(C) **PUMPS:** Safety Injection Pumps (1A, 1B)

SAFETY CLASS: 2

FUNCTION: To provide emergency core cooling in the event of a break in either the reactor coolant or steam system piping.

TEST REQUIREMENT: IWP-3100 requires the resistance of the system to be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value.

BASIS FOR RELIEF: When testing these pumps on line, the only flow path available is thru the miniflow to the FWST. Flow is limited by an orifice in the miniflow line, which yields a test point back on the head curve. As stated in Generic Letter 89-04, minimum flow lines are not designed for pump testing purposes. The test point for monitoring pump performance for degradation should be in a more stable region on the pump performance curve. Also, the amount of time the pump is run at miniflow should be minimized.

ALTERNATE TESTING: The Safety Injection Pumps will be tested according to the following program, which is consistent with Generic Letter 89-04.

14

Quarterly
The Safety Injection Pumps will be tested quarterly to verify Technical Specification limits on pump operability are met. Velocity vibration measurements will also be taken. The main thrust of this test will be to verify pump operability.

Refueling Outage
During each refueling outage, a code pump test, including velocity vibration measurements, will be performed at a test point in the stable region of the performance curve.

Implementation
The new testing program (quarterly and refueling) will be in place by the 1990 Unit 2 refueling outage and the 1991 Unit 1 refueling outage.

Rev. 14

(D) PUMPS:	Residual Heat Removal Pumps (1A, 1B)
SAFETY CLASS:	2
FUNCTION:	To remove heat energy from the core and Reactor Coolant System during cooldown and refueling operations. Also, utilized as part of Safety Injection System and Containment Spray System during an accident condition.
TEST REQUIREMENT:	IWP-3100 requires the resistance of the system to be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value.
BASIS FOR RELIEF:	When testing these pumps on line, the only flow path available is thru the miniflow line. Flow is limited by the miniflow control valve in the line, which yields a test point back on the head curve. As stated in Generic Letter 89-04, minimum flow lines are not designed for pump testing purposes. The test point for monitoring pump performance for degradation should be in a more stable region on the pump performance curve. Also, the amount of time the pump is run at miniflow should be minimized.
ALTERNATE TESTING:	The Residual Heat Removal Pumps will be tested according to the following program, which is consistent with Generic Letter 89-04.

14

Quarterly
The Residual Heat Removal Pumps will be tested quarterly to verify Technical Specification limits on pump operability are met. Velocity vibration measurements will also be taken. The main thrust of this test will be to verify pump operability.

Refueling Outage
During each refueling outage, a code pump test, including velocity vibration measurements, will be performed at a test point in the stable region of the performance curve.

Implementation
The new testing program (quarterly and refueling) will be in place by the 1990 Unit 2 refueling outage and the 1991 Unit 1 refueling outage.

Rev. 14

(E) PUMPS: Centrifugal Charging Pump (1A, 1B)

     SAFETY CLASS: 2

     FUNCTION: To supply reactor coolant inventory in the
                               Volume Control Tank or Refueling Water Storage
                               Tank to the reactor coolant system.

     TEST REQUIREMENT: Table IWP-3100-1 requires measuring
                               differential pressure (DP) and flow rate (Q).

     BASIS FOR RELIEF: When testing these pumps on line, the only flow
                               path available is thru a combination of the
                               normal charging and the miniflow to the VCT.
                               The miniflow is not instrumented for flow.
                               Flow through the line is assumed to be at the
                               flow rate corresponding to the orifice design
                               conditions. Also, the combination flow paths
                               yield a test point back on the head curve. The
                               best test point back for monitoring pump
                               performance for degradation should be in a more
                               stable region on the pump performance curve.

     ALTERNATE TESTING: The Centrifugal Charging Pumps will be tested
                               according to the following program, which is
                               consistent with Generic Letter 89-04.

                               Quarterly
                               The Centrifugal Charging Pumps will be tested
                               quarterly to verify Technical Specification   14
                               limits on pump operability are met. Velocity
                               vibration measurements will also be taken. The
                               main thrust of this test will be to verify pump
                               operability.

                               Refueling Outage
                               During each refueling outage, a code pump test,
                               including velocity vibration measurements, will
                               be performed at a test point in the stable
                               region of the performance curve.

                               Implementation
                               The new testing program (quarterly and
                               refueling) will be in place by the 1990 Unit 2
                               refueling outage and the 1991 Unit 1 refueling
                               outage.

                                    Rev. 14

(F) PUMPS: D/G Room Sump Pumps (1A2, 1A3, 1B2, 1B3)

SAFETY CLASS: 3

FUNCTION: Water removal from Diesel Generator Rooms

TEST REQUIREMENT: Test pumps in accordance with Subsection IWP.

BASIS FOR RELIEF: The D/G Room Sump Pumps are vertical pumps
                          tested by filling the D/G Room Sump and pumping
                          the sump down. No stable system conditions can
                          be obtained due to the continuous decrease in
                          sump level. No suction pressure, flow, bearing
                          temperature, or lubricant level instrumentation
                          is available.

ALTERNATE TESTING: The D/G Room Sump Pumps will be tested for
                          greater than or equal to emergency design flow
                          by:

                          (1) Filling the sump and recording level.

                          (2) Pumping down the sump and recording both
                              level and pump down time.

                          An average flow rate will be determined from
                          the time it takes to pump a known volume from
                          the sump. Pumping down the sump takes
                          approximately 60 seconds. An average discharge
                          pressure will be determined and recorded. The
                          flow rate will be compared with acceptance
                          criteria established per Table IWP-3100-2.

                          The above testing procedure is an interim
                          method until modifications are made to the
                          system which will permit full flow testing
                          using a recirculation loop back to the sump.   14
                          Included in the test loop modification will be
                          direct flow indication and throttling
                          capability to set either ΔP or Q. The
                          modifications will be installed by the 1992
                          refueling outages.

                          No lubrication level verification is required
                          for this pump. Lubrication is maintained under
                          our routine preventative maintenance program.

