concerns allow such a test. If the local time varies by more than 20% or 1 second, whichever is greater, from the remote time, the limit switches will be adjusted accordingly.

7. Justification:

Position indication tests executed on a frequency of once every 3 years, along with a case by case investigation of Position/Travel Indication discrepancies, will adequately maintain the system in a state of operational readiness. In addition to this, radiation exposure levels for personnel will be greatly reduced.

8. Applicable Time Period:

This relief is requested every refueling outage during the first inspection interval.

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM AB

P & ID REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
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COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM AF

P & ID M-37 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1AF001A	D-2	3	C	6.0	CK	S.A.	C	O	N/A	Ct Xt	CS OP		Note 12
1AF001B	B-2	3	C	6.0	CK	S.A.	C	O	N/A	Ct Xt	CS OP		Note 12
1AF003A	D-5	3	C	6.0	CK	S.A.	C	O	N/A	Ct Xt	CS OP		Note 12
1AF003B	B-5	3	C	6.0	CK	S.A.	C	O	N/A	Ct Xt	CS OP		Note 12
1AF006A	E-3	3	B	6.0	GA	M.O.	C	O	15.0	St It	OP RR	VR-11	
1AF006B	B-3	3	B	6.0	GA	M.O.	C	O	15.0	St It	OP RR	VR-11	
1AF014A	C-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014B	A-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM AF

P & ID M-37 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1AF014C	E-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014D	B-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014E	D-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014F	B-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014G	E-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF014H	C-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12
1AF017A	F-3	3	B	6.0	GA	M.O.	C	O	15.0	St	OP		
1AF017B	C-3	3	B	6.0	GA	M.O.	C	O	15.0	It St	RR OP	VR-11	
1AF029A	C-5	3	C	6.0	CK	S.A.	C	O	N/A	It Ct	RR CS	VR-11	Note 12
1AF029B	B-5	3	C	6.0	CK	S.A.	C	O	N/A	Ct	CS		Note 12

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CC

P & ID M-66-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC685	B-3	2	A	4.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR	VR-11	
										Lt	RR	VR-1	
1CC9413A	E-2	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR	VR-11	
										Lt	RR	VR-1	
1CC9413B	E-2	2	B	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR	VR-11	
1CC9414	B-3	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR	VR-11	
										Lt	RR	VR-1	
1CC9416	A-3	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR	VR-11	
										Lt	RR	VR-1	
1CC9437A	E-1	2	B	3.0	GL	A.O.	C	C	10.0	St	OP		Passive
										It	RR	VR-11	
1CC9437B	B-2	2	B	3.0	GL	A.O.	O	C	10.0	St	OP		
										It	RR	VR-11	
1CC9438	B-3	2	A	4.0	GA	M.O.	O	C	10.0	Ft	OP		
										Lt	RR	VR-1	
										It	RR	VR-11	
1CC9486	E-3	2	A	6.0	CK	S.A.	O	C	N/A	St	CS	VR-8	
										Lt	RR	VR-1	
1CC9518	B-3	2	A	0.75	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1CC9534	A-3	2	A	0.75	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CC

P & ID M-66-2 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC9412B	F-3	3	B	12.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	
1CC9412A	D-3	3	B	12.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CC

P & ID M-66-3 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC9463A	C-6	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
1CC9463B	C-5	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
0CC9464	C-4	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
1CC9473A	E-5	3	B	16.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	
1CC9473B	D-5	3	B	16.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CS

P & ID M-61-4 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CS001A	B-3	2	B	14.0	GA	M.O.	O	C	30.0	St	OP		
										It	RR	VR-11	
1CS001B	A-3	2	B	14.0	GA	M.O.	O	C	30.0	St	OP		
										It	RR	VR-11	
1CS009A	B-4	2	B	16.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR	VR-11	
1CS009B	A-4	2	B	16.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CS

