Oconee Nuclear Station
ASME Inservice Testing Program

Revision 23

September 1995

Prepared by: J. Marc Bayless Date: 9/26/95

Reviewed by: Darren Swope Date: 9/26/95

Approved by: B Z Rader Date: 9-26-95

9510020313 950928
PDR ADOCK 05000269
P PDR

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	AUXILIARY STEAM													
1AS-039	OFD-122A-1.4	H6	C	C	ACT	Check	SA	FS-Q			ON-AS-01	Q test in open direction SD to test in closed direction	Sample Disassemble	22a

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	CONDENSER COOLING WATER													
1CCW-001	OFD-133A-1.2	I2	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-002	OFD-133A-1.2	I4	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-003	OFD-133A-1.2	I6	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-004	OFD-133A-1.2	I7	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-005	OFD-133A-1.2	I9	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-006	OFD-133A-1.2	I11	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-008	OFD-133A-3.2	B1	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-010	OFD-133A-1.1	J2	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-011	OFD-133A-1.1	J5	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-012	OFD-133A-1.1	J7	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-013	OFD-133A-1.1	J10	C	B	ACT	Butterfly	MO	FS-Q						22
1CCW-268-SSF	OFD-133A-2.5	H14	C	B	ACT	Globe	MO	FS-Q						22
1CCW-269-SSF	OFD-121D-1.1	G13	C	B	ACT	Gate	MO	FS-CS			ON-SSF-01			22
1CCW-271-SSF	OFD-133A-2.5	H06	C	C	ACT	Check	SA	FS-Q						23
1CCW-274-SSF	OFD-133A-2.5	J06	C	C	ACT	Check	SA	FS-Q						23
1CCW-284-SSF	OFD-133A-2.5	G06	C	C	ACT	Check	SA	FS-Q						23
1CCW-286-SSF	OFD-133A-2.5	G10	C	B	ACT	Gate	MA	FS-Q						23
1CCW-287-SSF	OFD-133A-2.5	G14	C	B	ACT	Gate	MO	FS-Q						22
1CCW-289-SSF	OFD-133A-2.5	J9	C	C	ACT	Check	SA	FS-Q						23
1CCW-304	OFD-133A-1.2	J14	C	C	ACT	Check	SA	FS-Q						22
1CCW-382	OFD-133A-2.5	L4	C	B	ACT	Ball	MA	FS-Q						22
1CCW-384	OFD-133A-2.5	F10	C	B	ACT	Gate	MA	FS-Q						22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	FEEDWATER													
1FDW-032	OFD-121B-1.3	J7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
1FDW-033	OFD-121B-1.3	J6	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
1FDW-035	OFD-121B-1.3	L7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
1FDW-039	OFD-121D-1.1	J10	B	C	ACT	Check	SA				ON-FDW-04		Sample Disassemble	22a
1FDW-041	OFD-121B-1.3	D7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
1FDW-042	OFD-121B-1.3	E6	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
1FDW-044	OFD-121B-1.3	F7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
1FDW-103	OFD-121B-1.5	K8	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
1FDW-104	OFD-121B-1.5	C8	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
1FDW-105	OFD-110A-1.1	D2	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
1FDW-106	OFD-110A-1.1	D6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
1FDW-107	OFD-110A-1.1	F3	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
1FDW-108	OFD-110A-1.1	F6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
1FDW-232	OFD-121D-1.1	K13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-233	OFD-121D-1.1	D13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-311	OFD-121D-1.1	J6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-312	OFD-121D-1.1	E6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-315	OFD-121D-1.1	K10	C	B	ACT	Globe	AO	FS-Q						22
1FDW-316	OFD-121D-1.1	D10	C	B	ACT	Globe	AO	FS-Q						22
1FDW-317	OFD-121D-1.1	K10	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-318	OFD-121D-1.1	D10	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-329	OFD-121B-1.5	J8	B	A	PAS	Gate	MA		LJ-RF					22
1FDW-331	OFD-121B-1.5	D8	B	A	PAS	Gate	MA		LJ-RF					22
1FDW-334	OFD-121B-1.5	L6	B	A	PAS	Gate	MA		LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
1FDW-335	OFD-121B-1.5	C6	B	A	PAS	Gate	MA		LJ-RF					22
1FDW-345	OFD-121D-1.1	K12	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-346	OFD-121D-1.1	D12	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-347-SSF	OFD-121D-1.1	D13	C	B	ACT	Gate	MO	FS-CS			ON-SSF-05			22
1FDW-370	OFD-121D-1.1	K3	C	C	ACT	Check	SA	FS-Q						22
1FDW-372	OFD-121D-1.1	K7	C	B	ACT	Gate	MO	FS-Q						22
1FDW-373	OFD-121D-1.1	K7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-378	OFD-121D-1.1	K3	C	C	ACT	Check	SA	FS-Q						22
1FDW-380	OFD-121D-1.1	D3	C	C	ACT	Check	SA	FS-Q						22
1FDW-382	OFD-121D-1.1	D7	C	B	ACT	Gate	MO	FS-Q						22
1FDW-383	OFD-121D-1.1	D7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
1FDW-388	OFD-121D-1.1	D3	C	C	ACT	Check	SA	FS-Q						22
1FDW-432	OFD-121D-1.1	F10	C	C	ACT	Check	SA				ON-FDW-04		Sample Disassemble	22a