                          No suction pressure instrumentation is required
                          since this pressure can be calculated from sump
                          level measurements.

The mechanical condition of the subject pumps
will be determined from vibration data to be
gathered quarterly. No bearing temperature
instrumentation is installed. ANSI/ASME OM-6
will not require bearing temperature
measurements.

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV
** AUXILIARY FEEDWATER										
1CA-0007AC	C	1592-1.1	B-10	B	ST-Q	-	-	10	-	-
1CA-0008	C	1592-1.1	B-11	C	MTC-Q	-	CA2	-	RF#	14
1CA-0009B	C	1592-1.1	C-05	B	ST-Q	-	-	10	-	-
1CA-0010	C	1592-1.1	C-05	C	MTC-Q	-	CA2	-	RF#	14
1CA-0011A	C	1592-1.1	B-04	B	ST-Q	-	-	10	-	-
1CA-0012	C	1592-1.1	B-03	C	MTC-Q	-	CA2	-	RF#	14
1CA-0015A	C	1592-1.1	D-03	B	ST-Q	-	-	10	-	-
1CA-0018B	C	1592-1.1	D-04	B	ST-Q	-	-	10	-	-
1CA-0020AB	C	1592-1.1	I-10	B	ST-Q	-	-	60	-	-
1CA-0022	C	1592-1.1	I-10	C	MTO-Q	-	-	-	-	-
1CA-0026	C	1592-1.1	I-04	C	MTO-Q	-	-	-	-	-
1CA-0027A	C	1592-1.1	J-05	B	ST-Q	-	-	60	-	-
1CA-0031	C	1592-1.1	I-07	C	MTO-Q	-	-	-	-	-
1CA-0032B	C	1592-1.1	J-08	B	ST-Q	-	-	60	-	-
1CA-0036AB	C	1592-1.0	L-10	B	ST-Q	-	-	60	-	-
1CA-0037	B	1592-1.0	K-14	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0038B	B	1592-1.0	J-14	B	ST-Q	-	-	12	-	-
1CA-0040B	C	1592-1.0	G-14	B	ST-Q	-	-	60	-	-
1CA-0041	B	1592-1.0	H-14	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0042B	B	1592-1.0	I-14	B	ST-Q	-	-	10	-	-
1CA-0044B	C	1592-1.0	C-11	B	ST-Q	-	-	60	-	-
1CA-0045	B	1592-1.0	C-09	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0046B	B	1592-1.0	D-08	B	ST-Q	-	-	10	-	-
1CA-0048AB	C	1592-1.0	K-08	B	ST-Q	-	-	60	-	-
1CA-0049	B	1592-1.0	H-08	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0050B	B	1592-1.0	G-08	B	ST-Q	-	-	12	-	-
1CA-0052AB	C	1592-1.0	K-07	B	ST-Q	-	-	60	-	-
1CA-0053	B	1592-1.0	H-07	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0054AC	B	1592-1.0	G-07	B	ST-Q	-	-	12	-	-
1CA-0056A	C	1592-1.0	C-04	B	ST-Q	-	-	60	-	-
1CA-0057	B	1592-1.0	C-06	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0058A	B	1592-1.0	D-07	B	ST-Q	-	-	10	-	-
1CA-0060A	C	1592-1.0	G-01	B	ST-Q	-	-	60	-	-
1CA-0061	B	1592-1.0	H-01	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0062A	B	1592-1.0	I-01	B	ST-Q	-	-	10	-	-
1CA-0064AB	C	1592-1.0	L-04	B	ST-Q	-	-	60	-	-
1CA-0065	B	1592-1.0	K-01	C	MTO,C-Q	-	-	-	CS-CA1	-
1CA-0066AC	B	1592-1.0	J-01	B	ST-Q	-	-	12	-	-
1CA-0086A	C	1592-1.1	C-14	B	ST-Q	-	-	10	-	-
1CA-0116B	C	1592-1.1	E-14	B	ST-Q	-	-	10	-	-
1CA-0161C	C	1592-1.1	D-08	B	ST-Q	-	-	10	-	-
1CA-0162C	C	1592-1.1	D-07	B	ST-Q	-	-	10	-	-
1CA-0165	C	1592-1.1	C-14	C	MTO-Q	-	CA1	-	RF#	-
1CA-0166	C	1592-1.1	F-14	C	MTO-Q	-	CA1	-	RF#	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV
** REFUELING WATER										
1FW-0001A	B	1571-1.0	E-11	B	ST-Q	-	-	10	-	-
1FW-0004	B	1571-1.0	D-08	A	LT-RF	-	-	-	PASSIVE	-
1FW-0005	B	1571-1.0	C-07	AC	LT-RF	-	-	-	PASSIVE	-
1FW-0011	B	1571-1.0	C-02	A	LT-RF	-	-	-	PASSIVE	-
1FW-0013	B	1571-1.0	D-02	A	LT-RF	-	-	-	PASSIVE	-
1FW-0027A	B	1571-1.0	C-12	B	ST-Q	-	-	30	CS-FW1	-
1FW-0028	B	1571-1.0	B-11	C	MTO,C-Q	-	-	-	CS-FW2	14
1FW-0032B	B	1571-1.0	E-11	B	ST-Q	-	-	10	-	-
1FW-0033A	B	1571-1.0	F-11	B	ST-Q	-	-	10	-	-
1FW-0049B	B	1571-1.0	F-10	B	ST-Q	-	-	10	-	-
1FW-0052	E	1571-1.0	I-05	C	MTO-Q	-	-	-	-	-
1FW-0067	B	1571-1.0	C-01	AC	LT-RF	-	-	-	PASSIVE	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	R E V
** RESIDUAL HEAT REMOVAL										
1ND-0001B	A	1561-1.0	I-13	A	ST-Q	LT-TS	-	60	CS-ND1 PIV	-
1ND-0002AC	A	1561-1.0	H-13	A	ST-Q	LT-TS	-	60	CS-ND1 PIV	-
1ND-0004B	B	1561-1.0	E-12	B	ST-Q	-	-	60	-	-
1ND-0008	B	1561-1.0	D-08	C	MTO,C-Q	-	-	-	CS-ND6	14
1ND-0014	B	1561-1.0	D-03	B	ST-Q	-	-	60	-	-
1ND-0015B	B	1561-1.0	E-03	B	ST-Q	-	-	10	CS-ND3	-
1ND-0019A	B	1561-1.0	H-12	B	ST-Q	-	-	60	-	-
1ND-0023	B	1561-1.0	J-08	C	MTO,C-Q	-	-	-	CS-ND6	14
1ND-0029	B	1561-1.0	J-03	B	ST-Q	-	-	60	-	-
1ND-0030A	B	1561-1.0	I-03	B	ST-Q	-	-	10	CS-ND3	-
1ND-0058A	B	1561-1.0	K-03	B	ST-Q	-	-	10	CS-ND2	-
1ND-0067B	B	1561-1.0	B-09	B	ST-Q	-	-	10	-	-
1ND-0068A	B	1561-1.0	L-09	B	ST-Q	-	-	10	-	-
1ND-0070	B	1561-1.0	K-03	C	MTO,C-Q	-	-	-	CS-ND4	14
1ND-0071	B	1561-1.0	C-04	C	MTO,C-Q	-	-	-	CS-ND5	14