P & ID M-46-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CS007A	E-7	2	A	10.0	GA	M.O.	C	O	30.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1CS007B	C-7	2	A	10.0	GA	M.O.	C	O	30.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1CS008A	E-7	2	AC	10.0	CK	S.A.	C	O	N/A	Xt/Ct	OP/RR	VR-4	
										Lt	RR	VR-1	
1CS008B	C-7	2	AC	10.0	CK	S.A.	C	O	N/A	Xt/Ct	OP/RR	VR-4	
										Lt	RR	VR-1	
1CS011A	D-2	2	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1CS011B	C-2	2	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1CS019A	C-5	2	B	3.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR	VR-11	
1CS019B	B-5	2	B	3.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR	VR-11	
1CS020A	C-3	2	C	3.0	CK	S.A.	C	O	N/A	Ct	RR	VR-2	
1CS020B	B-2	2	C	3.0	CK	S.A.	C	O	N/A	Ct	RR	VR-2	
1CS003A	E-3	2	C	10.0	CK	S.A.	C	O	N/A	Xt/Ct	OP/RR	VR-4	
1CS003B	C-3	2	C	10.0	CK	S.A.	C	O	N/A	Xt/Ct	OP/RR	VR-4	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
IST CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CV

P & ID M-64-3 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8481A	C-4	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP		Note 8
1CV8481B	B-4	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP		Note 8
1CV8105	E-7	2	B	3.0	GA	M.O.	O	C	10.0	St	CS		Note 4
										It	RR	VR-11	
1CV8106	E-6	2	B	3.0	GA	M.O.	O	C	10.0	St	CS		Note 4
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CV

P & ID M-64-4 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV112D	B-4	2	B	8.0	GA	M.O.	C	O	15.0	St It	CS RR	VR-11	Note 2
1CV112E	A-4	2	B	8.0	GA	M.O.	C	O	15.0	St It	CS RR	VR-11	Note 2
1CV8546	A-5	2	C	8.0	CK	S.A.	C	O	N/A	Ct	CS		Note 2
1CV8804A	B-6	2	B	8.0	GA	M.O.	C	O	10.0	St It	CS RR	VR-11	Note 2
1CV8104	B-1	2	B	2.0	GL	M.O.	C	O	10.0	St It	CS RR	VR-11	Note 2
1CV8442	B-1	2	C	2.0	CK	S.A.	C	O	N/A	Ct	CS		Note 2
1CV112B	D-5	2	B	4.0	GA	M.O.	O	C	10.0	St It	CS RR	VR-11	Note 4
1CV112C	D-5	2	B	4.0	GA	M.O.	O	C	10.0	St It	CS RR	VR-11	Note 4

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM CV

P & ID M-64-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8160	F-4	2	A	3.0	GL	A.O.	O	C	10.0	St	CS		Note 4
										It	RR	VR-11	
										Ft	CS		Note 4
1CV8152	E-4	2	A	3.0	GL	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	CS		Note 4
										It	RR	VR-11	
										Ft	CS		Note 4
1CV8149A	E-5	2	B	3.0	GL	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	CS		Note 4
1CV8149B	E-5	2	B	3.0	GL	A.O.	O	C	10.0	It	RR	VR-11	
										St	CS		Note 4
1CV8149C	E-5	2	B	3.0	GL	A.O.	O	C	10.0	It	RR	VR-11	
										St	CS		Note 4
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM DO

P & ID M-50-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1DO003B	C-2	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003D	B-2	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003A	C-6	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003C	B-6	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM FC

P & ID M-63-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FC009	C-6	2	A	4.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC010	C-5	2	A	4.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC011	B-8	2	A	3.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC012	B-8	2	A	3.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM FP

P & ID M-52-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FP010	E-6	2	B	4.0	GL	A.O.	O	C	12.0	St	OP		
										It	RR	VR-11	
										Ft	OP		

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ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM FW