1FDW-442	OFD-121D-1.1	D11	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
HIGH PRESSURE SERVICE WATER														
														23
														23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	LOW PRESSURE INJECTION													
1LP-001	OFD-102A-1.1	H2	A	B	ACT	Gate	MO	FS-CS			ON-LP-01			22
1LP-002	OFD-102A-1.1	H2	A	B	ACT	Gate	MO	FS-CS			ON-LP-01			22
1LP-009	OFD-102A-1.2	I7	B	B	ACT	Gate	MO	FS-Q						22
1LP-010	OFD-102A-1.2	G7	B	B	ACT	Gate	MO	FS-Q						22
1LP-012	OFD-102A-1.2	K11	B	B	ACT	Globe	MO	FS-Q						22
1LP-014	OFD-102A-1.2	E11	B	B	ACT	Globe	MO	FS-Q						22
1LP-015	OFD-102A-1.2	L11	B	B	ACT	Gate	MO	FS-Q						22
1LP-016	OFD-102A-1.2	D11	B	B	ACT	Gate	MO	FS-Q						23
1LP-017	OFD-102A-1.2	K13	B	B	ACT	Gate	MO	FS-CS			ON-LP-07			22a
1LP-018	OFD-102A-1.2	E13	B	B	ACT	Gate	MO	FS-CS			ON-LP-07			22a
1LP-019	OFD-102A-1.1	D5	B	B	ACT	Gate	MO	FS-Q						22
1LP-020	OFD-102A-1.1	D5	B	B	ACT	Gate	MO	FS-Q						22
1LP-021	OFD-102A-1.1	F7	B	B	ACT	Gate	MO	FS-Q						22
1LP-022	OFD-102A-1.1	D7	B	B	ACT	Gate	MO	FS-Q						22
1LP-028	OFD-102A-1.1	H10	B	B	ACT	Gate	MA	FS-CS			ON-LP-05			22
1LP-029	OFD-102A-1.1	F6	B	A/C	ACT	Check	SA	FS-Q	LT-RF					22
1LP-030	OFD-102A-1.1	D6	B	A/C	ACT	Check	SA	FS-Q	LT-RF					22
1LP-031	OFD-102A-1.2	K5	B	C	ACT	Check	SA	PS-Q FS-CS			ON-LP-04			22
1LP-033	OFD-102A-1.2	E6	B	C	ACT	Check	SA	FS-Q						22
1LP-047	OFD-102A-1.2	E14	A	A/C	ACT	Check	SA	FS-CS	LT-CS		ON-LP-02	Inter-System LOCA Test		22
1LP-048	OFD-102A-1.2	K14	A	A/C	ACT	Check	SA	FS-CS	LT-FS		ON-LP-02	Inter-System LOCA Test		22
1LP-055	OFD-101A-1.3	K3	B	C	ACT	Check	SA	PS-CS FS-RF			ON-LP-06			22
1LP-057	OFD-101A-1.3	C3	B	C	ACT	Check	SA	PS-CS FS-RF			ON-LP-06			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
1LP-060	OFD-102A-1.1	J9	C	C	ACT	VacuumBrkr	SA	RV-RV						22
1LP-061	OFD-102A-1.1	J10	C	C	PAS	Relief	SA	RV-RV						22
1LP-103	OFD-102A-1.1	H2	A	B	ACT	Gate	MO	FS-CS			ON-LP-03			22
1LP-104	OFD-102A-1.1	F2	A	B	ACT	Gate	MO	FS-CS			ON-LP-03			22
1LP-105	OFD-102A-1.1	H2	B	B	ACT	Gate	MO	FS-Q			ON-LP-08			23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
LOW PRESSURE SERVICE WATER														
1LPSW-004	OFD-124B-1.1	K6	C	B	ACT	Gate	MO	FS-Q						22
1LPSW-005	OFD-124B-1.1	H6	C	B	ACT	Gate	MO	FS-Q						22
1LPSW-006	OFD-124B-1.4	L2	B	B	ACT	Gate	MO	FS-CS			ON-LPSW-01			22
1LPSW-015	OFD-124B-1.4	G14	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-LPSW-01			22
1LPSW-018	OFD-124B-1.2	D3	B	B	ACT	Butterfly	MO	FS-Q						22
1LPSW-021	OFD-124B-1.2	D8	B	B	ACT	Butterfly	MO	FS-Q						22
1LPSW-024	OFD-124B-1.2	D12	B	B	ACT	Butterfly	MO	FS-Q						22
1LPSW-025	OFD-124A-1.1	D7	C	C	ACT	Check	SA	FS-Q						22
1LPSW-028	OFD-124A-1.1	J7	C	C	ACT	Check	SA	FS-Q						22
1LPSW-031	OFD-124A-1.1	G7	C	C	ACT	Check	SA	FS-Q						22
1LPSW-075	OFD-124B-1.1	K6	C	C	ACT	Check	SA	FS-Q						22
1LPSW-076	OFD-124B-1.1	H6	C	C	ACT	Check	SA	FS-Q						22
1LPSW-137	OFD-124A-1.3	K11	C	B	ACT	Gate	MO	FS-Q						22
1LPSW-138	OFD-124A-1.3	L11	C	B	ACT	Globe	AO	FS-Q						22
1LPSW-139	OFD-124A-1.1	C8	C	B	ACT	Butterfly	MO				ON-LPSW-04			22
1LPSW-148	OFD-124B-1.1	L4	C	C	ACT	Check	SA	FS-Q			ON-LPSW-03	Q test in open direction SD to test in closed direction	Sample Disassemble	22a
1LPSW-151	OFD-124B-1.1	F3	C	C	ACT	Check	SA	FS-Q			ON-LPSW-03	Q test in open direction SD to test in closed direction	Sample Disassemble	22a
1LPSW-251	OFD-124B-1.1	J8	C	B	ACT	Butterfly	AO	FS-Q						22
1LPSW-252	OFD-124B-1.1	I8	C	B	ACT	Butterfly	AO	FS-Q						22
1LPSW-565	OFD-124B-1.2	J8	B	B	ACT	Gate	MO	FS-Q						22
1LPSW-566	OFD-124B-1.2	I8	B	B	ACT	Gate	MO	FS-Q						22
1LPSW-931	OFD-124B-1.1	G10	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	MAIN STEAM													
1MS-001	OFD-122A-1.1	J9	B	C	ACT	Relief	SA	RV-RV						22
1MS-002	OFD-122A-1.1	J4	B	C	ACT	Relief	SA	RV-RV						22
1MS-003	OFD-122A-1.1	J7	B	C	ACT	Relief	SA	RV-RV						22
1MS-004	OFD-122A-1.1	J5	B	C	ACT	Relief	SA	RV-RV						22
1MS-005	OFD-122A-1.1	J8	B	C	ACT	Relief	SA	RV-RV						22
1MS-006	OFD-122A-1.1	J5	B	C	ACT	Relief	SA	RV-RV						22
1MS-007	OFD-122A-1.1	J7	B	C	ACT	Relief	SA	RV-RV						22
1MS-008	OFD-122A-1.1	J6	B	C	ACT	Relief	SA	RV-RV						22
1MS-009	OFD-122A-1.1	D9	B	C	ACT	Relief	SA	RV-RV						22
1MS-010	OFD-122A-1.1	D4	B	C	ACT	Relief	SA	RV-RV						22
1MS-011	OFD-122A-1.1	D7	B	C	ACT	Relief	SA	RV-RV						22
1MS-012	OFD-122A-1.1	D5	B	C	ACT	Relief	SA	RV-RV						22
1MS-013	OFD-122A-1.1	D8	B	C	ACT	Relief	SA	RV-RV						22
1MS-014	OFD-122A-1.1	D5	B	C	ACT	Relief	SA	RV-RV						22
1MS-015	OFD-122A-1.1	D7	B	C	ACT	Relief	SA	RV-RV						22
1MS-016	OFD-122A-1.1	D6	B	C	ACT	Relief	SA	RV-RV						22
1MS-017	OFD-122A-1.2	I5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02			22
1MS-024	OFD-122A-1.2	H3	B	B	ACT	Gate	MO	FS-Q						22
