QUALITY ASSURANCE MANUAL	SECT. NO. -	REV. 1	PAGE 1 OF 39
ROCHESTER GAS & ELECTRIC CORPORATION GINNA STATION	EFFECTIVE DATE: November 1, 1979		
		SIGNATURE	DATE
	PREPARED BY:	Albert L. Custodi	11/1/79
TITLE: Appendix C - Ginna Station Inservice Pump and Valve Testing Program for the May 1, 1979 through December 31, 1980 Period	REVIEWED BY:	R C Mecredy	11/15/79
	APPROVED BY:	C R Anderson	11/15/79

Program Table of Contents

Introduction

This appendix to the Quality Assurance Manual defines the Inservice Pump and Valve Testing Program for the twenty month period starting May 1, 1979 through December 31, 1980. Included in this program are the Quality Groups A, B and C Pumps which are provided with an emergency power source and those Quality Groups A, B and C Valves which are required to shut down the reactor or to mitigate the consequences of an accident and maintain the reactor in a safe shutdown condition.

This program has been developed as required by Section 50.55(a)(g) of 10CFR50 following the guidance of the ASME Boiler and Pressure Vessel Code Section XI - "Rules for Inservice Inspection of Nuclear Power Plant Components," (hereafter referred to as the "Code") excluding the controls of the Authorized Inspector, Enforcement Authority, Reporting Systems and N-Stamp Symbol. The inservice testing program shall be controlled by the Ginna Station Quality Assurance Program for Station Operation. Quality Groups A, B and C components correspond to those defined in NRC Regulatory Guide 1.26.

Further addenda and editions of Section XI of the Code shall be used for clarification of test requirements and performance.

The Inservice Pump and Valve Testing Program does not affect the pump and valve surveillance program required by Technical Specifications. Technical Specification requirements shall continue to be implemented at the required frequency.

Definitions

AFP	-	Auxiliary Feedwater Pumps
AOV	-	Air Operated Valve
APV	-	Air Operated Piston Valve
BA	-	Boric Acid
Code	-	American Society of Mechanical Engineers Boiler and Pressure Vessel Code
CC	-	Component Cooling
CS	-	Containment Spray
CSP	-	Containment Spray Pump
CV	-	Check Valve
C/R	-	Cold Shutdown and Refueling
ECCS	-	Emergency Core Cooling System
FCV	-	Flow Control Valve
GA	-	Gas Analyzer
GDT	-	Gas Decay Tank
HCV	-	Hand Control Valve
HX	-	Heat Exchanger
LCV	-	Level Control Valve
MAFP	-	Motor Driven Auxiliary Feedwater Pump
MOV	-	Motor Operated Valve
MV	-	Manual Valve
PCV	-	Pressure Control Valve
PIV	-	Primary Isolation Valve
PORV	-	Power Operated Relief Valve
PRT	-	Pressurizer Relief Tank
PRV	-	Pressure Relief Valve
PVT	-	Pump and Valve Testing
Q	-	Quarterly
R	-	Refueling Outage
RCDT	-	Reactor Coolant Drain Tank
RCP	-	Reactor Coolant Pump
RCV	-	Radiation Control Valve
RHR	-	Residual Heat Removal
RMW	-	Reactor Makeup Water
RV	-	Relief Valve
RWST	-	Refueling Water Storage Tank
RX	-	Reactor Vessel
S/G	-	Steam Generator
SAFWP	-	Standby Auxiliary Feedwater Pump
SI	-	Safety Injection
SIV	-	Secondary Isolation Valve
SW	-	Service Water

Definitions

TAFP	-	Turbine Driven Auxiliary Feedwater Pump
VC	-	Volume Control
VCT	-	Volume Control Tank
VH	-	Vent Header

Pump and Valve Testing Program

PVT 1.0 Scope and Responsibility

1.1 The inservice testing program defines the testing program for Quality Groups A, B and C Pumps and Valves in accordance with the requirements of Articles IWP and IWV of Section XI of the Code. The results of these tests are to assure the operational readiness of pumps and valves.

1.2 It is the responsibility of the Ginna Station Test and Results Supervisor to implement this test program and develop inservice test procedures which will outline the specific test for each pump and valve included in the program.

1.3 When a valve or its control system has been replaced or repaired or has undergone maintenance that could affect its performance, and prior to the time it is returned to service, it shall be tested as necessary to demonstrate that the performance parameters which could have been affected by the replacement, repair, or maintenance are within acceptable limits.

PVT 2.0 Code Edition and Testing Interval

2.1 The Inservice Pump and Valve Testing Program for the twenty (20) month period starting May 1, 1979 through December 31, 1980 was developed utilizing the 1974 Edition of Section XI of the Code through the Summer 1975 Addenda.

PVT 3.0 Inservice Pump Testing Program

3.1 The Inservice Pump Testing Program was developed in accordance with the requirements of Article IWP of Section XI of the Code. This program includes all Quality Group A, B and C pumps which are provided with an emergency power source and are required to safely shut down the reactor or to mitigate the consequences of an accident and maintain the reactor in a safe shutdown condition.

3.2 The following pumps shall be tested in accordance with Article IWP of Section XI:

(a) 1A Component Cooling
(b) 1B Component Cooling
(c) 1A Safety Injection
(d) 1B Safety Injection
(e) 1C Safety Injection
(f) 1A Residual Heat Removal
(g) 1B Residual Heat Removal
(h) 1A Containment Spray
(i) 1B Containment Spray
(j) 1A Motor Driven Auxiliary Feedwater
(k) 1B Motor Driven Auxiliary Feedwater
(l) Turbine Driven Auxiliary Feed
(m) 1A Service Water
(n) 1B Service Water
(o) 1C Service Water
(p) 1D Service Water
(q) 1C Standby Auxiliary Feedwater
(r) 1D Standby Auxiliary Feedwater

3.3 Flow rates will not be accurate for the residual heat removal pumps because the bypass test loop can only pass 200 gpm. This bypass test loop is a fixed resistance system; therefore, hydraulic resistance remains unchanged from test to test.