P & ID M-36-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FW009A	D-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP		Note 3
										It	RR	VR-11	
1FW035A	E-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1FW009B	A-5	2	B	6.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP		Note 3
										It	RR	VR-11	
1FW035B	B-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1FW009C	E-5	2	B	6.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP		Note 3
										It	RR	VR-11	
1FW035C	F-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1FW009D	B-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP		Note 3
										It	RR	VR-11	
1FW035D	C-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1FW043A	D-5	2	B	3.0	GL	A.O.	C	C	6.0	St	OP		Passive
										It	RR	VR-11	
1FW043B	A-5	2	B	3.0	GL	A.O.	C	C	6.0	St	OP		Passive
										It	RR	VR-11	
1FW043C	F-5	2	B	3.0	GL	A.O.	C	C	6.0	St	OP		Passive
										It	RR	VR-11	
1FW043D	C-5	2	B	3.0	GL	A.O.	C	C	6.0	St	OP		Passive
										It	RR	VR-11	
1FW039A	D-4	2	B	6.0	GA	A.O.	O	C	6.0	St	CS		Note 10
										It	RR	VR-11	
1FW039B	A-4	2	B	6.0	GA	A.O.	O	C	6.0	St	CS		Note 10
										It	RR	VR-11	
1FW039C	E-4	2	B	6.0	GA	A.O.	O	C	6.0	St	CS		Note 10
										It	RR	VR-11	
1FW039D	B-4	2	B	6.0	GA	A.O.	O	C	6.0	St	CS		Note 10
										It	RR	VR-11	

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INSERVICE TESTING PROGRAM
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BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM IA

P & ID M-55-2 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1IA066	E-7	2	A	3.0	GL	A.O.	O	C	15.0	Lt	RR	VR-1	
										St	CS	VR-10	
										Ft	CS	VR-10	
										It	RR	VR-11	
1IA065	E-6	2	A	3.0	GL	A.O.	O	C	15.0	Lt	RR	VR-1	
										St	CS	VR-10	
										Ft	CS	VR-10	
										It	RR	VR-11	
1IA091	F-7	2	A	0.75	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM MS

P & ID M-35-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1MS001B	E-5	2	B	32.75	GA	M.O.	O	C	5.0	St/Xt It	CS/OP RR	VR-11	Note 1
1MS001D	B-5	2	B	30.25	GA	M.O.	O	C	5.0	St/Xt It	CS/OP RR	VR-11	Note 1
1MS013B	F-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS013D	C-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS014B	E-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS014D	C-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS015B	E-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS015D	C-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS016B	E-2	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS016D	C-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS017B	F-2	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS017D	C-2	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS101B	E-5	2	B	4.0	GA	A.O.	C	C	10.0	St It	OP RR	VR-11	Passive
1MS101D	B-5	2	B	4.0	GA	A.O.	C	C	10.0	St It	OP RR	VR-11	Passive
1MS018B	F-2	2	C	8.0X10.0	PORV	M.O.	C	C	20.0	St It	OP RR	VR-11	Passive
1MS018D	C-2	2	C	8.0X10.0	PORV	M.O.	C	C	20.0	St It	OP RR	VR-11	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1MS001A	C-4	2	B	30.25	GA	M.O.	O	C	5.0	St/Xt It	CS/OP RR	VR-11	Note 1
1MS001C	E-4	2	B	32.75	GA	M.O.	O	C	5.0	St/Xt It	CS/OP RR	VR-11	Note 1
1MS013A	C-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS013C	F-4	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS014A	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS014C	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS015A	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS015C	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS016A	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS016C	F-3	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS017A	F-2	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS017C	F-2	2	C	6.0X10.0	SV	S.A.	C	O	N/A	Rt	RR		
1MS101A	C-4	2	B	4.0	GA	A.O.	C	C	10.0	St It	OP RR	VR-11	Passive
1MS101C	E-4	2	B	4.0	GA	A.O.	C	C	10.0	St It	OP RR	VR-11	Passive
1MS018A	D-1	2	C	8.0X10.0	PORV	M.O.	C	C	20.0	St It	OP RR	VR-11	Passive
1MS018C	F-1	2	C	8.0X10.0	PORV	M.O.	C	C	20.0	St It	OP RR	VR-11	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM OG