1MS-026	OFD-122A-1.2	D5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02			22
1MS-033	OFD-122A-1.2	E3	B	B	ACT	Gate	MO	FS-Q						22
1MS-035	OFD-122A-1.3	L2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03			22
1MS-036	OFD-122A-1.3	F2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03			22
1MS-076	OFD-122A-1.1	C10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04			22
1MS-079	OFD-122A-1.1	I10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
1MS-082	OFD-122A-1.4	I2	B	B	ACT	Gate	MO	FS-Q						22
1MS-083	OFD-122A-1.4	H2	C	C	ACT	Check	SA	FS-Q						22
1MS-084	OFD-122A-1.4	G2	B	B	ACT	Gate	MO	FS-Q						22
1MS-085	OFD-122A-1.4	G2	C	C	ACT	Check	SA	FS-Q						22
1MS-087	OFD-122A-1.4	H3	C	B	ACT	Globe	AO	FS-Q				Reg. valve, not timed (Nitrogen Backup)		22
1MS-091	OFD-122A-1.4	H5	C	C	ACT	Check	SA	FS-Q						22
1MS-092	OFD-122A-1.4	H6	C	C	ACT	Relief	SA	RV-RV						22
1MS-093	OFD-122A-1.4	H7	C	B	ACT	Ball	AO	FS-Q						22
1MS-094	OFD-122A-1.4	H8	C	B	ACT	Stop	SA	FS-Q						22
1MS-102	OFD-122B-1.1	J3	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
1MS-103	OFD-122B-1.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
1MS-104	OFD-122B-1.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
1MS-105	OFD-122B-1.1	J5	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	PENETRATION ROOM													
1PR-001	OFD-116A-1.1	F3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
1PR-002	OFD-116A-1.1	F5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
1PR-005	OFD-116A-1.1	D5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
1PR-006	OFD-116A-1.1	D3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
1PR-007	OFD-116C-1.1	G3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
1PR-008	OFD-116C-1.1	K3	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
1PR-009	OFD-116C-1.1	D2	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
1PR-010	OFD-116C-1.1	C4	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
1PR-015	OFD-116B-1.1	I11	C	B	ACT	Butterfly	MO	FS-Q						22
1PR-019	OFD-116B-1.1	E11	C	B	ACT	Butterfly	MO	FS-Q						22
1PR-034	OFD-116B-1.1	I11	C	C	ACT	Check	SA	FS-Q						22
1PR-035	OFD-116B-1.1	E11	C	C	ACT	Check	SA	FS-Q						22
1PR-059	OFD-116C-1.1	H2	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
1PR-060	OFD-116C-1.1	D3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
1PR-061	OFD-116C-1.1	F9	B	B	ACT	Diaphragm	MA	FS-Q						22
1PR-069	OFD-116C-1.1	J10	B	B	ACT	Plug	MA	FS-Q						22
1PR-070	OFD-116C-1.1	D10	B	B	ACT	Plug	MA	FS-Q						22
1PR-081	OFD-110A-1.3	J6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
1PR-084	OFD-110A-1.3	K6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
1PR-087	OFD-110A-1.3	E6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
1PR-090	OFD-110A-1.3	F6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
1PR-115	OFD-116A-1.1	I5	C	C	ACT	Check	SA	FS-Q						23
1PR-116	OFD-116A-1.1	E5	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	REACTOR COOLANT													
1RC-001	OFD-100A-1.2	H10	A	B	ACT	Globe	SO	FS-CS			ON-RC-02			22
1RC-004	OFD-100A-1.2	J9	A	B	ACT	Gate	MO	FS-Q			ON-RC-03			23
1RC-005	OFD-110A-1.1	I3	A	A	ACT	Gate	MO	FS-Q	LJ-RF					22
1RC-006	OFD-110A-1.1	H3	A	A	ACT	Gate	MO	FS-Q	LJ-RF					22
1RC-007	OFD-110A-1.1	I6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
1RC-066	OFD-100A-1.2	J9	A	B	ACT	Relief	PA	RV-RV						22
1RC-067	OFD-100A-1.2	J8	A	C	ACT	Relief	SA	RV-RV						22
1RC-068	OFD-100A-1.2	J7	A	C	ACT	Relief	SA	RV-RV						22
1RC-155	OFD-100A-1.1	I4	A	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-156	OFD-100A-1.1	J4	B	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-157	OFD-100A-1.1	I12	A	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-158	OFD-100A-1.1	I11	B	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-159	OFD-100A-1.1	I9	A	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-160	OFD-100A-1.1	I9	B	B	ACT	Solenoid	SO	FS-CS			ON-RC-01			22
1RC-164	OFD-110A-1.4	G4	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
1RC-165	OFD-110A-1.4	G4	C	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	SPENT FUEL COOLING													
1SF-060	OFD-104A-1.1	D3	B	A	PAS	Gate	MA		LJ-ILRT					22
1SF-061	OFD-104A-1.1	D3	B	A	PAS	Gate	MA		LJ-ILRT					22
1SF-072	OFD-104A-1.1	J3	B	A	PAS	Diaphragm	MA		LJ-RF					22
1SF-073	OFD-104A-1.1	J3	B	A	PAS	Diaphragm	MA		LJ-RF					22
1SF-074	OFD-104A-1.1	I3	B	A	PAS	Ball	MA		LJ-RF					23
1SF-082-SSF	OFD-101A-1.5	F2	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
1SF-097-SSF	OFD-104A-1.1	K3	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	AUXILIARY STEAM													
2AS-039	OFD-122A-2.4	H6	C	C	ACT	Check	SA	FS-Q			ON-AS-01	Q test in open direction SD to test in closed direction	Sample Disassemble	22a