3.4 Bearing temperatures will not be available for the Service Water pumps. These pumps and their bearings are submersed in forty feet of water, making it impossible to take measurements. Because they are submersed, the bearing temperatures stay very close to the temperature of the intake water.

PVT 4.0 <u>Inservice Valve Testing Program</u>

4.1 The Inservice Valve Testing Program was developed in accordance with the requirements of Article IWV of Section XI of the Code. All those valves that are required to perform a safety function either to shut down the reactor or to mitigate the consequences of an accident and maintain the reactor in a safe shutdown condition are included in the program.

4.2 The Inservice Valve Testing Program Requirements for Category A and B Valves are found in Tables PVT 4.8 and 4.9, respectively. Category C Valves are broken down into two categories, Check Valves and Relief Valves, which are found in Tables PVT 4.10 and 4.11, respectively. Category D Valves are not included in this testing program because there are none included in Ginna Station design. Category E Valves are found in Table PVT 4.12.

4.3 Some exceptions and exemptions to the testing requirements of Article IWV have been taken based on operational interference, placing the plant in an unsafe condition and Technical Specification requirements. All exceptions and exemptions are listed on the valve tables and explained in the referenced notes, PVT 4.13.

4.4 The exercising program for Category A and B Valves, with the exception of check valves, shall require a complete stroking of each valve per the valve testing tables. All check valves, including Category C Valves, shall be exercised to the position required to fulfill their function. These functional tests shall be verified by the operation of the required system.

4.5 Category A and B valves operation shall be timed each time they are stroked utilizing switch initiation and the position indicators, which are accessible during plant operation. During each refueling outage a visual verification shall be made to confirm direct correspondence between valve operators and the position indicators.

4.6 In accordance with paragraph IWV-3700 of Section XI of the Code, Category E Valves are controlled in accordance with Ginna Station Administration procedure A-52.2 - Control of Locked Valve Operation. This procedure requires all operations of locked valves to be recorded in the "Locked Valve Operations Log" or as required by certain operational procedures which also record any locked valve operations.

4.7 The testing of valves required at cold shutdown and refueling outages will normally take four (4) days to complete. When cold shutdowns are of a shorter duration (2-3 days), test personnel shall attempt to test as many valves as possible without holding up the startup of the unit with testing beginning no longer than 48 hours after the plant reaches cold shutdown (as defined in Technical Specification 1.2). For very short cold shutdowns (less than 48 hours), it would be impossible to mobilize test personnel to implement the testing program under the required procedural controls, therefore no valves would be tested. It is possible that, during a four (4) day cold shutdown, the work load on test personnel may preclude their completion of all the required valve tests prior to startup. Valve testing during cold shutdowns shall not be more frequent than one test per quarter for each valve in the test program.

4.8 Category A Valves

Valve #	Type	Description	Note	Test	Freq
304A	CV	1-A RCP Seal Injection	1	Stroke	C/R
304B	CV	1-B RCP Seal Injection	1	Stroke	C/R
313	MOV	Seal Water Return Isolation	1	Stroke Leak	C/R R
370B	CV	Charging Line Isolation	2	Stroke	C/R
371	AOV	Letdown Isolation	3	Stroke Leak	C/R R
383B	CV	Alternate Charging Line	4	Stroke	C/R
508	AOV	RMW to Containment Vessel Stop	-	Stroke Leak	Q R

Valve #	Type	Description	Note	Test	Freq
528	CV	N_2 Supply to PRT	-	Stroke Leak	Q R
529	CV	RMW to PRT	-	Stroke Leak	Q R
539	AOV	PRT Stop Valve to Gas Analyzer	-	Stroke Leak	Q R
743	CV	CC From Excess Letdown HX.	-	Stroke Leak	Q R
745	AOV	Return From Excess Letdown HX.	-	Stroke Leak	Q R
750A	CV	CC to A RCP	5	Stroke Leak	C/R R
750B	CV	CC to B RCP	5	Stroke Leak	C/R R
759A	MOV	Containment Stop CC From Loop A RCP	5	Stroke Leak	C/R R
759B	MOV	Containment Stop CC From Loop B RCP	5	Stroke Leak	C/R R
813	MOV	Supply CC to RX Support Coolers	6	Stroke Leak	C/R R
814	MOV	Return CC to RX Support Coolers	6	Stroke Leak	C/R R
846	AOV	N_2 Supply to Accumulators	-	Stroke Leak	Q R
862A	CV	1-A CSP Disch	-	Stroke Leak	Q R
862B	CV	1-B CSP Disch	-	Stroke Leak	Q R

Valve #	Type	Description	Note	Test	Freq
870A	CV	1-A to 1-C SI Pump Disch	-	Stroke Leak	Q R
870B	CV	1-B to 1-C SI Pump Disch	-	Stroke Leak	Q R
879	MV	SI Test Line Isolation	7	Stroke Leak	- R
889A	CV	1-A SI Pump Disch	-	Stroke Leak	Q R
889B	CV	1-B SI Pump Disch	-	Stroke Leak	Q R
966A	AOV	Pressurizer Steam Space VC Isolation	-	Stroke Leak	Q R
966B	AOV	Pressurizer Liquid Space VC Isolation	-	Stroke Leak	Q R
966C	AOV	Loop A and B Hot Leg VC Isolation	-	Stroke Leak	Q R
1003A	LCV	1-A RCDT Pump Suction	-	Stroke Leak	Q R
1003B	LCV	1-B RCDT Pump Suction	-	Stroke Leak	Q R
1713	CV	N_2 to RCDT Check	-	Stroke Leak	Q R
1721	AOV	Suction line to RCDT	-	Stroke Leak	Q R
1723	AOV	A Containment Sump Disch Stop to Waste Holdup Tank	-	Stroke Leak	Q R
1728	AOV	A Containment Sump Disch Stop to Waste Holdup Tank	-	Stroke Leak	Q R