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1OG057A	E-6	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG079	E-6	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG080	E-5	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG081	D-5	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG082	E-6	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG083	D-6	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG084	E-4	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1OG085	D-4	2	A	3.0	BTF	M.O.	C	C	60.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM PR

P & ID M-78-6 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PR002E	C-5	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1PR002G	C-5	2	A	2.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1PR033A	C-8	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1PR033B	C-8	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1PR002F	C-5	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1PR002H	C-5	2	A	2.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1PR033C	C-8	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1PR033D	C-8	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM PR

P & ID M-78-10 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PR001A	F-7	2	A	1.0	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR	VR-11	
1PR001B	F-8	2	A	1.0	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR	VR-11	
1PR066	E-2	2	A	1.0	GL	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	OP		
										It	RR	VR-11	
1PR032	E-1	2	A	1.0	CK	S.A.	C	C	N/A	St	OP		
										Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM PS

P & ID M-68-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PS9354A	D-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9354B	D-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9355A	D-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9355B	D-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9357A	C-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9357B	C-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9356A	C-6	2	A	.375	GL	A.O	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1PS9356B	C-6	2	A	.375	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM PS

P & ID M-68-7 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PS228A	E-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
										It	RR	VR-11	
1PS229A	E-6	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
										It	RR	VR-11	
1PS230A	D-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
1PS231A	D-8	2	A	0.50	CK	S.A.	C	C	N/A	It	RR	VR-11	
										Lt	RR	VR-1	Passive
1PS228B	C-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
										It	RR	VR-11	
1PS229B	C-6	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
										It	RR	VR-11	
1PS230B	B-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt	RR	VR-1	
										St	OP	VR-7	
										Ft	OP		
1PS231B	B-8	2	A	0.50	CK	S.A.	C	C	N/A	It	RR	VR-11	
										Lt	RR	VR-1	Passive

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INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
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UNIT 1

SYSTEM RC

P & ID M-60-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RC014A	E-5	1	B	1.0	GL	S.O.	C	O	N/A	St	CS	VR-7	Note 7
										Ft	CS		
										It	RR	VR-11	
1RC014B	E-5	1	B	1.0	GL	S.O.	C	O	N/A	St	CS	VR-7	Note 7
										Ft	CS		
										It	RR	VR-11	
1RC014C	E-5	1	B	1.0	GL	S.O.	C	O	N/A	St	CS	VR-7	Note 7
										Ft	CS		
										It	RR	VR-11	
1RC014D	E-5	1	B	1.0	GL	S.O.	C	O	N/A	St	CS	VR-7	Note 7
										Ft	CS		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM RE | P & ID M-70-1 | REVISION 4 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RE9159A	D-3	2	A	.75	D	A.O.	O	C	10.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
										Lt	RR	VR-1	
1RE9159B	D-2	2	A	.75	D	A.O.	C	C	10.0	St	OP		
										Lt	RR	VR-1	Passive
1RE9160A	D-3	2	A	1.0	D	A.O.	O	C	10.0	It	RR	VR-11	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RE9160B	D-2	2	A	1.0	D	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RE9157	C-2	2	A	1.0	D	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RE9170	B-2	2	A	3.0	D	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RE1003	B-3	2	A	3.0	D	A.O.	C	C	10.0	Lt	RR	VR-1	
										St	OP		
										Lt	RR	VR-1	Passive
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM RF

P & ID M-48-6 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RF026	D-5	2	A	2.0	P	A.O.	O	C	15.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RF027	D-4	2	A	2.0	P	A.O.	O	C	15.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM RH