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	R E V
** SAFETY INJECTION										
1NI-0009A	B	1562-1.0	H-09	B	ST-Q	-	-	11	CS-NI1	-
1NI-0010B	B	1562-1.0	G-09	B	ST-Q	-	-	11	CS-NI1	-
1NI-0012	B	1562-1.0	G-08	C	MTO-Q	-	-	-	CS-NI14	14
1NI-0015	A	1562-1.0	K-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0017	A	1562-1.0	I-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0019	A	1562-1.0	F-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0021	A	1562-1.0	D-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0047A	B	1562-2.0	K-05	A	ST-Q	LT-RF	-	15	-	-
1NI-0048	B	1562-2.0	K-03	AC	MTC-Q	LT-RF	NI3	-	MT-RF*	-
1NI-0054A									DELETED	13
1NI-0059	A	1562-2.0	D-13	AC	MTO,C-Q	LT-TS	NI4	-	PIV RF#	-
1NI-0060	A	1562-2.0	D-14	AC	MTO,C-Q	LT-TS	NI6	-	PIV RF#	-
1NI-0065B									DELETED	13
1NI-0070	A	1562-2.0	H-13	AC	MTO,C-Q	LT-TS	NI4	-	PIV RF#	-
1NI-0071	A	1562-2.0	H-13	AC	MTO,C-Q	LT-TS	NI6	-	PIV RF#	-
1NI-0076A									DELETED	13
1NI-0081	A	1562-2.1	C-03	AC	MTO,C-Q	LT-TS	NI4	-	PIV RF#	-
1NI-0082	A	1562-2.1	C-03	AC	MTO,C-Q	LT-TS	NI6	-	PIV RF#	-
1NI-0088B									DELETED	13
1NI-0093	A	1562-2.1	C-08	AC	MTO,C-Q	LT-TS	NI4	-	PIV RF#	-
1NI-0094	A	1562-2.1	C-08	AC	MTO,C-Q	LT-TS	NI6	-	PIV RF#	-
1NI-0095A	B	1562-2.1	F-12	A	ST-Q	LT-RF	-	10	-	-
1NI-0096B	B	1562-2.1	E-13	A	ST-Q	LT-RF	-	10	-	-
1NI-0100B	B	1562-3.0	F-13	B	ST-Q	-	-	10	CS-NI3	-
1NI-0101	B	1562-3.0	F-13	C	MTO,C-Q	-	-	-	CS-NI15	14
1NI-0103A	B	1562-3.0	J-14	B	ST-Q	-	-	10	-	-
1NI-0114	B	1562-3.0	I-09	C	MTO-Q	-	-	-	-	-
1NI-0115B	B	1562-3.0	H-09	B	ST-Q	-	-	10	-	-
1NI-0116	B	1562-3.0	J-09	C	MTO,C-Q	-	-	-	CS-NI16	14
1NI-0118A	B	1562-3.0	H-07	B	ST-Q	-	-	10	-	-
1NI-0120B	B	1562-3.0	J-07	A	ST-Q	LT-RF	-	10	-	-
1NI-0121A	B	1562-3.0	J-06	B	ST-Q	-	-	10	CS-NI5	-
1NI-0124	A	1562-3.0	J-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0125	A	1562-3.0	I-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI20	14
1NI-0126	A	1562-3.0	J-02	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI20	14
1NI-0128	A	1562-3.0	I-04	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0129	A	1562-3.0	I-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI20	14
1NI-0134	A	1562-3.0	G-04	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI20	14
1NI-0135B	B	1562-3.0	E-14	B	ST-Q	-	-	10	-	-
1NI-0136B	B	1562-3.0	C-14	B	ST-Q	-	-	10	-	-
1NI-0143	B	1562-3.0	F-09	C	MTO,C-Q	-	-	-	-	-
1NI-0144B	B	1562-3.0	G-09	B	ST-Q	-	-	10	-	-
1NI-0147A	B	1562-3.0	G-11	B	ST-Q	-	-	10	CS-NI4	-
1NI-0148	B	1562-3.0	D-09	C	MTO,C-Q	-	-	-	CS-NI16	14
1NI-0150B	B	1562-3.0	E-07	B	ST-Q	-	-	10	-	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	R E V
1NI-0152B	B	1562-3.0	D-06	B	ST-Q	-	-	10	CS-NI6	-
1NI-0156	A	1562-3.0	D-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0157	A	1562-3.0	D-02	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0159	A	1562-3.0	B-04	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0160	A	1562-3.0	B-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI17	14
1NI-0162A	B	1562-3.1	K-11	B	ST-Q	-	-	10	CS-NI7	-
1NI-0165	A	1562-3.1	J-03	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI18	14
1NI-0167	A	1562-3.1	J-05	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI18	14
1NI-0169	A	1562-3.1	J-06	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI18	14