Valve #	Type	Description	Note	Test	Freq
1786	AOV	RCDT to VH	-	Stroke Leak	Q R
1787	AOV	RCDT to VH	-	Stroke Leak	Q R
1789	AOV	RCDT to GA Outlet Isolation	-	Stroke Leak	Q R
5869	APV	Containment Purge Supply Isolation	-	Stroke Leak	Q R
5870	APV	Containment Purge Supply Isolation	-	Stroke Leak	Q R
5878	APV	Containment Purge Exhaust Isolation	-	Stroke Leak	Q R
5879	APV	Containment Purge Exhaust Isolation	-	Stroke Leak	Q R
7226	CV	DI Water Isolation Inside Containment	-	Stroke Leak	Q R

4.9 Category B Valves

Valve #	Type	Description	Note	Test	Freq
014	RCV	Aux Building GDT Release.	-	Stroke	Q
017	RCV	Comp Cool Surge Tank Vent	-	Stroke	Q
081	APV	Control Room Ventilation Damper	-	Stroke	Q
082	APV	Control Room Ventilation Damper	-	Stroke	Q
083	APV	Control Room Ventilation Damper	-	Stroke	Q
084	APV	Control Room Ventilation Damper	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
085	APV	Control Room Ventilation Damper	-	Stroke	Q
086	APV	Control Room Ventilation Damper	-	Stroke	Q
112B	LCV	Emergency Makeup RWST to Charging Pump	-	Stroke	Q
112C	LCV	VCT Outlet	-	Stroke	Q
427	AOV	Letdown From Loop B	3	Stroke	C/R
624	HCV	1-B RHR HX Outlet	-	Stroke	Q
625	HCV	1-A RHR HX Outlet	-	Stroke	Q
626	FCV	RHR Loop Return	-	Stroke	Q
700	MOV	Suction Stop From Loop A to RHR Pumps	8	Stroke	C/R
701	MOV	Suction Stop From Loop A to RHR Pumps	8	Stroke	C/R
704A	MOV	Suction 1-A RHR Pump	-	Stroke	Q
704B	MOV	Suction 1-B RHR Pump	-	Stroke	Q
720	MOV	10" Discharge to B Loop From RHR Pumps	8	Stroke	C/R
721	MOV	10" Disch to B Loop From RHR Pumps	8	Stroke	C/R
738A	MOV	CC to 1-A RHR HX	-	Stroke	Q
738B	MOV	CC to 1-B RHR HX	-	Stroke	Q
825A	MOV	SI Pump Suction From RWST	9	Stroke	C/R
825B	MOV	SI Pump Suction From RWST	9	Stroke	C/R

Valve #	Type	Description	Note	Test	Freq
826A	MOV	SI Pump Suction From BA Tank	-	Stroke	Q
826B	MOV	SI Pump Suction From BA Tank	-	Stroke	Q
826C	MOV	SI Pump Suction From BA Tank	-	Stroke	Q
826D	MOV	SI Pump Suction From BA Tank	-	Stroke	Q
836A	HCV	Spray Additive Tank Discharge	-	Stroke	Q
836B	HCV	Spray Additive Tank Discharge	-	Stroke	Q
850A	MOV	Sump B to RHR Pumps	-	Stroke	Q
850B	MOV	Sump B to RHR Pumps	-	Stroke	Q
852A	MOV	RHR Pumps to RX Vessel	-	Stroke	Q
852B	MOV	RHR Pumps to RX Vessel	-	Stroke	Q
856	MOV	RWST to RHR Pumps	9	Stroke	C/R
857A	MOV	Isolate 1B RHR HX From CS and SI Pumps	-	Stroke	Q
857B	MOV	Isolate 1A RHR HX From CS and SI Pumps	-	Stroke	Q
857C	MOV	Isolate 1A RHR HX From CS and SI Pumps	-	Stroke	Q
860A	MOV	Parallel Discharge MOV From 1-A CSP	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
860B	MOV	Parallel Discharge MOV From 1-A CSP	-	Stroke	Q
860C	MOV	Parallel Discharge MOV From 1-B CSP	-	Stroke	Q
860D	MOV	Parallel Discharge MOV From 1-B CSP	-	Stroke	Q
871A	MOV	1-A to 1-C SI Pump Discharge	-	Stroke	Q
871B	MOV	1-B to 1-C SI Pump Discharge	-	Stroke	Q
875A	MOV	Parallel MOV From CS Pumps to 1A Charcoal Filter Deluge	-	Stroke	Q
875B	MOV	Parallel MOV From CS Pumps to 1A Charcoal Filter Deluge	-	Stroke	Q
876A	MOV	Parallel MOV From CS Pumps to 1B Charcoal Filter Deluge	-	Stroke	Q
876B	MOV	Parallel MOV From CS Pumps to 1B Charcoal Filter Deluge	-	Stroke	Q
896A	MOV	RWST to CS and SI Pumps	9	Stroke	C/R
896B	MOV	RWST to CS and SI Pumps	9	Stroke	C/R
1815A	MOV	C-SI Pump Suction From RWST	-	Stroke	Q
1815B	MOV	C-SI Pump Suction From RWST	-	Stroke	Q
3504	MOV	Main Steam to TAFP From 1-B S/G	-	Stroke	Q
3505	MOV	Main Steam to TAFP From 1-A S/G	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
3652	MV	Main Steam Throttle Valve to TAFP	-	Stroke	Q
3996	MOV	TAFP Discharge	-	Stroke	Q
4000A	MOV	Cross Over Valve For MAFP	-	Stroke	Q
4000B	MOV	Cross Over Valve For MAFP	-	Stroke	Q
4007	MOV	1-A MAFP Discharge	-	Stroke	Q
4008	MOV	1-B MAFP Discharge	-	Stroke	Q
4013	MOV	TAFP Service Water Supply Isolation	-	Stroke	Q
4027	MOV	1-A MAFP Service Water Isolation	-	Stroke	Q
4028	MOV	1-B MAFP Service Water Isolation	-	Stroke	Q
4291	AOV	TAFP Recir. Line	-	Stroke	Q
4297	AOV	TAFP Discharge to 1-A S/G	-	Stroke	Q
4298	AOV	TAFP Discharge to 1-B S/G	-	Stroke	Q
4304	AOV	1-A MAFP Recirculation Control	-	Stroke	Q
4310	AOV	1-B MAFP Recirculation Control	-	Stroke	Q
4561	AOV	Containment Vent Recirc. Fans Discharge Flow Control	-	Stroke	Q
4562	AOV	Containment Vent Recirc. Fans Discharge Flow Control Bypass	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
4609	MOV	1A1 Screen House SW Isolation	-	Stroke	Q
4613	MOV	1B2 Turbine Building SW Isolation	-	Stroke	Q
4614	MOV	1A1 Turbine Building SW Isolation	-	Stroke	Q
4615	MOV	1B1 Aux. Building SW Isolation	-	Stroke	Q
4616	MOV	1A1 Aux. Building SW Isolation	-	Stroke	Q
4663	MOV	1A1 Air Cond. Chillers SW Isolation	-	Stroke	Q
4664	MOV	1A2 Turbine Building SW Isolation	-	Stroke	Q
4670	MOV	1B1 Turbine Building SW Isolation	-	Stroke	Q
4733	MOV	1A2 Air Cond. Chillers SW Isolation	-	Stroke	Q
4734	MOV	1B2 Aux. Build. SW Isolation	-	Stroke	Q
4735	MOV	1A2 Aux. Build. SW Isolation	-	Stroke	Q
4780	MOV	1A2 Screen House SW Isolation	-	Stroke	Q
5171	MOV	Turbine Build. Fire Water Loop Supply Isolation	-	Stroke	Q
5871	APV	Containment Post Accident Filter Damper	-	Stroke	Q
5872	APV	Containment Post Accident Filter Damper	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
5873	APV	Containment Post Accident Filter Damper	-	Stroke	Q
5874	APV	Containment Post Accident Filter Damper	-	Stroke	Q
5875	APV	Containment Post Accident Filter Damper	-	Stroke	Q
5876	APV	Containment Post Accident Filter Damper	-	Stroke	Q
9629A	MOV	1C SAFP Service Water Isolation		Stroke	Q
9629B	MOV	1D SAFP Service Water Isolation		Stroke	Q
9701A	MOV	1C SAFP Discharge		Stroke	Q
9701B	MOV	1D SAFP Discharge		Stroke	Q
9703A	MOV	SAFP Cross Over		Stroke	Q
9703B	MOV	SAFP Cross Over		Stroke	Q
9704A	MOV	1C SAFP Containment Isolation		Stroke	Q
9704B	MOV	1D SAFP Containment Isolation		Stroke	Q
9710A	AOV	1C SAFP Recirc. Control		Stroke	Q
9710B	AOV	1D SAFP Recirc. Control		Storke	Q