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	FEEDWATER													
2FDW-032	OFD-121B-2.3	J6	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
2FDW-033	OFD-121B-2.3	K5	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
2FDW-035	OFD-121B-2.3	K6	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
2FDW-039	OFD-121D-2.1	J10	B	C	ACT	Check	SA				ON-FDW-04		Sample Disassemble	22a
2FDW-041	OFD-121B-2.3	D5	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
2FDW-042	OFD-121B-2.3	E5	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
2FDW-044	OFD-121B-2.3	F7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
2FDW-103	OFD-121B-2.5	J9	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
2FDW-104	OFD-121B-2.5	C9	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
2FDW-105	OFD-110A-2.1	F3	B	A	ACT	Globe	MO	FS-Q	LJ-RF					22
2FDW-106	OFD-110A-2.1	F6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
2FDW-107	OFD-110A-2.1	D3	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
2FDW-108	OFD-110A-2.1	D6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
2FDW-232	OFD-121D-2.1	K13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-233	OFD-121D-2.1	D13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-311	OFD-121D-2.1	J6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-312	OFD-121D-2.1	E7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-315	OFD-121D-2.1	K10	C	B	ACT	Globe	AO	FS-Q						22
2FDW-316	OFD-121D-2.1	D10	C	B	ACT	Globe	AO	FS-Q						22
2FDW-317	OFD-121D-2.1	K10	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-318	OFD-121D-2.1	D10	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-329	OFD-121B-2.5	I8	B	A	PAS	Gate	MA		LJ-RF					22
2FDW-331	OFD-121B-2.5	C8	B	A	PAS	Gate	MA		LJ-RF					22
2FDW-334	OFD-121B-2.5	K7	B	A	PAS	Gate	MA		LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
2FDW-335	OFD-121B-2.5	C6	B	A	PAS	Gate	MA		LJ-RF					22
2FDW-345	OFD-121D-2.1	K12	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-346	OFD-121D-2.1	D12	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-347-SSF	OFD-121D-2.1	D13	C	B	ACT	Gate	MO	FS-CS			ON-SSF-05			22
2FDW-370	OFD-121D-2.1	K3	C	C	ACT	Check	SA	FS-Q						22
2FDW-372	OFD-121D-2.1	K7	C	B	ACT	Gate	MO	FS-Q						22
2FDW-373	OFD-121D-2.1	K7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-378	OFD-121D-2.1	K3	C	C	ACT	Check	SA	FS-Q						22
2FDW-380	OFD-121D-2.1	D3	C	C	ACT	Check	SA	FS-Q						22
2FDW-382	OFD-121D-2.1	D7	C	B	ACT	Gate	MO	FS-Q						22
2FDW-383	OFD-121D-2.1	D6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
2FDW-388	OFD-121D-2.1	D3	C	C	ACT	Check	SA	FS-Q						22
2FDW-432	OFD-121D-2.1	E10	C	C	ACT	Check	SA				ON-FDW-04		Sample Disassemble	22a
2FDW-442	OFD-121D-2.1	D11	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22