1NI-0171	A	1562-3.1	J-07	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI18	14
1NI-0173A	B	1562-3.1	I-12	B	ST-Q	-	-	10	CS-NI8	-
1NI-0175	A	1562-3.1	I-08	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI19	14
1NI-0176	A	1562-3.1	H-08	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI19	14
1NI-0178B	B	1562-3.1	F-12	B	ST-Q	-	-	10	CS-NI9	-
1NI-0180	A	1562-3.1	F-06	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI19	14
1NI-0181	A	1562-3.1	D-05	AC	MTO,C-Q	LT-TS	-	-	PIV CS-NI19	14
1NI-0183B	B	1562-3.0	G-03	B	ST-Q	-	-	20	CS-NI10	-
1NI-0184B	B	1562-3.1	D-12	B	ST-Q	-	-	60	CS-NI11	-
1NI-0185A	B	1562-3.1	B-12	B	ST-Q	-	-	60	CS-NI11	-
1NI-0332A	B	1562-3.0	L-14	B	ST-Q	-	-	10	-	-
1NI-0333B	B	1562-3.0	L-12	B	ST-Q	-	-	10	-	-
1NI-0334B	B	1562-3.0	L-11	B	ST-Q	-	-	10	-	-
1NI-0347	A	1562-1.0	I-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0348	A	1562-1.0	F-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0349	A	1562-1.0	D-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0354	A	1562-1.0	K-07	C	MTO-Q	-	-	-	CS-NI13	14
1NI-0430A	B	1562-2.0	E-04	B	ST-Q	-	-	60	CS-NI2	-
1NI-0431B	B	1562-2.0	J-04	B	ST-Q	-	-	60	CS-NI2	-
1NI-0436	B	1562-2.1	G-11	AC	MTC-Q	LT-RF	NI5	-	MT-RF*	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV
** CHEMICAL AND VOLUME CONTROL										
1NV-0001A	A	1554-1.2	C-05	B	ST-Q	-	-	15	CS-NV3	-
1NV-0002A	A	1554-1.2	D-05	B	ST-Q	-	-	15	CS-NV3	-
1NV-0007B	B	1554-1.2	J-10	B	ST-Q	-	-	10	CS-NV2	-
1NV-0021A	A	1554-1.2	E-03	B	ST-Q	-	-	2	CS-NV4	-
1NV-0022	A	1554-1.2	C-03	C	MTO-Q	-	-	-	CS-NV5	-
1NV-0024B	A	1554-1.2	D-06	B	ST-Q	-	-	2	-	-
1NV-0025B	A	1554-1.2	D-07	B	ST-Q	-	-	2	-	-
1NV-0035A	B	1554-1.2	K-07	B	ST-Q	-	-	15	-	14
1NV-0094AC	B	1554-1.1	J-13	B	ST-Q	-	-	10	CS-NV1	-
1NV-0095B	B	1554-1.1	H-13	B	ST-Q	-	-	10	CS-NV1	-
1NV-0141A	B	1554-2.0	B-08	B	ST-Q	-	-	10	CS-NV7	-
1NV-0142B	B	1554-2.0	B-07	B	ST-Q	-	-	10	CS-NV7	-
1NV-0150B	B	1554-2.0	F-02	B	ST-Q	-	-	10	CS-NV12	12
1NV-0151A	B	1554-2.0	G-02	B	ST-Q	-	-	10	CS-NV12	12
1NV-0221A	B	1554-3.1	H-01	B	ST-Q	-	-	10	CS-NV9	-
1NV-0222B	B	1554-3.1	I-01	B	ST-Q	-	-	10	CS-NV9	-
1NV-0223	B	1554-3.1	I-02	C	MTO,C-Q	-	-	-	CS-NV15	14
1NV-0225	B	1554-3.1	F-05	C	MTO,C-Q	-	-	-	CS-NV14	14
1NV-0227	B	1554-3.1	E-06	C	MTO,C-Q	-	-	-	-	-
1NV-0231	B	1554-3.1	F-10	C	MTO,C-Q	-	-	-	CS-NV14	14
1NV-0233	B	1554-3.1	E-10	C	MTO,C-Q	-	-	-	-	-
1NV-0244A	B	1554-3.0	K-08	B	ST-Q	-	-	10	CS-NV8	-
1NV-0245B	B	1554-3.0	K-09	B	ST-Q	-	-	10	CS-NV8	-
1NV-0264	B	1554-3.1	J-10	C	MTO-Q	-	-	-	CS-NV11	-
1NV-0265B	B	1554-3.1	J-09	B	ST-Q	-	-	10	CS-NV13	12
1NV-0411	C	1554-5.0	C-02	C	MTO-Q	-	NV4	-	RF#	12
1NV-0413	C	1554-5.0	B-02	C	MTO-Q	-	NV4	-	RF#	12
1NV-0457A	B	1554-1.2	I-07	B	ST-Q	-	-	15	-	-
1NV-0458A	B	1554-1.2	J-07	B	ST-Q	-	-	15	-	-
1NV-0459A								15	DELETED	14
1NV-0842AC	B	1554-1.3	F-02	B	ST-Q	-	-	15	-	-
1NV-0844	E	1554-1.3	F-05	C	MTO-Q	-	-	-	-	-
1NV-0849AC	B	1554-1.3	F-08	A	ST-Q	LT-RF	-	15	-	-
1NV-1002	B	1554-1.3	F-10	AC	MTO,C-Q	LT-RF	NV1	-	RF	-
1NV-1007	B	1554-1.3	F-13	C	MTO,C-Q	-	-	-	CS-NV6	-
1NV-1008	B	1554-1.3	F-13	C	MTO,C-Q	-	-	-	CS-NV6	-
1NV-1009	B	1554-1.3	F-14	C	MTO,C-Q	-	-	-	CS-NV6	-
1NV-1010	B	1554-1.3	F-14	C	MTO,C-Q	-	-	-	CS-NV6	-
1NV-1012C	E	1554-1.3	F-12	B	ST-Q	-	-	30	-	-
1NV-1013C	E	1554-1.3	F-12	B	ST-Q	-	-	30	-	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV

** MAIN STEAM TO AUX. EQUIPMENT

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV
1SA-0005	B	1593-1.2	F-04	C	MTO,C-Q	-	-	-	-	14
1SA-0006	B	1593-1.2	F-04	C	MTO,C-Q	-	-	-	-	14
1SA-0048ABC	B	1593-1.2	E-04	B	ST-Q	-	-	50	-	-
1SA-0049AB	B	1593-1.2	F-02	B	ST-Q	-	-	50	-	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV

** DIESEL GENERATOR STARTING AIR

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	REV
1VG-0061	C	1609-4.0	K-02	B	ST-Q	-	-	-	-	14
1VG-0062	C	1609-4.0	K-02	B	ST-Q	-	-	-	-	14
1VG-0063	C	1609-4.0	H-02	B	ST-Q	-	-	-	-	14
1VG-0064	C	1609-4.0	I-02	B	ST-Q	-	-	-	-	14
1VG-0065	C	1609-4.0	E-02	B	ST-Q	-	-	-	-	14
1VG-0066	C	1609-4.0	F-02	B	ST-Q	-	-	-	-	14
1VG-0067	C	1609-4.0	C-02	B	ST-Q	-	-	-	-	14
1VG-0068	C	1609-4.0	C-02	B	ST-Q	-	-	-	-	14
1VG-0115	C	1609-4.0	K-09	C	MTO-Q	-	-	-	-	-
1VG-0116	C	1609-4.0	H-09	C	MTO-Q	-	-	-	-	-
1VG-0117	C	1609-4.0	F-09	C	MTO-Q	-	-	-	-	-
1VG-0118	C	1609-4.0	C-09	C	MTO-Q	-	-	-	-	-

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	R E V
** CONTAINMENT PURGE VENTILATION										
1VP-0001B	B	1576-1	I-06	A	LT-TS	-	-	-	-	14
1VP-0002A	B	1576-1	I-07	A	LT-TS	-	-	-	-	14
1VP-0003B	B	1576-1	K-06	A	LT-TS	-	-	-	-	14
1VP-0004A	B	1576-1	K-07	A	LT-TS	-	-	-	-	14
1VP-0006B	B	1576-1	E-06	A	LT-TS	-	-	-	-	14
1VP-0007A	B	1576-1	E-07	A	LT-TS	-	-	-	-	14
1VP-0008B	B	1576-1	D-06	A	LT-TS	-	-	-	-	14
1VP-0009A	B	1576-1	D-07	A	LT-TS	-	-	-	-	14
1VP-0010A	B	1576-1	J-08	A	LT-TS	-	-	-	-	14
1VP-0011B	B	1576-1	J-09	A	LT-TS	-	-	-	-	14
1VP-0012A	B	1576-1	I-08	A	LT-TS	-	-	-	-	14
1VP-0013B	B	1576-1	I-09	A	LT-TS	-	-	-	-	14
1VP-0015A	B	1576-1	F-08	A	LT-TS	-	-	-	-	14
1VP-0016B	B	1576-1	F-09	A	LT-TS	-	-	-	-	14
1VP-0017A	B	1576-1	B-07	A	LT-TS	-	-	-	-	14
1VP-0018B	B	1576-1	B-06	A	LT-TS	-	-	-	-	14
1VP-0019A	B	1576-1	B-08	A	LT-TS	-	-	-	-	14
1VP-0020B	B	1576-1	B-09	A	LT-TS	-	-	-	-	14

Duke Power Company
McGuire Nuclear Station
PUMP AND VALVE INSERVICE
TESTING PROGRAM

VALVE	CL	FLOW DIAGRAM	FLOW COOR	CAT	TEST REQ1	TEST REQ2	RR	STROKE TIME (SEC)	TEST ALTERNATIVES/ REMARKS	R E V
** LIQUID WASTE RECYCLE										
1WL-0001B	B	1565-1.1	L-11	A	ST-Q	LT-RF	-	10	-	-
1WL-0002A	B	1565-1.1	K-13	A	ST-Q	LT-RF	-	10	-	-
1WL-0024	B	1565-1.1	J-14	AC	MTC-Q	LT-RF	WL2	-	MT-RF*	-
1WL-0039A	B	1565-1.1	J-05	A	ST-Q	LT-RF	-	10	-	-
1WL-0041B	B	1565-1.1	K-05	A	ST-Q	LT-RF	-	10	-	-
1WL-0064A	B	1565-1.0	J-03	A	ST-Q	LT-RF	-	15	-	-
1WL-0065B	B	1565-1.0	K-05	A	ST-Q	LT-RF	-	15	-	-
1WL-0264	B	1565-1.0	J-02	AC	LT-RF	-	-	-	PASSIVE	-
1WL-0321A	B	1565-7.0	H-07	A	ST-Q	LT-RF	-	15	-	-
1WL-0322B	B	1565-7.0	I-06	A	ST-Q	LT-RF	-	15	-	-
1W -0385	B	1565-7.0	H-07	AC	MTC-Q	LT-RF	WL3	-	MT-RF*	-
1WL-0466									DELETED	14
1WL-1301B	B	1565-1.0	G-03	A	ST-Q	LT-RF	-	10	-	-
1WL-1302A	A	1565-1.0	E-04	A	ST-Q	LT-RF	-	10	-	-

RELIEF/JUSTIFICATION: RR-CA2

VALVE: 1CA-8, 1CA-10, 1CA-12

FLOW DIAGRAM: MC-1592-1.1

CATEGORY: C

CLASS: C

FUNCTION: Auxiliary Feedwater Pump Suction check valves to prevent diversion of assured auxiliary feedwater source.

TEST REQUIREMENT: Full stroke exercise quarterly

BASIS: These valves cannot be tested to close without contaminating the Auxiliary Feedwater System with raw service water. These valves will not be tested during cold shutdown because disassembly is required.

ALTERNATE TESTING: Valves will be sample disassembled each refueling outage to verify valve closure capability.