4.10 Category C Check Valves

Valve #	Type	Description	Note	Test	Freq
710A	CV	1-A RHR Pump Discharge	-	Stroke	Q
710B	CV	1-B RHR Pump Discharge	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
723A	CV	1-A CC Pump Discharge	-	Stroke	Q
723B	CV	1-B CC Pump Discharge	-	Stroke	Q
842A	CV	First Check Valve in Loop A Accumulator Dump Line	-	Stroke	Q
842B	CV	First Check Valve in Loop B Accumulator Dump Line	-	Stroke	Q
847A	CV	A-CSP From Spray Additive Tank to Eductor	-	Stroke	Q
847B	CV	B-CSP From Spray Additive Tank to Eductor	-	Stroke	Q
853A	CV	Core Deluge Check	10	Stroke	R
853B	CV	Core Deluge Check	10	Stroke	R
854	CV	RWST to RHR Pump Check	11	Stroke	C/R
866A	CV	CS Pump 1-A to Charcoal Filter Deluge	12	Stroke	C/R
866B	CV	CS Pump 1-B to Charcoal Filter Deluge	-	Stroke	Q
867A	CV	Accumulator Dump and SI to Cold Leg Loop B	13	Stroke	C/R
867B	CV	Accumulator Dump and SI to Cold Leg Loop A	13	Stroke	C/R
878G	CV	1-A SI Pump to Cold Leg Loop B After MOV 878B	13	Stroke	C/R
878J	CV	1-B SI Pump to Cold Leg Loop A After MOV 878D	13	Stroke	C/R

Valve #	Type	Description	Note	Test	Freq
3516	CV	1B S/G Main Steam Swing Check Stop Valve	14	Stroke	Start-up
3517	CV	1A S/G Main Steam Swing Check Stop Valve	14	Stroke	Start-up
3998	CV	TAFP Discharge Check	-	Stroke	Q
4000C	CV	1A MAFP Discharge Downstream MOV-4007	-	Stroke	Q
4000D	CV	1B MAFP Discharge Downstream MOV-4008	-	Stroke	Q
4003	CV	TAFP to S/G 1A	-	Stroke	Q
4004	CV	TAFP to S/G 1B	-	Stroke	Q
4009	CV	1A MAFP to S/G 1A	-	Stroke	Q
4010	CV	1B MAFP to S/G 1B	-	Stroke	Q
4014	CV	TAFP Condensate Suction	-	Stroke	Q
4016	CV	1B MAFP Suction	-	Stroke	Q
4017	CV	1A MAFP Suction	-	Stroke	Q
4023	CV	TAFP Recirculation	-	Stroke	Q
4601	CV	1A Service Water Pump Discharge	-	Stroke	Q
4602	CV	1B Service Water Pump Discharge	-	Stroke	Q
4603	CV	1C Service Water Pump Discharge	-	Stroke	Q
4604	CV	1D Service Water Pump Discharge	-	Stroke	Q