P & ID M-62-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RH8701A	E-2	1	A	12.0	GA	M.O.	C	O	120.0	St	CS		Note 5
										It	RR	VR-11	
										Lt	RR		Note 6
1RH8701B	E-1	1	A	12.0	GA	M.O.	C	O	120.0	St	CS		Note 5
										It	RR	VR-11	
										Lt	RR		Note 6
1RH8702A	D-2	1	A	12.0	GA	M.O.	C	O	120.0	St	CS		Note 5
										It	RR	VR-11	
										Lt	RR		Note 6
1RH8702B	D-1	1	A	12.0	GA	M.O.	C	O	120.0	St	CS		Note 5
										It	RR	VR-11	
										Lt	RR		Note 6
1RH8705A	D-1	1	A	0.75	CK	S.A.	C	C	N/A	Lt	RR		Note 6 Passive
1RH8705B	C-1	2	A	0.75	CK	S.A.	C	C	N/A	Lt	RR		Note 6 Passive
1RH8730A	E-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP		Note 8
1RH8730B	B-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP		Note 8
1RH8708A	E-2	2	C	3.0X4.0	RV	S.A.	C	O	N/A	Rt	RR		
1RH8708B	D-2	2	C	3.0X4.0	RV	S.A.	C	O	N/A	Rt	RR		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM RY

P & ID M-60-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RY8010A	D-6	1	C	6.0	SV	S.A.	C	O	N/A	Rt	RR		
1RY8010B	D-5	1	C	6.0	SV	S.A.	C	O	N/A	Rt	RR		
1RY8010C	D-4	1	C	6.0	SV	S.A.	C	O	N/A	Rt	RR		
1RY456	D-8	1	B	3.0	PORV	A.O.	C	O	2.0	St It	OP RR	VR-11	
1RY455A	C-8	1	B	3.0	PORV	A.O.	C	O	2.0	St It	OP RR	VR-11	
1RY8000A	C-8	1	B	3.0	GA	A.O.	O	C	10.0	St It	OP RR	VR-11	
1RY8000B	C-8	1	B	3.0	GA	A.O.	O	C	10.0	St It	OP RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM RY

P & ID M-60-6 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RY8026	F-3	2	A	.375	GL	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1RY8025	F-2	2	A	.375	GL	A.O.	C	C	10.0	St	OP		
										Lt	RR.	VR-1	Passive
										It	RR	VR-11	
1RY8028	E-2	2	A	3.0	D	A.O.	O	C	10.0	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1RY8046	E-3	2	A	3.0	CK	S.A.	C	C	N/A	Ft	OP		
1RY8047	F-3	2	A	.75	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1RY8033	E-2	2	A	.75	D	A.O.	O	C	10.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
										Ft	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SA

P & ID M-54-2 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SA033	C-7	2	A	1.5	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		
1SA032	C-6	2	A	1.5	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SD

P & ID M-48-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SD002A	E-8	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002B	E-7	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002C	E-7	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002D	E-6	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002E	E-5	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002F	E-4	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002G	E-3	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
1SD002H	E-3	2	A	2.0	GL	A.O.	O	C	7.5	Ft	OP		
										Lt	RR	VR-1	
										St	OP		
										It	RR	VR-11	
										Ft	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SD | P & ID M-48-5 | REVISION 4 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SD005A	D-8	2	A	.375	GL	A.O.	C	C	3.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1SD005B	D-7	2	A	.375	GL	A.O.	C	C	3.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1SD005C	D-5	2	A	.375	GL	A.O.	C	C	3.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive
1SD005D	D-4	2	A	.375	GL	A.O.	C	C	3.0	St Lt It	OP RR RR	 VR-1 VR-11	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SI

P & ID M-61-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8804B	B-4	2	B	8.0	GA	M.O.	C	O	10.0	St	OP		
										It	RR	VR-11	
1SI8806	B-3	2	B	8.0	GA	M.O.	O	C	15.0	St	CS		Note 14
										It	RR	VR-11	
1SI8807A	C-3	2	B	6.0	GA	M.O.	C	O	15.0	St	OP		
										It	RR	VR-11	
1SI8807B	C-3	2	B	6.0	GA	M.O.	C	O	15.0	St	OP		
										It	RR	VR-11	
1SI8922A	C-5	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
1SI8922B	B-5	2	C	4.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
1SI8926	B-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-6	
1SI8924	D-3	2	B	6.0	GA	M.O.	O	C	15.0	St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
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UNIT 1