RELIEF/JUSTIFICATION: RR-FW1 (deleted per Rev. 14; see CS-FW2)

VALVE: 1FW-28

RELIEF/JUSTIFICATION: RR-ND1 (Deleted per Rev 14; see CS-ND4)

VALVE: 1ND-70

RELIEF/JUSTIFICATION: RR-ND2 (Deleted per Rev. 14; see CS-ND5)

VALVE: 1ND-71

RELIEF/JUSTIFICATION: RR-ND3 (Deleted per Rev. 14; see CS-ND6)

VALVE: 1ND-8, 1ND-23

RELIEF/JUSTIFICATION: RR-NI1 (Deleted per Rev. 14; see CS-NI13)

VALVE: 1NI-15, 1NI-354, 1NI-17, 1NI-347, 1NI-19, 1NI-348,
                          1NI-21, 1NI-349

RELIEF/JUSTIFICATION: RR-NI2 (Deleted per Rev. 14, see CS-NI14)

VALVE: 1NI-12

RELIEF/JUSTIFICATION: RR-NI4

VALVE: 1NI-81, 1NI-70, 1NI-59, 1NI-93

FLOW DIAGRAM: MC-1562-2.0, MC-1562-2.1

CATEGORY: A,C

CLASS: A

FUNCTION: Opens on flow from the NI cold leg accumulator to the |14
Reactor Coolant System. Reactor Coolant Boundary
Valve.

TEST REQUIREMENT: Full stroke exercise quarterly and leak tested per |14
Technical Specifications.

BASIS: Valves cannot be full or partial stroked during power
operation since the accumulator pressure is ~600 psig
and cannot overcome RCS pressure. Valves will not be |14
tested during cold shutdown since disassembly is
required. Disassembly would render one train of RHR
inoperable for an extended time period.

ALTERNATE TESTING: Valves will be partial stroked during cold shutdown,
but not more often than once per nine months. Valves
will be full stroked at refueling by sample
disassembly. Valves will be leak tested in accordance
with Technical Specification 4.4.6.2.2.   14

RELIEF/JUSTIFICATION: RR-NI6

VALVE: 1NI-82, 1NI-71, 1NI-60, 1NI-94

FLOW DIAGRAM: MC-1562-2.0, MC-1562-2.1

CATEGORY: A,C

CLASS: A

FUNCTION: Open on flow from the cold leg accumulator or the ND | 14
                          system to the Reactor Coolant system. Reactor Coolant
                          Boundary valve.

TEST REQUIREMENT: Full stroke exercise quarterly and leak test per | 14
                          Technical Specifications.

BASIS: Valves cannot be full or partial stroked during power
                          operation since a driving head to force the valves
                          open does not exist. Instrumentation is not present
                          to measure the flow through individual valves. Valves
                          will not be tested during cold shutdown since | 14
                          disassembly is required. Disassembly would render one
                          train of RHR inoperable for an extended time period.

ALTERNATE TESTING: Valves will be partial stroked during cold shutdowns
                          on a 9-month frequency and leak tested per Tech
                          Spec 4.4.6.2.2. The valves will be full stroke | 14
                          exercised at refueling by sample disassembly.

RELIEF/JUSTIFICATION: RR-NI7 (Deleted per Rev. 14; see CS-NI15)

VALVE: 1NI-101

RELIEF/JUSTIFICATION: RR-NI8 (Deleted per Rev. 14; see CS-NI16)

VALVE: 1NI-116, 1NI-148

RELIEF/JUSTIFICATION: R.R-NI9 (Deleted per Rev. 14; see CS-NI17)

VALVE: 1NI-128, 1NI-159, 1NI-160, 1NI-156, 1NI-124, 1NI-157

RELIEF/JUSTIFICATION: RR-NI10 (Deleted per Rev. 14; see CS-NI18)

VALVE: 1NI-165, 1NI-167, 1NI-169, 1NI-171

RELIEF/JUSTIFICATION: RR-NI11 (Deleted per Rev. 14; see CS-NI19)

VALVE: 1NI-180, 1NI-181, 1NI-175, 1NI-176

RELIEF/JUSTIFICATION·   RR-NI12 (Deleted per Rev. 14; see CS-NI20)

VALVE: 1NI-129, 1NI-125, 1NI-134, 1NI-126

RELIEF/JUSTIFICATION: RR-NS1

VALVE: 1NS-30, 1NS-33, 1NS-16, 1NS-13, 1NS-46, 1NS-41

FLOW DIAGRAM: MC-1563-1.0

CATEGORY: C

CLASS: B

FUNCTION: Open on flow from the Containment Spray Pumps

TEST REQUIREMENT: Verify proper valve movement once per three months, IWV-3522.

BASIS: Full stroke exercising of these check valves is not practical since there is no external indication of disk movement. Full stroke exercising would require for the pumps and spray nozzles to be activated which would require a large scale clean up effort. Valves will not be tested during cold shutdown since disassembly is required. | 14

ALTERNATE TESTING: These valves will be verified to fully cycle each refueling by sample disassembly. All valves will be partial stroked during cold shutdown, but not more often than once per nine months, and following disassembly | 14

RELIEF/JUSTIFICATION: RR-NV2 (Deleted per Rev. 14; see CS-NV14)

VALVE: 1NV-225, 1NV-231

Revision 14

RELIEF/JUSTIFICATION: RR-NV3 (Deleted per Rev. 14; see CS-NV15)

VALVE: 1NV-223

RELIEF/JUSTIFICATION: RR-NV4

VALVE: 1NV-411, 1NV-413

FLOW DIAGRAM: MC-1554-5.0

CATEGORY: C

CLASS: C

FUNCTION: Protect both units' Boric Acid Tanks from being
                         diluted by water from the NV pump suction. Open to | 14
                         provide alternate boron path to NV pump suction.

TEST REQUIREMENT: Full stroke quarterly

BASIS: There is not instrumentation to measure the flowrate
                         through these valves. The valves do not have any
                         external means of verifying their position. The | 14
                         valves will not be tested during cold shutdown since
                         disassembly is required.