Valve #	Type	Description	Note	Test	Freq
5133	CV	Diesel Fire Pump Disch.	-	Stroke	Q
5136	CV	Motor Fire Pump Discharge	-	Stroke	Q
9627A	CV	1C SAFP SW Suction	-	Stroke	Q
9627B	CV	1D SAFP SW Suction	-	Stroke	Q
9700A	CV	1C SAFP Discharge	-	Stroke	Q
9700B	CV	1D SAFP Discharge	-	Stroke	Q
9705A	CV	1C SAFP to S/G 1A	-	Stroke	Q
9705B	CV	1D SAFP to S/G 1B	-	Stroke	Q

4.11 Category C Relief Valve

Valve #	Type	Description	Note	Test	Freq
203	RV	Letdown High Pressure Safety Relief	15	-	-
209	RV	Letdown Low Pressure Safety Relief	15	-	-
430	PORV	Primary System Relief	16	Stroke	R
431C	PORV	Primary System Relief	16	Stroke	R
434	RV	Pressurizer Relief	15	-	-
435	RV	Pressurizer Relief	15	-	-
732	RV	CC Surge Tank Relief	15	-	-
744	RV	CC From Excess Letdown Heat Exchanger	15	-	-
755A	RV	CC From A RCP Thermal Barrier	15	-	-

Valve #	Type	Description	Note	Test	Freq
755B	RV	CC From B RCP Thermal Barrier	15	-	-
758A	RV	CC From A-RCP Oil Coolers	15	-	-
758B	RV	CC From B-RCP Oil Coolers	15	-	-
818	RV	CC From Reactor Support Coolers	15	-	-
861	RV	1-B CS Pump Suction Relief	15	-	-
887	RV	On SI Test Line Inside Containment	15	-	-
1817	RV	Alternate Suction From RHR Pump to C SI Pump	15	-	-
3508	RV	1-B S/G PRV	15	-	-
3509	RV	1-A S/G PRV	15	-	-
3510	RV	1-B S/G PRV	15	-	-
3511	RV	1-A S/G PRV	15	-	-
3512	RV	1-A S/G PRV	15	-	-
3513	RV	1-A S/G PRV	15	-	-
3514	RV	1-B S/G PRV	15	-	-
3515	RV	1-A S/G PRV	15	-	-
4653	RV	Service Water Relief	15	-	-
4654	RV	Service Water Relief	15	-	-
4657	RV	Service Water Relief	15	-	-
5134	RV	Diesel Fire Pump Disch R.V.	15	-	-
5135	RV	Motor Fire Pump Disch R.V.	15	-	-

4.12 Category E - Locked Valves

Valve #	Type	Description	Normal Position
220	MV	Cation Bed Resin Fill	Closed
246	MV	Cation Bed Letdown Inlet	Closed
279A	MV	1A Charging Pump Relief Lock Open Valve	Open
279B	MV	1B Charging Pump Relief Lock Open Valve	Open
279C	MV	1C Charging Pump Relief Lock Open Valve	Open
311B	MV	Excess Letdown to Seal Water Return	Open
329	MV	1A Boric Acid Pump Recir-culation	Open
336	MV	1A Boric Acid Transfer Pump Suction Flush	Closed
337	MV	1B Boric Acid Transfer Pump Suction Flush	Closed
344	MV	1B Boric Acid Pump Recir-culation	Open
353	MV	RMW Emergency Boration Supply Flushing	Closed
369	MV	Letdown Line Sample and Return	Closed
379	MV	Cation Bed Letdown Outlet	Closed
380	MV	Cation Bed Outlet Hut Drain	Closed
381	MV	Cation Bed RMW Backwash Supply	Closed
382	MV	Cation Bed Spent Resin Outlet	Closed

Valve #	Type	Description	Normal Position
384B	MV	Charging Line Outlet	Open
543	MV	Letdown Stop Valve	Open
544	MV	Excess Letdown	Open
703	MV	Stop RHR Out RHR HX's to Letdown	Open
705C	MV	Valve 850A Pressure Relief Bonnet Vent	Open
705D	MV	Valve 850B Pressure Relief Bonnet Vent	Open
707A	MV	CC to 1A Residual Heat Pump	Open
707B	MV	CC to 1B Residual Heat Pump	Open
708A	MV	CC From 1A Residual Heat Pump	Open
708B	MV	CC From 1B Residual Heat Pump	Open
709A	MV	Discharge Stop 1A RHR Pump	Open
709B	MV	Discharge Stop 1B RHR Pump	Open
714	MV	RHR to 1A RHR HX	Open
715	MV	RHR Out 1B RHR HX	Open
716	MV	RHR to 1B RHR HX	Open
717	MV	RHR Out 1A RHR HX	Open
728	MV	CC HX Surge Line Stop	Open
748A	MV	CC Supply to Distillate Cooler B.A. Pack.	Open
748B	MV	CC Supply to Distillate Cooler B.A. Pack.	Open

Valve #	Type	Description	Normal Position
764C	MV	Combined CC Return From SI Pumps	Throttled
764D	MV	Combined CC Return From Containment Spray Pumps	Throttled
769	MV	Combined Stop CC From RHR Pumps	Throttled
777A	MV	CC to 1A Containment Spray Pump	Open
777B	MV	CC From 1A Containment Spray Pump	Open
777C	MV	CC From 1B Containment Spray Pump	Open
777D	MV	CC From 1B Containment Spray Pump	Open
777E	MV	CC From 1A SI Pump	Open
777F	MV	CC To 1A SI Pump	Open
777G	MV	CC From 1C SI Pump	Open
777H	MV	CC To 1C SI Pump	Open
777J	MV	CC To 1B SI Pump	Open
777K	MV	CC From 1B SI Pump	Open
777L	MV	CC To 1A SI Pump	Open
777M	MV	CC From 1A SI Pump	Open
777N	MV	CC To 1C SI Pump	Open
777P	MV	CC From 1C SI Pump	Open
777R	MV	CC From 1B SI Pump	Open
777S	MV	CC To 1B SI Pump	Open
788A	MV	Make up Water Valve to SFP	Closed