VALVE NUMBER	FLOW DIAGRAM	FLOW CODE	ASME CLASS	VALVE CATGRY	ACT FAIL	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
HIGH PRESSURE SERVICE WATER														
														23
														23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	LOW PRESSURE SERVICE WATER													
2LPSW-004	OFD-124B-2.1	K6	C	B	ACT	Gate	MO	FS-Q						22
2LPSW-005	OFD-124B-2.1	H6	C	B	ACT	Gate	MO	FS-Q						22
2LPSW-006	OFD-124B-2.4	L2	B	B	ACT	Gate	MO	FS-CS			ON-LPSW-01			22
2LPSW-015	OFD-124B-2.4	G14	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-LPSW-01			22
2LPSW-018	OFD-124B-2.2	D3	B	B	ACT	Butterfly	MO	FS-Q						22
2LPSW-021	OFD-124B-2.2	D8	B	B	ACT	Butterfly	MO	FS-Q						22
2LPSW-024	OFD-124B-2.2	D12	B	B	ACT	Butterfly	MO	FS-Q						22
2LPSW-075	OFD-124B-2.1	K7	C	C	ACT	Check	SA	FS-Q						22
2LPSW-076	OFD-124B-2.1	H7	C	C	ACT	Check	SA	FS-Q						22
2LPSW-137	OFD-124A-2.2	K11	C	B	ACT	Gate	MO	FS-Q						22
2LPSW-138	OFD-124A-2.3	L11	C	B	ACT	Globe	AO	FS-Q						22
2LPSW-148	OFD-124B-2.1	L7	C	C	ACT	Check	SA	FS-Q						22
2LPSW-251	OFD-124B-2.1	J8	C	B	ACT	Butterfly	AO	FS-Q						22
2LPSW-252	OFD-124B-2.1	I8	C	B	ACT	Butterfly	AO	FS-Q						22
2LPSW-503	OFD-124B-2.1	G3	C	C	ACT	Check	SA	FS-Q			ON-LPSW-03	Q test in open direction SD to test in closed direction	Sample Disassemble	22a
2LPSW-565	OFD-124B-2.2	J8	B	B	ACT	Gate	MO	FS-Q						22
2LPSW-566	OFD-124B-2.2	I8	B	B	ACT	Gate	MO	FS-Q						22
2LPSW-931	OFD-124B-2.1	H10	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	MAIN STEAM													
2MS-001	OFD-122A-2.1	J9	B	C	ACT	Relief	SA	RV-RV						22
2MS-002	OFD-122A-2.1	J4	B	C	ACT	Relief	SA	RV-RV						22
2MS-003	OFD-122A-2.1	J7	B	C	ACT	Relief	SA	RV-RV						22
2MS-004	OFD-122A-2.1	J5	B	C	ACT	Relief	SA	RV-RV						22
2MS-005	OFD-122A-2.1	J8	B	C	ACT	Relief	SA	RV-RV						22
2MS-006	OFD-122A-2.1	J5	B	C	ACT	Relief	SA	RV-RV						22
2MS-007	OFD-122A-2.1	J7	B	C	ACT	Relief	SA	RV-RV						22
2MS-008	OFD-122A-2.1	J6	B	C	ACT	Relief	SA	RV-RV						22
2MS-009	OFD-122A-2.1	D9	B	C	ACT	Relief	SA	RV-RV						22
2MS-010	OFD-122A-2.1	D4	B	C	ACT	Relief	SA	RV-RV						22
2MS-011	OFD-122A-2.1	D7	B	C	ACT	Relief	SA	RV-RV						22
2MS-012	OFD-122A-2.1	D5	B	C	ACT	Relief	SA	RV-RV						22
2MS-013	OFD-122A-2.1	D8	B	C	ACT	Relief	SA	RV-RV						22
2MS-014	OFD-122A-2.1	D5	B	C	ACT	Relief	SA	RV-RV						22
2MS-015	OFD-122A-2.1	D7	B	C	ACT	Relief	SA	RV-RV						22
2MS-016	OFD-122A-2.1	D6	B	C	ACT	Relief	SA	RV-RV						22
2MS-017	OFD-122A-2.2	I5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02			22
2MS-024	OFD-122A-2.2	H3	B	B	ACT	Gate	MO	FS-Q						22
2MS-026	OFD-122A-2.2	D5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02			22
2MS-033	OFD-122A-2.2	E3	B	B	ACT	Gate	MO	FS-Q						22
2MS-035	OFD-122A-2.3	L2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03			22
2MS-036	OFD-122A-2.3	F2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03			22
2MS-076	OFD-122A-2.1	I10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04			22
2MS-079	OFD-122A-2.1	C10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
2MS-082	OFD-122A-2.4	I2	B	B	ACT	Gate	MO	FS-Q						22
2MS-083	OFD-122A-2.4	H2	C	C	ACT	Check	SA	FS-Q						22
2MS-084	OFD-122A-2.4	G2	B	B	ACT	Gate	MO	FS-Q						22
2MS-085	OFD-122A-2.4	G2	C	C	ACT	Check	SA	FS-Q						22
2MS-087	OFD-122A-2.4	H3	C	B	ACT	Globe	AO	FS-Q				Reg. valve, not timed (Nitrogen Backup)		22
2MS-091	OFD-122A-2.4	H5	C	C	ACT	Check	SA	FS-Q						22
2MS-092	OFD-122A-2.4	H6	C	C	ACT	Relief	SA	RV-RV						22
2MS-093	OFD-122A-2.4	H7	C	B	ACT	Ball	AO	FS-Q						22
2MS-094	OFD-122A-2.4	H8	C	B	ACT	Stop	SA	FS-Q						22
2MS-102	OFD-122B-2.1	J3	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
2MS-103	OFD-122B-2.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
2MS-104	OFD-122B-2.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
2MS-105	OFD-122B-2.1	J5	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	PENETRATION ROOM													
2PR-001	OFD-116A-2.1	G3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
2PR-002	OFD-116A-2.1	G5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
2PR-005	OFD-116A-2.1	D5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
2PR-006	OFD-116A-2.1	D3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
2PR-007	OFD-116C-2.1	G3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
2PR-008	OFD-116C-2.1	K3	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
2PR-009	OFD-116C-2.1	D2	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
2PR-010	OFD-116C-2.1	C4	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
2PR-015	OFD-116B-2.1	I11	C	B	ACT	Butterfly	MO	FS-Q						22
2PR-019	OFD-116B-2.1	E11	C	B	ACT	Butterfly	MO	FS-Q						22
2PR-034	OFD-116B-2.1	I11	C	C	ACT	Check	SA	FS-Q						22
2PR-035	OFD-116B-2.1	E11	C	C	ACT	Check	SA	FS-Q						22
2PR-059	OFD-116C-2.1	H3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
2PR-060	OFD-116C-2.1	D3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
2PR-061	OFD-116C-2.1	E9	B	B	ACT	Diaphragm	MA	FS-Q						22
2PR-069	OFD-116C-2.1	J10	B	B	ACT	Ball	MA	FS-Q						22
2PR-070	OFD-116C-2.1	D10	B	B	ACT	Ball	MA	FS-Q						22
2PR-081	OFD-110A-2.3	J6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
2PR-084	OFD-110A-2.3	K6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
2PR-087	OFD-110A-2.3	E6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
2PR-090	OFD-110A-2.3	F6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
2PR-115	OFD-116A-2.1	I5	C	C	ACT	Check	SA	FS-Q						23
2PR-116	OFD-116A-2.1	E5	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	SPENT FUEL COOLING													
2SF-061	OFD-104A-1.1	D12	B	A	PAS	Gate	MA		LJ-ILRT					22
2SF-072	OFD-104A-1.1	J12	B	A	PAS	Ball	MA		LJ-RF					22
2SF-073	OFD-104A-1.1	J12	B	A	PAS	Ball	MA		LJ-RF					22
2SF-074	OFD-104A-1.1	I12	B	A	PAS	Ball	MA		LJ-RF					23
2SF-081	OFD-104A-1.1	D12	B	A	PAS	Gate	MA		LJ-ILRT					22
2SF-082-SSF	OFD-101A-2.5	F2	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
2SF-097-SSF	OFD-104A-1.1	K12	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	AUXILIARY STEAM													
3AS-039	OFD-122A-3.4	H6	C	C	ACT	Check	SA	FS-Q			ON-AS-01	Q test in open direction SD to test in closed direction	Sample Disassemble	22a