                         To open 1NV-411 (Unit 1) or 1NV-413 (Unit 2) Boric
                         Acid would be injected into the RCS of the respective
                         unit. At power this would cause a reactor transient.

ALTERNATE TESTING: These valves will be disassembled for inspection.
                         1NV-411 will be inspected during Unit 1 refueling
                         outages and 1NV-413 will be inspected during Unit 2
                         refuelings. The valves will be partial stroked during | 14
                         respective unit cold shutdowns, but not more often
                         than once per nine months.

RELIEF/JUSTIFICATION: RR-SA1 (Deleted per Rev. 14)

VALVE: 1SA-5, 1SA-6

RELIEF/JUSTIFICATION: RR-VB1

VALVE: 1VB-50

FLOW DIAGRAM: MC-1605-3.1

CATEGORY: A,C

CLASS: B

FUNCTION: Provide containment isolation

TEST REQUIREMENT: Verify proper valve movement once per three months.

BASIS: 1VB-50 is inside containment. Closure can only be
                          verified by a local leak rate test. To perform a leak
                          test every three months would result in unnecessary
                          radiation exposure.

ALTERNATE TESTING: Valve will be verified to close by leak test performed   14
                          in accordance with Appendix J.

RELIEF/JUSTIFICATION: RR-VG1 (Deleted per Rev. 14)

VALVE: 1VG-61, 1VG-62, 1VG-63, 1VG-64, 1VG-65, 1VG-66,
                         1VG-67, 1VG-68

RELIEF/JUSTIFICATION: RR-VP1 (Deleted per Rev. 14)

VALVE: 1VP-1B, 1VP-2A, 1VP-3B, 1VP-4A, 1VP-6B, 1VP-7A, 1VP-8B, 1VP-9A, 1VP-10A, 1VP-11B, 1VP-12A, 1VP-13B, 1VP-15A, 1VP-16B, 1VP-17A, 1VP-18B, 1VP-19A, 1VP-20B

RELIEF/JUSTIFICATION: RR-WL1 (Deleted per Rev. 14)

VALVE: 1WL-466

RELIEF/JUSTIFICATION: CS-FW2

VALVE: 1FW-28

FLOW DIAGRAM: MC-1571-1.0

CATEGORY: C

CLASS: B

FUNCTION: Prevents reverse flow to the FWST and prevents pressurizing the FWST.

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: 1FW-28 cannot be full stroked during power operation since the only full flow path is into the RCS by the Residual Heat Removal Pumps (ND). The ND Pumps cannot overcome RCS pressure.

ALTERNATE TESTING: Valve will be full stroke exercised at cold shutdown but not more often than once per nine months, and partial stroked quarterly.

RELIEF/JUSTIFICATION: CS-ND4

VALVE: 1ND-70

FLOW DIAGRAM: MC-1561-1.0

CATEGORY: C

CLASS: B

FUNCTION: RHR to SI Suction Check

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: 1ND-70 cannot be full stroked during power operation
                        since the only full flow path is into the RCS and this
                        can only be performed during cold shutdowns. 1ND70
                        cannot be seat leak tested during power operation
                        since the required valve lineup cannot be made without
                        putting 2000 ppm boron water from the RWST into the
                        chemical and volume control pump suction.

                        Additionally, with the RCS at normal operating
                        pressure, the seat leakage cannot be identified.

ALTERNATE TESTING: 1ND-70 will be full stroke exercised and seal leak
                        tested at cold shutdown, but not more often than once
                        per nine months. 1ND70 will be partial stroked
                        quarterly.

RELIEF/JUSTIFICATION: CS-ND5

VALVE: 1ND-71

FLOW DIAGRAM: MC-1561-1.0

CATEGORY: C

CLASS: B

FUNCTION: RHR to SI Suction Check

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: Valve cannot be full stroked during power operation since the only full flow path is into the RCS and this can only be done at refueling. 1ND-71 cannot be partial stroked during power since the required valve lineup would render both trains of safety injection inoperable. 1ND71 cannot be leak tested with the RCS at normal operating pressure because the seat leakage cannot be identified.

ALTERNATE TESTING: Valve will be full stroked at cold shutdown, but not more often tha once per nine months.

RELIEF/JUSTIFICATION: CS-ND6

VALVE: 1ND-8, 1ND-23

FLOW DIAGRAM: MC-1561-1.0

CATEGORY: C

CLASS: B

FUNCTION: Prevents reverse flow through the ND Pumps

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: 1ND-8 and 1ND-23 cannot be fully stroked during power operation since the only full flow path is into the RCS and the ND Pumps cannot overcome RCS presure. The ND Pump recirc line is not large enough to accomodate full design flow.

ALTERNATE TESTING: Valves will be full stroke exercised at cold shutdown, but not more often than once per nine months. Valve will be partial stroked quarterly.

The opposite train valves will be tested closed during quarterly pump testing except when the opposite train of ND is in service.

RELIEF/JUSTIFICATION: CS-NI13

VALVE: 1NI-15, 1NI-354, 1NI-17, 1NI-347, 1NI-19, 1NI-348, 1NI-21, 1NI-349

FLOW DIAGRAM: MC-1562-1.0

CATEGORY: C

CLASS: A

FUNCTION: Provides safety injection flow path.

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: Full or partial stroke during power operation would result in thermal shock to injection nozzles.

ALTERNATE TESTING: Valve will be full stroked at cold shutdown, but not more often than once per nine months.

RELIEF/JUSTIFICATION: CS-NI14

VALVE: 1NI-12

FLOW DIAGRAM: MC-1562-1.0

CATEGORY: C

CLASS: B

FUNCTION: Provides safety injection flow path

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: Full or partial stroke during power operation would result in thermal shock to injection nozzles.

ALTERNATE TESTING: Valve will be full stroked at cold shutdown, but not more often than once per nine months.