Valve #	Type	Description	Normal Position
803	MV	SFP Filter Discharge to RUST	Closed
804	MV	SFP HX By-pass From SFP Filter	Throttled
822B	MV	RHR Pump Recirculation	Open
831A	MV	Spray Additive Tank From CS Pump Suction	Open
831B	MV	Spray Additive Tank From CS Pump Suction	Open
858A	MV	Suction Valve to CS Pump 1A	Open
858B	MV	Suction Valve to CS Pump 1B	Open
859A	MV	Test Line Valve From CS Pump 1A	Closed
859B	MV	Test Line Valve From CS Pump 1B	Closed
864A	MV	Test Connection on Discharge Line of CS Pump 1A	Closed
864B	MV	Test Connection on Discharge Line of CS Pump 1B	Closed
868A	MV	Discharge Valve From CS Pump 1A	Open
868B	MV	Discharge Valve From CS Pump 1B	Open
873A	MV	Spray Additive Tank from CS Pumps	Open
873B	MV	Spray Additive Tank from CS Pumps	Open
873C	MV	Spray Additive Tank from CS Pumps	Closed
873D	MV	Spray Additive Tank from CS Pumps	Closed
878E	MV	Manual Value After MOV 878D From 1B SIP Header to Cold Leg Loop A	Open

Valve #	Type	Description	Normal Position
879	MV	SI Test Line	Closed
880B	MV	Loop B Accumulator Test Line	Open
880C	MV	Loop A Accumulator Test Line	Open
881A	MV	Spray Additive Tank Drain	Closed
881B	MV	Spray Additive Tank Outlet	Open
881C	MV	Spray Additive Eductor Outlet	Open
881D	MV	Spray Additive Eductor Outlet	Open
888A	MV	1A SI Pump Discharge	Open
888B	MV	1B SI Pump Discharge	Open
890A	MV	Suction For SI Pump 1A	Open
890B	MV	Suction For SI Pump 1B	Open
991	MV	FI - 903 Outlet to Chem Drain Tank	Closed
1076A	MV	A Hydrogen Recombiner Pilot Line	Closed
1076B	MV	B Hydrogen Recombiner Pilot Line	Closed
1080A	MV	Hydrogen Recombiner Oxygen Makeup	Closed
1084A	MV	A Hydrogen Recombiner Main Burner	Closed
1084B	MV	B Hydrogen Recombiner Main Burner	Closed
1100B	MV	VCT Relief to CVCS Holdup Tank #1	Open
1100C	MV	VCT Relief to CVCS Holdup Tank #2	Open
1100D	MV	VCT Relief to CVCS Holdup Tank #3	Open
1102	MV	CVCS Hut #3 Outlet to Vent Header	Open

Valve #	Type	Description	Normal Position
1123A	MV	CVCS Holdup Tank #3 Vent	Closed
1123B	MV	CVCS Holdup Tank #2 Vent	Closed
1123C	MV	CVCS Holdup Tank #1 Vent	Closed
1239	MV	RMW Pumps Suction from Monitor Tanks	Closed
1249	MV	Monitor Pump Discharge Waste Discharge Isol.	Closed
1252	MV	Monitor Pump Discharge to RMW Tanks	Closed
1256A	MV	RMW Pumps and Montior Pump Discharge X-TIE	Closed
1263	MV	CVCS Hut #2 Outlet to Vent Header	Open
1264	MV	CVCS Hut #1 OUtlet to Vent Header	Open
1269	MV	Vent Header Isol. Value to CVCS Hut's	Open
1554	MV	D Recirculation Fan Air Sample	Closed
1556	MV	D Recirculation Fan AIr Sample	Closed
1557	MV	A Recirculation Fan Air Sample	Closed
1559	MV	A Recirculation Fan Air Sample	Closed
1560	MV	A and D Recirculation Fans Air Sample Return	Closed
1562	MV	A and D Recirculation Fans Air Sample Return	Closed
1563	MV	B Recirculation Fan Air Sample.	Closed
1565	MV	B Recirculation Fan Air Sample	Closed

Valve #	Type	Description	Normal Position
1566	MV	B Recirculation Fan Air Sample Return	Closed
1568	MV	B Recirculation Fan Air Sample Return	Closed
1569	MV	C Recirculation Fan Air Sample	Closed
1571	MV	C Recirculation Fan Air Sample	Closed
1572	MV	C Recirculation Fan Air Sample Return	Closed
1574	MV	C Recirculation Fair Air Sample Return	Closed
1613	MV	VH-HUT Cross Connect Isol.	Open
1617	MV	#1 GDT Manual Discharge	Closed
1618	MV	#2 GDT Manual Discharge	Closed
1619	MV	#3 GDT Manual Discharge	Closed
1620	MV	#4 GDT Manual Discharge	Closed
1656A	MV	#1 GDT Rupture Disc. Outlet to HUT	1-Turn Open
1656B	MV	#2 GDT Rupture Disc. Outlet to HUT	1-Turn Open
1656C	MV	#3 GDT Rupture Disc. Outlet to HUT	1-Turn Open
1656D	MV	#4 GDT Rupture Disc. Outlet to HUT	1-Turn Open
1667	MV	N_2 Supply to 1A WGC	Closed
1669	MV	N_2 Supply to 1B WGC	Closed
1701	MV	Laundry and Hot Shower Cross Tie	Closed