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	BUIDING SPRAY (REACTOR)													
3BS-001	OFD-103A-3.1	J8	B	B	ACT	Globe	MO	FS-Q						22
3BS-002	OFD-103A-3.1	E8	B	B	ACT	Globe	MO	FS-Q						22
3BS-011	OFD-103A-3.1	J6	B	C	ACT	Check	SA	PS-Q			ON-BS-01		Sample Disassemble	22a
3BS-014	OFD-103A-3.1	J10	B	C	ACT	Check	SA	PS-RF			ON-BS-02	PS is with air	Sample Disassemble	22a
3BS-016	OFD-103A-3.1	E6	B	C	ACT	Check	SA	PS-Q			ON-BS-01		Sample Disassemble	22a
3BS-019	OFD-103A-3.1	E10	B	C	ACT	Check	SA	PS-RF			ON-BS-02	PS is with air	Sample Disassemble	22a

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	FEEDWATER													
3FDW-032	OFD-121B-3.3	J7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
3FDW-033	OFD-121B-3.3	K6	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
3FDW-035	OFD-121B-3.3	K7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
3FDW-039	OFD-121D-3.1	J10	B	C	ACT	Check	SA				ON-FDW-04		Sample Disassemble	22a
3FDW-041	OFD-121B-3.3	D7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-03			22
3FDW-042	OFD-121B-3.3	E6	C	B	ACT	Gate	MO	FS-CS			ON-FDW-01			22
3FDW-044	OFD-121B-3.3	F7	C	B	ACT	Globe	AO	FS-CS			ON-FDW-01			22
3FDW-103	OFD-121B-3.5	J9	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
3FDW-104	OFD-121B-3.5	D9	B	A	PAS	Gate	MO	FS-Q	LJ-RF					22
3FDW-105	OFD-110A-3.1	D2	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
3FDW-106	OFD-110A-3.1	D6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
3FDW-107	OFD-110A-3.1	F3	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
3FDW-108	OFD-110A-3.1	F6	B	A	ACT	Gate	AO	FS-Q	LJ-RF					22
3FDW-232	OFD-121D-3.1	K13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-233	OFD-121D-3.1	D13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-311	OFD-121D-3.1	I6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-312	OFD-121D-3.1	E6	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-315	OFD-121D-3.1	K10	C	B	ACT	Globe	AO	FS-Q						22
3FDW-316	OFD-121D-3.1	D10	C	B	ACT	Globe	AO	FS-Q						22
3FDW-317	OFD-121D-3.1	K10	B	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-318	OFD-121D-3.1	D10	C	C	ACT	Check	SA	FS-CS			ON-FDW-02			22
3FDW-329	OFD-121B-3.5	J8	B	A	PAS	Gate	MA		LJ-RF					22
3FDW-331	OFD-121B-3.5	D8	B	A	PAS	Gate	MA		LJ-RF					22
3FDW-334	OFD-121B-3.5	L6	B	A	PAS	Gate	MA		LJ-RF					22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	TEST ALTERNATIVES	REV
3FDW-335	OFD-121B-3.5	C6	B	A	PAS	Gate	MA		LJ-RF				22
3FDW-345	OFD-121D-3.1	K13	B	C	ACT	Check	SA	FS-CS			ON-FDW-02		22
3FDW-346	OFD-121D-3.1	D12	B	C	ACT	Check	SA	FS-CS			ON-FDW-02		22
3FDW-347-SSF	OFD-121D-3.1	D13	C	B	ACT	Gate	MO	FS-CS			ON-SSF-05		22
3FDW-370	OFD-121D-3.1	K4	C	C	ACT	Check	SA	FS-Q					22
3FDW-372	OFD-121D-3.1	K7	C	B	ACT	Gate	MO	FS-Q					22
3FDW-373	OFD-121D-3.1	K7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02		22
3FDW-378	OFD-121D-3.1	J4	C	C	ACT	Check	SA	FS-Q					23
3FDW-380	OFD-121D-3.1	D4	C	C	ACT	Check	SA	FS-Q					22
3FDW-382	OFD-121D-3.1	D7	C	B	ACT	Gate	MO	FS-Q					22
3FDW-383	OFD-121D-3.1	D7	C	C	ACT	Check	SA	FS-CS			ON-FDW-02		22
3FDW-388	OFD-121D-3.1	D4	C	C	ACT	Check	SA	FS-Q					22
3FDW-432	OFD-121D-3.1	E10	C	C	ACT	Check	SA				ON-FDW-04	Sample Disassemble	22a
3FDW-442	OFD-121D-3.1	D11	B	C	ACT	Check	SA	FS-CS			ON-FDW-02		22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
HIGH PRESSURE SERVICE WATER														
														23
														23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL		TEST ALTERNATIVES	REV
	LOW PRESSURE SERVICE WATER													
3LPSW-004	OFD-124B-3.1	K6	C	B	ACT	Gate	MO	FS-Q						22
3LPSW-005	OFD-124B-3.1	H6	C	B	ACT	Gate	MO	FS-Q						22
3LPSW-006	OFD-124B-3.4	L2	B	B	ACT	Gate	MO	FS-CS			ON-LPSW-01			22
3LPSW-015	OFD-124B-3.4	G14	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-LPSW-01			22
3LPSW-018	OFD-124B-3.2	C3	B	B	ACT	Butterfly	MO	FS-Q						22
3LPSW-021	OFD-124B-3.2	C8	B	B	ACT	Butterfly	MO	FS-Q						22
3LPSW-024	OFD-124B-3.2	C12	B	B	ACT	Butterfly	MO	FS-Q						22
3LPSW-045	OFD-124A-3.1	E10	C	B	ACT	Butterfly	MO	FS-CS			ON-LPSW-02			22
3LPSW-075	OFD-124B-3.1	K6	C	C	ACT	Check	SA	FS-Q						22
3LPSW-076	OFD-124B-3.1	H6	C	C	ACT	Check	SA	FS-Q						22
3LPSW-121	OFD-124A-3.1	J7	C	C	ACT	Check	SA	FS-Q						22
3LPSW-124	OFD-124A-3.1	G7	C	C	ACT	Check	SA	FS-Q						22
3LPSW-137	OFD-124A-3.3	K11	C	B	ACT	Gate	MO	FS-Q						22
3LPSW-138	OFD-124A-3.3	L11	C	B	ACT	Globe	AO	FS-Q						22
3LPSW-148	OFD-124B-3.1	L4	C	C	ACT	Check	SA	FS-Q			ON-LPSW-03	Q test in open direction SD to test in closed direction	Sample Disassemble	22a
3LPSW-404	OFD-124B-3.1	H7	C	B	ACT	Butterfly	AO	FS-Q						22
3LPSW-405	OFD-124B-3.1	K7	C	B	ACT	Butterfly	AO	FS-Q						22
3LPSW-503	OFD-124B-3.1	F3	C	C	ACT	Check	SA	FS-Q			ON-LPSW-03	Q test in open direction SD to test in closed direction	Sample Disassemble	22a
3LPSW-565	OFD-124B-3.2	I8	B	B	ACT	Gate	MO	FS-Q						22
3LPSW-566	OFD-124B-3.2	I8	B	B	ACT	Gate	MO	FS-Q						22
3LPSW-931	OFD-124B-3.1	K11	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	TEST ALTERNATIVES	REV
	MAIN STEAM												
3MS-001	OFD-122A-3.1	J9	B	C	ACT	Relief	SA	RV-RV					22
3MS-002	OFD-122A-3.1	J4	B	C	ACT	Relief	SA	RV-RV					22
3MS-003	OFD-122A-3.1	J7	B	C	ACT	Relief	SA	RV-RV					22
3MS-004	OFD-122A-3.1	J5	B	C	ACT	Relief	SA	RV-RV					22
3MS-005	OFD-122A-3.1	J8	B	C	ACT	Relief	SA	RV-RV					22
3MS-006	OFD-122A-3.1	J5	B	C	ACT	Relief	SA	RV-RV					22
3MS-007	OFD-122A-3.1	J7	B	C	ACT	Relief	SA	RV-RV					22
3MS-008	OFD-122A-3.1	J6	B	C	ACT	Relief	SA	RV-RV					22
3MS-009	OFD-122A-3.1	D9	B	C	ACT	Relief	SA	RV-RV					22
3MS-010	OFD-122A-3.1	D4	B	C	ACT	Relief	SA	RV-RV					22
3MS-011	OFD-122A-3.1	D7	B	C	ACT	Relief	SA	RV-RV					22
3MS-012	OFD-122A-3.1	D5	B	C	ACT	Relief	SA	RV-RV					22
3MS-013	OFD-122A-3.1	D8	B	C	ACT	Relief	SA	RV-RV					22
3MS-014	OFD-122A-3.1	D5	B	C	ACT	Relief	SA	RV-RV					22
3MS-015	OFD-122A-3.1	D7	B	C	ACT	Relief	SA	RV-RV					22
3MS-016	OFD-122A-3.1	D6	B	C	ACT	Relief	SA	RV-RV					22
3MS-017	OFD-122A-3.2	I5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02		22
3MS-024	OFD-122A-3.2	H3	B	B	ACT	Gate	MO	FS-Q					22
3MS-026	OFD-122A-3.2	D5	B	B	ACT	Gate	MO	FS-CS			ON-MS-02		22
3MS-033	OFD-122A-3.2	E3	B	B	ACT	Gate	MO	FS-Q					22
3MS-035	OFD-122A-3.3	L2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03		22
3MS-036	OFD-122A-3.3	F2	B	B	ACT	Gate	MO	FS-CS			ON-MS-03		22
3MS-076	OFD-122A-3.1	I10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04		22
3MS-079	OFD-122A-3.1	C10	B	B	ACT	Gate	MO	FS-CS			ON-MS-04		22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL		TEST ALTERNATIVES	REV
3MS-082	OFD-122A-3.4	I2	B	B	ACT	Gate	MO	FS-Q						22
3MS-083	OFD-122A-3.4	H2	C	C	ACT	Check	SA	FS-Q						22
3MS-084	OFD-122A-3.4	G2	B	B	ACT	Gate	MO	FS-Q						22
3MS-085	OFD-122A-3.4	G2	C	C	ACT	Check	SA	FS-Q						22
3MS-087	OFD-122A-3.4	H3	C	B	ACT	Globe	AO	FS-Q				Reg. valve, not timed (Nitrogen Backup)		22
3MS-091	OFD-122A-3.4	H5	C	C	ACT	Check	SA	FS-Q						22
3MS-092	OFD-122A-3.4	H6	C	C	ACT	Relief	SA	RV-RV						22
3MS-093	OFD-122A-3.4	H7	C	B	ACT	Ball	AO	FS-Q						22
3MS-094	OFD-122A-3.4	H8	C	B	ACT	Stop	SA	FS-Q						22
3MS-102	OFD-122B-3.1	J3	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
3MS-103	OFD-122B-3.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
3MS-104	OFD-122B-3.1	J4	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22
3MS-105	OFD-122B-3.1	J5	B	B	ACT	Stop	HO	PS-Q FS-CS			ON-MS-01			22