SYSTEM SI

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8801A	D-5	2	B	4.0	GA	M.O.	C	O	10.0	St	CS		Note 13
										It	RR	VR-11	
1SI8801B	D-5	2	B	4.0	GA	M.O.	C	O	10.0	St	CS		Note 13
										It	RR	VR-11	
1SI8900A	E-8	1	AC	1.5	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8900B	E-8	1	AC	1.5	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8900C	D-8	1	AC	1.5	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8900D	C-8	1	AC	1.5	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8815	D-6	1	AC	3.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8802A	E-3	2	B	4.0	GA	M.O.	C	O	10.0	St	CS		Note 14
										It	RR	VR-11	
1SI8802B	D-3	2	B	4.0	GA	M.O.	C	O	10.0	St	CS		Note 14
										It	RR	VR-11	
1SI8840	B-4	2	B	12.0	GA	M.O.	C	O	15.0	St	CS		Note 14
										It	RR	VR-11	
1SI8888	E-3	2	A	.75	GL	A.O.	C	C	10.0	St	OP		Passive
										Lt	RR	VR-1	
										It	RR	VR-11	
1SI8905A	E-5	1	AC	2.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
										Lt	RR		Note 6
1SI8905B	D-7	1	AC	2.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
										Lt	RR		Note 6
1SI8905C	D-7	1	AC	2.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
										Lt	RR		Note 6
1SI8905D	E-4	1	AC	2.0	CK	S.A.	C	O	N/A	Ct	CS	VR-3	
										Lt	RR		Note 6
1SI8835	C-4	2	B	4.0	GA	M.O.	O	C	10.0	St	CS		Note 14
										It	RR	VR-11	
1SI8949A	F-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS		Note 9
1SI8949B	D-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	
1SI8949C	C-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS		Note 9
1SI8949D	E-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	
1SI8819A	A-5	1	AC	2.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	
1SI8819B	A-7	1	AC	2.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	
1SI8819C	A-6	1	AC	2.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	
1SI8819D	A-5	1	AC	2.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS	VR-3	

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8809A	E-4	2	B	8.0	GA	M.O.	O	C	10.0	St	CS		Note 14
										It	RR	VR-11	
1SI8809B	D-4	2	B	8.0	GA	M.O.	O	C	10.0	St	CS		Note 14
										It	RR	VR-11	
1SI8811A	B-5	2	B	24.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	
1SI8811B	A-5	2	B	24.0	GA	M.O.	C	O	120.0	St	OP		
										It	RR	VR-11	
1SI8812A	C-4	2	B	12.0	GA	M.O.	O	C	15.0	St	OP		
										It	RR	VR-11	
1SI8812B	B-4	2	B	12.0	GA	M.O.	O	C	15.0	St	OP		
										It	RR	VR-11	
1SI8958A	C-4	2	C	12.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
1SI8958B	B-4	2	C	12.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
1SI8818A	F-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8818B	D-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8818C	D-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6
1SI8818D	E-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct	CS		Note 9
										Lt	RR		Note 6

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SI

P & ID M-61-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8948A	B-8	1	AC	10.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS		Note 9
1SI8948B	B-5	1	AC	10.0	CK	S.A.	C	O	N/A	Lt	RR		Note 6
										Ct	CS		Note 9
1SI8956A	B-7	1	AC	10.0	CK	S.A.	C	O	N/A	Ct	CS	VR-5	
										Lt	RR		Note 6
1SI8956B	B-3	1	AC	10.0	CK	S.A.	C	O	N/A	Ct	CS	VR-5	
										Lt	RR		Note 6

COMMONWEALTH EDISON

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ISI CLASS 1, 2 and 3 VALVES
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UNIT 1