Valve #	Type	Description	Normal Position
1722	MV	Refueling Canal Drain to RCDT Pump	Closed
1748	MV	Chem + Laundry Tank Outlet Cross-Tie	Closed
1749	MV	Chem + Laundry Pump Discharge Stop Valve	Closed
1762	MV	Waste Holdup Tank Pump Discharge to WCT's	Closed
1785	MV	Master Waste Discharge Valve	Closed
1795B	MV	R-18 Monitor Bypass Value	Closed
1795E	MV	W Monitor Inlet	Closed
1795F	MV	W Monitor Outlet	Closed
1820A	MV	Shutoff Valve for A SI Pump Test Line	Open
1820B	MV	Shutoff Valve for C SI Pump Test Line	Open
1820C	MV	Shutoff Valve for B SI Pump Test Line	Open
2231	MV	Letdown Line Cont. Outlet Drain	Closed
2860	MV	Isol. Valve from CSP-1A to Charcoal Filter Deluge	Open
2865	MV	Isol. Valve from CSP-1B to Charcoal Filter Deluge	Open
3528	MV	Main Steam to Auxiliary Feedwater Pump	Open
3970	MV	1B Feedwater Pump Suction Valve	Open
3971	MV	1A Feedwater Pump Suction Valve	Open

Valve #	Type	Description	Normal Position
4005	MV	Turbine Driven AFW S/G 1A Stop	Open
4006	MV	Turbine Driven AFW S/G 1B Stop	Open
4011	MV	Motor Driven AFW S/G 1A Stop	Open
4012	MV	Motor Driven AFW S/G 1B Stop	Open
4015	MV	TAFP Suction Isolation	Open
4018	MV	1BMAFP Suction Isolation	Open
4019	MV	1AMAFP Suction Isolation	Open
4038	MV	1B Feedwater Pump Warm-up Orifice Isol.	Closed
4039	MV	1A Feedwater Pump Warm-up Orifice Isol.	Closed
4040	MV	1B Feedwater Pump Warm-up Orifice Isol.	Closed
4041	MV	1A Feedwater Pump Warm-up Orifice Isol.	Closed
4060	MV	1A Feedwater Pump Recirc. Cond. Isol.	Open
4061	MV	1B Feedwater Pump Recirc. Cond. Isol.	Open
4070	MV	Condensate Storage Tank 1B Isolation	Open
4070A	MV	Cond. Storage Tank B Makeup to Hotwell	Open
4071	MV	Condensate Storage Tank 1A Isolation	Open
4071A	MV	Cond. Storage Tank A Makeup to Hotwell	Open

Valve #	Type	Description	Normal Position
4071B	MV	Cond. Makeup Line to Hotwell Drain	Closed
4072	MV	1B Condencate Storage Tank Drain	Closed
4073	MV	1A Condensate Storage Tank Drain	Closed
4074	MV	AFP Recirculation to 1B Condensate Storage	Open
4075	MV	AFP Recirculation to 1A Condensate Storage	Open
4080	MV	TAFP Discharge Orifice Isolation	Open
4081	MV	1A MAFP Discharge Orifice Isolation	Open
4082	MV	1B MAFP Discharge Orifice Isolation	Open
4098	MV	Service Water Isolation to TAFP	Closed
4140	MV	Heater Drain Tank LC 3343 Isol.	Open
4344	MV	Service Water Isolation to MDAFP	Closed
4345	MV	Service Water to 1A MAFP	Closed
4738	MV	A Service Water Loop to CC	Open
4739	MV	B Service Water Loop to CC	Open
4789	MV	SI Pump Bearing Oil Cooler Isolation	Open
4790	MV	SI Pump Bearing Oil Cooler Isolation	Open
4791	MV	1A SI Pump Bearing Oil Cooler Inlet	Open

Valve #	Type	Description	Normal Position
4791A	MV	1A SI Pump Bearing Oil Cooler Outlet	Open
4794	MV	1B SI Pump Bearing Oil Cooler Inlet	Open
4794A	MV	1B SI Pump Bearing Oil Cooler Outlet	Open
4795	MV	1C SI Pump Bearing Oil Cooler Inlet	Open
4795A	MV	1C SI Pump Bearing Oil Cooler Outlet	Open
5100	MV	Test Line Isol.	Open
5141	MV	Diesel Fire Pump Discharge	Open
5142	MV	Motor Fire Pump Discharge	Open
5172	MV	Area #1 Deluge Supply Isol.	Open
5173	MV	Area #1 Deluge Supply Isol.	Closed
5174	MV	Turbine Bldg. Fire Water Loop Division	Open
5175	MV	Turbine Bldg. Fire Water Supply Loop Division	Open
5196	MV	Storage Tank High Level Drain Control Isol.	Open
5197	MV	Sorage Tank Outlet Check Isol.	Open
5198	MV	Storage Tank Outlet Check Isol.	Open
5200	MV	Storage Tank Outlet Check Bypass	Closed

Valve #	Type	Description	Normal Position
5202	MV	Turbine Bldg. Fire Water Supply Loop Division	Open
5220	MV	Motor Fire Pump Discharge Isol.	Open
5221	MV	Fire Pump Crossover	Closed
5233	MV	Service Bldg. Sprinkler Sys. #13 Isol.	Open
5243	MV	Deluge "A" Header Isol.	Open
5245	MV	Deluge "B" Header Supply Isol.	Open
5248	MV	AFW Pump Oil Res. Deluge Supply Isol.	Open
5250	MV	Test Line Flow Control	Closed
5438	MV	Oil Bowser to Turbine Oil Tank Isol.	Closed
5448	MV	Water Feed to Oil Coolder Inlet Isol.	Closed
5462	MV	Turbine Lube Oil Sample	Closed
5763	MV	S/G Blowdown from Nuclear Sample Room	Open
5931	MV	1A Diesel Generator Cooling Water	Open
5932	MV	1B Diesel Generator Cooling Water	Open
5935	MV	1A Diesel Generator Cooling Water	Open
5936	MV	1B Diesel Generator Cooling Water	Open
5947	MV	1A Diesel Generator Air Receiver Outlet	Open