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL		TEST ALTERNATIVES	REV
	PENETRATION ROOM													
3PR-001	OFD-116A-3.1	G3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
3PR-002	OFD-116A-3.1	G5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
3PR-005	OFD-116A-3.1	D5	B	A	ACT	Butterfly	AO	FS-CS	LJ-RF		ON-PR-01	Ref. T.S. 4.4.4 for stroke freq.		22
3PR-006	OFD-116A-3.1	D3	B	A	ACT	Butterfly	MO	FS-CS	LJ-RF		ON-PR-01	Reverse Direction Leak Test, Ref. T.S. 4.4.4 for stroke freq.		22
3PR-007	OFD-116C-3.1	G3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
3PR-008	OFD-116C-3.1	K3	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
3PR-009	OFD-116C-3.1	D2	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
3PR-010	OFD-116C-3.1	C4	B	A	ACT	Diaphragm	AO	FS-Q	LJ-RF					22
3PR-015	OFD-116B-3.1	I11	C	B	ACT	Butterfly	MO	FS-Q						22
3PR-019	OFD-116B-3.1	E11	C	B	ACT	Butterfly	MO	FS-Q						22
3PR-034	OFD-116B-3.1	I11	C	C	ACT	Check	SA	FS-Q						22
3PR-035	OFD-116B-3.1	E11	C	C	ACT	Check	SA	FS-Q						22
3PR-059	OFD-116C-3.1	H3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
3PR-060	OFD-116C-3.1	D3	B	A	ACT	Diaphragm	MO	FS-Q	LJ-RF			Reverse Direction Leak Test		22
3PR-061	OFD-116C-3.1	E9	B	B	ACT	Diaphragm	MA	FS-Q						22
3PR-069	OFD-116C-3.1	J10	B	B	ACT	Plug	MA	FS-Q						22
3PR-070	OFD-116C-3.1	D10	B	B	ACT	Plug	MA	FS-Q						22
3PR-081	OFD-110A-3.3	J6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
3PR-084	OFD-110A-3.3	K6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
3PR-087	OFD-110A-3.3	E6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
3PR-090	OFD-110A-3.3	F6	B	A	ACT	Solenoid	SO	FS-Q	LJ-RF					22
3PR-115	OFD-116A-3.1	I5	C	C	ACT	Check	SA	FS-Q						23
3PR-116	OFD-116A-3.1	E5	C	C	ACT	Check	SA	FS-Q						23