RELIEF/JUSTIFICATION: CS-NI15

VALVE: 1NI-101

FLOW DIAGRAM: MC-1562-3.0

CATEGORY: C

CLASS: B

FUNCTION: Opens on flow from FWST to SI. Checks flow if RHR is
                         supplying SI suction pressure.

TEST REQUIREMENT: Full stroke exercise quarterly.

BASIS: Valve cannot be full stroked at power since the SI
                         pumps cannot overcome RCS pressure.

ALTERNATE TESTING: Valve will be partial stroked quarterly and full
                         stroked and leak tested at cold shutdowns, but not
                         more often than once every nine months.

RELIEF/JUSTIFICATION: CS-NI16

VALVE: 1NI-116, 1NI-148

FLOW DIAGRAM: MC-1562-3.0

CATEGORY: C

CLASS: B

FUNCTION: Opens to flow from the NI Pump(s). Check flow from opposite train.

TEST REQUIREMENT: Verify proper valve movement once per three months.

BASIS: Valves cannot be full or partial stroked during power operation since the safety injection pumps cannot overcome RCS pressure.

ALTERNATE TESTING: Valves will be cycled open during cold shutdown, but not more often than once per nine months. Valves will be checked closed quarterly.

RELIEF/JUSTIFICATION: CS-NI17

VALVE: 1NI-128, 1NI-159, 1NI-160, 1NI-156, 1NI-124, 1NI-157

FLOW DIAGRAM: MC-1562-3.0

CATEGORY: A, C

CLASS: B

FUNCTION: Open on flow from the SI pumps to the RCS hot legs. Reactor Coolant Boundary valve.

TEST REQUIREMENT: Verify proper valve movement once per three months and leak test per Technical Specifications.

BASIS: Valves cannot be full or partial stroked during power operation since the safety injection pumps cannot discharge into the RCS at operating pressure.

ALTERNATE TESTING: Valves will be verified to fully cycle during cold shutdown by acoustic emission monitoring, but no more often than once per nine months. Valves will be leak tested in accordance with Tech Spec 4.4.6.2.2.

RELIEF/JUSTIFICATION: CS-NI18

VALVE: 1NI-165, 1NI-167, 1NI-169, 1NI-171

FLOW DIAGRAM: MC-1562-3.1

CATEGORY: A,C

CLASS: A

FUNCTION: SI discharge check valves to RCS cold legs. Reactor
                        Coolant System Boundary valves.

TEST REQUIREMENT: Full stroke exercise quarterly and leak test per
                        Technical Specifications.

BASIS: Valves cannot be cycled during power operation since
                        the SI pumps cannot overcome RCS pressure to permit
                        flow through the valves.

ALTERNATE TESTING: Valves will be fully cycled during cold shutdown, but
                        not more often than once per nine months. Valves will
                        be leak tested in accordance with Tech Spec 4.4.6.2.2.

RELIEF/JUSTIFICATION: CS-NI19

VALVE: 1NI-180, 1NI-181, 1NI-175, 1NI-176

FLOW DIAGRAM: MC-1562-3.1

CATEGORY: A,C

CLASS: A

FUNCTION: Opens on flow from the ND to the RCS. Reactor Coolant Boundary valve.

TEST REQUIREMENT: Valve movement once per three months and leak test per Technical Specifications.

BASIS: The discharge pressure of the ND Pumps is not sufficient for opening the valve to the Reactor Coolant System during power operation.

ALTERNATE TESTING: Valve will be verified to fully cycle during cold shutdown by acoustic emission monitoring, but not more often than once per nine months. Valves will be leak tested in accordance with Technical Specifications.

RELIEF/JUSTIFICATION: CS-NI20

VALVE: 1NI-129, 1NI-125, 1NI-134, 1NI-126

FLOW DIAGRAM: MC-1562-3.0

CATEGORY: A, C

CLASS: A

FUNCTION: Opens on flow from the ND system to the NC Hot Legs. Reactor Coolant Boundary Valve.

TEST REQUIREMENT: Verify proper valve movement once per three months and leak test per Technical Specifications.

BASIS: ND pumps do not develop enough discharge pressure to overcome RCS pressure at power operation.

ALTERNATE TESTING: Valve will be verified to fully cycle during cold shutdown by acoustic emission monitoring, but not more often than once per nine months. Valves will be leak tested in accordance with Technical Specifications.

RELIEF/JUSTIFICATION: CS-NV10 (Deleted per Rev. 14)

VALVE: 1NV-459A

RELIEF/JUSTIFICATION: CS-NV14

VALVE: 1NV-225, 1NV-231

FLOW DIAGRAM: MC-1554-3.1

CATEGORY: C

CLASS: B

FUNCTION: Opens on flow from the Centrifugal Charging Pump(s).

TEST REQUIREMENT: Verify proper valve movement every three months.

BASIS: Valve cannot be full stroke exercised during power operation because this would result in an increase in the RCS boron inventory and could result in a plant shutdown. To fully stroke 1NV-225 and 1NV-231 the full centrifugal charging pump flow would have to go through the valves. The reactor coolant system letdown capacity would not be enough to maintain volume control tank level. The additional flow would have to come from the refueling water storage tank which has a boron concentration of 2000 ppm.

ALTERNATE TESTING: Valve will be full stroked during cold shutdown, but not more often than once per nine months, and partial stroked with normal use.

New Page
Revision 14

RELIEF/JUSTIFICATION: CS-NV15

VALVE: 1NV-223

FLOW DIAGRAM: MC-1554-3.1

CATEGORY: C

CLASS: B

FUNCTION: Opens on flow alignment from FWST. Closes to ensure sufficient centrifugal charging pump suction pressure when RHR is used as a suction source.

TEST REQUIREMENT: Verify proper valve movement every three months.

BASIS: Testing of these valve requires opening 1NV-221A or 1NV-222B. Failure of one of these valves in the open position aligns the FWST to the suction of the charging pumps with no means of isolating the flow path. This would result in an increase in boron inventory in the RCS and could result in a plant shutdown.

ALTERNATE TESTING: Valve will be full stroked and leak tested during cold shutdown, but not more often than once per nine months.