SYSTEM SI

P & ID M-61-6 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8880	F-3	2	A	1.0	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1SI8956C	B-7	1	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-5	Note 6
1SI8956D	B-4	1	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-5	Note 6
1SI8948C	B-8	1	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR		Note 9 Note 6
1SI8948D	B-5	1	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR		Note 9 Note 6
1SI8871	A-3	2	A	.75	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1SI8964	D-3	2	A	.75	GL	A.O.	C	C	10.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1SI8968	F-4	2	A	1.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
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UNIT 1

SYSTEM SX

P & ID M-42-3

REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX112A	E-5	3	B	12.0	BTF	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1SX114A	E-3	3	B	12.0	BTF	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1SX112B	C-5	3	B	12.0	BTF	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1SX114B	C-5	3	B	12.0	BTF	A.O.	O	C	6.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1SX101A	E-3	3	B	1.5	GL	S.O.	C	O	N/A	St	OP	VR-7	
										Ft	OP		
1SX173	C-3	3	B	6.0	GA	A.O.	C	O	5.0	St	OP		
										Ft	OP		
1SX178	A-3	3	B	6.0	GA	A.O.	C	O	5.0	St	OP		
										Ft	OP		
1SX169A	F-8	3	B	10.0	BTF	A.O.	C	O	20.0	St	OP		
										It	RR	VR-11	
										Ft	OP		
1SX169B	D-8	3	B	10.0	BTF	A.O.	C	O	20.0	St	OP		
										It	RR	VR-11	
										Ft	OP		

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INSERVICE TESTING PROGRAM
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UNIT 1

SYSTEM SX

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX002A	F-6	3	C	36.0	CK	S.A.	C	O	N/A	CI	OP		
1SX002B	C-6	3	C	36.0	CK	S.A.	C	O	N/A	CI	OP		

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ISI CLASS 1, 2 and 3 VALVES
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UNIT 1

SYSTEM SX

P & ID M-42-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX016A	E-8	2	B	16.0	BTF	M.O.	C	O	15.0	St It	OP RR	VR-11	Passive
1SX027A	C-8	2	B	16.0	BTF	M.O.	C	O	15.0	St It	OP RR	VR-11	Passive
1SX016B	E-1	2	B	16.0	BTF	M.O.	C	O	15.0	St It	OP RR	VR-11	Passive
1SX027B	C-1	2	B	16.0	BTF	M.O.	C	O	15.0	St It	OP RR	VR-11	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM VQ

P & ID M-105-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1VQ001A	E-5	2	A	48.0	BTF	M.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	CS		Note 11
										It	RR	VR-11	
1VQ001B	E-6	2	A	48.0	BTF	M.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	CS		Note 11
										It	RR	VR-11	
1VQ002A	E-4	2	A	48.0	BTF	M.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	CS		Note 11
										It	RR	VR-11	
1VQ002B	E-3	2	A	48.0	BTF	M.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	CS		Note 11
										It	RR	VR-11	
1VQ003	C-4	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1VQ004A	D-5	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1VQ004B	D-6	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1VQ005A	E-4	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1VQ005B	E-4	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	
1VQ005C	E-4	2	A	8.0	BTF	A.O.	C	C	5.0	Lt	RR	VR-1	Passive
										St	OP		
										It	RR	VR-11	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM VQ

P & ID M-105-3 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1VQ016	C-7	2	A	.50	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1VQ017	C-7	2	A	.50	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1VQ018	C-5	2	A	.50	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1VQ019	C-5	2	A	.50	GL	M	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM WM

P & ID M-49-1 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1WM190	D-6	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1WM191	C-7	2	A	2.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM WD

P & ID M-118-5 REVISION 4

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1WD006A	E-5	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1WD006B	B-4	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1WD007A	E-6	2	A	10.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1WD020A	D-5	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1WD020B	B-4	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1WD007B	B-4	2	A	10.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1WD056A	D-6	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive
1WD056B	B-3	2	A	10.0	GA	M.O.	C	C	50.0	St Lt It	OP RR RR	 VR-1 VR-11	 Passive