Valve #	Type	Description	Normal Position
5947A	MV	1A Diesel Generator Air Receiver Outlet	Open
5948	MV	1B Diesel Generator Air Receiver Outlet	Open
5948A	MV	1B Diesel Generator Air Receiver Outlet	Open
5973	MV	1A Diesel Generator Isolation Valve	Open
5974	MV	1B Diesel Generator Isolation Valve	Open
5977C	MV	1A Diesel Generator Day Tank	Closed
5977D	MV	1A Diesel Generator Drain to Reservoir	Closed
5978C	MV	1B Diesel Generator Day Tank	Closed
5978D	MV	1B Diesel Generator Drain to Reservoir	Closed
6151	MV	Heating Steam to CV	Closed
6152	MV	Heating Return from CV	Closed
6165	MV	Heating Steam to CV	Closed
6175	MV	Condensate Return from CV	Closed
7140	MV	Service Air Guard Valve Upstream Secondary Isolation Valve	Closed
7141	MV	Service Air Isolation Valve Outside Containment	Closed
7227	MV	Service Air Isolation Valve Inside Containment	Closed
7448	MV	Isolation Valve to Pressure Indicators	Closed

Valve #	Type	Description	Normal Position
7452	MV	Isolation Valve for Local Pressure Indicators	Closed
7456	MV	Isolation Valve for Local Pressure Indicators	Closed
8423	MV	O_2 to H_2 Recombiner	Open
8425	MV	H_2 to H_2 Recombiner "B" Main Burner 2" Inside Isol.	Open
8427	MV	H_2 to H_2 Recombiner "B" Pilot 3/4" Inside Isol.	Open
8433	MV	H_2 to H_2 Recombiner "A" Main Burner 2" Inside Isol.	Open
8435	MV	H_2 to H_2 Recombiner "A" Pilot 3/4" Inside Isol.	Open
9706A	MV	"C" SAFWP to A - S/G Stop	Open
9706B	MV	"D" SAFWP to B - S/G Stop	Open
9723	MV	Standby Auxiliary Feedwater System Pressure Transmitter Isolation	Closed
9725	MV	Standby Auxiliary Feedwater System Pressure Transmitter Isolation	Closed
-	MV	Fuel Transfer Isolation Valve	Closed

4.13 Inservice Valve Testing Notes

Note 1 - Valves 304A, 304B and 313 cannot be stroked during normal plant operation on a quarterly basis because they would interrupt coolant flow to the reactor coolant pump seals. These valves will be stroked at cold shutdowns and refueling outages.

Note 2 - Valve 370B cannot be stroked during normal plant operation on a quarterly basis because this test would interrupt charging pump flow. This valve will be stroked at cold shutdowns and refueling outages.

Note 3 - Valves 371 and 427 cannot be stroked during normal plant operation on a quarterly basis because this test would interrupt the letdown (CVCS) system. These valves will be stroked at cold shutdowns and refueling outages.

Note 4 - Valve 383B cannot be stroked during normal plant operation on a quarterly basis because this test would result in substantial radiation exposure to test personnel. A recent survey in the area of the test connection indicated a neutron field of 500 mr/hr and a gamma field of 250 mr/hr. This valve will be stroked at cold shutdowns and refueling outages.

Note 5 - Valves 750A, 750B, 759A and 759B cannot be stroked during normal plant operation on a quarterly basis because this test would require the reactor coolant pumps to be shut down to eliminate the flow through these checks and MOVs. These valves will be stroked at cold shutdowns and refueling outages.

Note 6 - Valves 813 and 814 cannot be stroked during normal plant operation on a quarterly basis because this test would remove the coolant to the reactor vessel supports and cavity wall. These valves will be stroked at cold shutdowns and refueling outages.

Note 7 - Valve 879 is a manual valve in the safety injection test line and is kept locked shut. This valve is not required to change position to perform a safety function. The only requirement is that leakage through valve 879 be acceptably low. Therefore, the quarterly stroke test has been deleted. This valve will be leak tested at refueling outages.

Note 8 - Valves 700 and 721 cannot be stroked during normal plant operation on a quarterly basis because there is an interlock system which prevents these valves from opening when the primary system is at operating pressure. Valves 700, 701, 720 and 721 separate a high pressure system from a low pressure system. These valves will be stroked at cold shutdowns and refueling outages.

Note 9 - Valves 825A, 825B, 856, 896A, and 896B should not be stroked during normal operation on a quarterly basis because this would cause a temporary loss of system function of the ECCS. These valves provide the suction from the refueling water storage tank to the safety injection and residual heat removal pumps. These valves will be stroked at cold shutdowns and refueling outages.

Note 10- Valves 853A and 853B cannot be stroked during normal plant operation on a quarterly basis because this test would pressurize the RHR system to the primary system operation pressure. These valves will be stroked at refueling outages.

Note 11- Valve 854 cannot be stroked during normal plant operation on a quarterly basis because there is not a way to establish a flow through this valve when the primary system is at pressure and the RHR system is not operating. This valve will be stroked at cold shutdowns and refueling outages.

Note 12- Valve 866A cannot be stroked during normal plant operation on a quarterly basis because this test would result in a substantial radiation exposure to test personnel. A recent survey of the test location indicated a gamma field of 800 mr./hr. This valve will be stroked at cold shutdowns and refueling outages.

Note 13- Valves 867A, 867B, 878G, and 878J cannot be stroked during normal operation on a quarterly basis because this test cannot be doen when the primary system is at operating pressure. This test may only be done when the plant is in a cold shutdown condition with a partially full primary system in order to prevent an overpressurization.

Note 14- Valves 3516 and 3517 cannot be stroked during normal plant operation in a quarterly basis because they are the main steam swing check stop valves. These valves are stroked during each plant startup.

Note 15- Category C Relief Valves shall be tested in accordance with the extent and frequency requirements of Paragraph IWV-3510 of Article IWV of Section XI of the Code.

Note 16 - Valves 430 and 431C are the power operated relief valves associated with the overpressurization system. These valves shall be stroked during each refueling outage in accordance with normal valve testing procedures.

PVT 5.0 Records

5.1 Records for the Inservice Pump Testing Program shall be developed and maintained in accordance with Article IWP-6000 of Section XI of the Code.

5.2 Records for the Inservice Valve Testing Program shall be developed and maintained in accordance with Article IWV-6000 of Section XI of the Code.