VALVE NUMBER	FLOW DIAGRAM	FLOW COOR	ASME CLASS	VALVE CATGRY	ACT PAS	VALVE TYPE	ACT TYPE	TEST REQ'MT NO. 1	TEST REQ'MT NO. 2	RELIEF REQST	JUSTIF OF DEFERRAL	REMARKS	TEST ALTERNATIVES	REV
	SPENT FUEL COOLING													
3SF-060	OFD-104A-3.1	C5	B	A	PAS	Gate	MA		LJ-ILRT					22
3SF-061	OFD-104A-3.1	C4	B	A	PAS	Gate	MA		LJ-ILRT					22
3SF-072	OFD-104A-3.1	J4	B	A	PAS	Diaphragm	MA		LJ-RF					22
3SF-073	OFD-104A-3.1	J5	B	A	PAS	Diaphragm	MA		LJ-RF					22
3SF-074	OFD-104A-3.1	I5	B	A	PAS	Ball	MA		LJ-RF					23
3SF-082-SSF	OFD-101A-3.5	F2	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22
3SF-097-SSF	OFD-104A-3.1	K3	B	A	ACT	Gate	MO	FS-Q	LJ-RF					22

4.1 VALVE GENERIC RELIEF REQUESTS

Relief Request	Applicability	Status
GNR-VLV-01		Deleted 2/13/95
GNR-VLV-02		Deleted 2/13/95
GNR-VLV-03	Fail-Safe Valves	Revised 2/13/95†
GNR-VLV-04		Deleted 2/13/95
GNR-VLV-05		Deleted 2/13/95
GNR-VLV-06		Deleted 2/13/95
GNR-VLV-07		Deleted 2/13/95
GNR-VLV-08	Valves Required for Cold Shutdown	Revised 2/13/95†
GNR-VLV-09		Deleted 2/13/95
GNR-VLV-10	Pressure Relief Devices	Revised 9/01/95
GNR-VLV-11		Deleted 2/13/95

† Indicates revision was necessary only to update the relief request to reference OMa-1988 Part 10.

Generic Relief Request

Item Number:	GNR-VLV-10
Category Type:	**All Pressure Relief Devices**
Test Requirement:	OM-1 - 1987, 1.3.3.1.5(a) and 1.3.4.1.5(a), Valves Not Meeting Acceptance Criteria. For valves which fail the test....., additional valves shall be set pressure tested on the basis of two additional valves to be tested for each valve failure up to the total number of valves of the same type and manufacture.
Basis for Relief:	Relief Device application should also be taken into account when doing additional testing in order to detect any common mode failure of the type and manufacturer of the valve, i.e. raw water corrosive service, vibration, etc..
Alternate Testing:	If a valve fails to meet the set pressure acceptance criteria, additional valves to be tested will be selected from the grouping parameter related to the common mode of failure. For example, if the common mode of failure is related to application, additional valves to be tested will be limited to those valves in a similar application, regardless of valve type or manufacturer. This approach is in compliance with Duke Power's existing Problem Investigation Process whose intent is to fully investigate potential common mode failure mechanisms.

4.2 VALVE SPECIFIC RELIEF REQUESTS

Relief Request	Applicability	Status
RR-VLV-01		Deleted 2/13/95
RR-VLV-02		Deleted 2/13/95
RR-VLV-03		Deleted 12/6/93
RR-VLV-04		Deleted 2/13/95
RR-VLV-05		Deleted 2/13/95
RR-VLV-06		Deleted 2/13/95
RR-VLV-07		Deleted 2/13/95
RR-VLV-08		Deleted 2/13/95
RR-VLV-09		Deleted 2/13/95
RR-VLV-10	Core Flood Tank "A" and "B" Outlet Checks	Revised 2/13/95†
RR-VLV-11	"A" or "B" RBSP Suction Check	Revised 9/01/95
RR-VLV-12		Deleted 2/13/95
RR-VLV-13		Deleted 2/13/95
RR-VLV-14		Deleted 2/13/95
RR-VLV-15		Deleted 2/13/95
RR-VLV-16		Deleted 2/13/95
RR-VLV-17	LPI Header "A" and "B" Check Valves	Revised 2/13/95†
RR-VLV-18		Deleted 2/13/95
RR-VLV-19		Deleted 2/13/95
RR-VLV-20		Deleted 12/6/93
RR-VLV-21		Deleted 2/13/95
RR-VLV-22		Deleted 2/13/95
RR-VLV-23		Deleted 2/13/95
RR-VLV-24	Reactor Vessel Internal Vent Valves	Revised 2/13/95†
RR-VLV-25		Deleted 2/13/95
RR-VLV-26		Deleted 2/13/95
RR-VLV-27		Deleted 12/6/93
RR-VLV-28		Deleted 2/13/95
RR-VLV-29		Deleted 2/13/95
RR-VLV-30		Deleted 2/13/95
RR-VLV-31		Deleted 2/13/95
RR-VLV-32		Deleted 2/13/95

† Indicates revision was necessary only to update the relief request to reference OMa-1988 Part 10.

Specific Relief Request

Item Number:	RR-VLV-11
Valve(s):	1BS-5, 6 2BS-5, 6
Flow Diagram / Coordinates:	OFD-102A-1.1/E-8, C-10 OFD-102A-2.1/E-8, C-10
Function:	Loop A and Loop B BWST suction line check valves.
ISI Class/Duke Class:	B/B
Valve Category:	C
Test Requirement:	¶4.3.2.2 Exercising Requirements.
Basis for Interim Relief:	These valves cannot be full-stroke exercised because the present piping size configuration prevents recirculation flow from equaling design spray flow. Normal recirculation flow is approximately 1250 gpm and full flow for this system is 1500 gpm. The present check valves can not be disassembled because this would require cutting the valve out of the line and re-welding it back in place. The current check valves are of a split-body design and are welded in the piping as opposed to being flanged and bolted; so in order to disassemble and inspect the valves, they would have to be cut out of the line. Please reference attached drawing OM-245-23 to see the valve design.
Alternate Testing:	These valves will be partial-stroked tested quarterly, until they are cut out and removed from the system on the following schedule: Unit 1 End of Cycle 16 Unit 2 End of Cycle 15

4.3 VALVE JUSTIFICATION FOR DEFERRALS

Justification for Deferral	Applicability	Status
ON-AS-01	EFWPT AS Supply Checks	Written 02/13/95
ON-AS-02	Main Steam Supply Checks	Deleted 09/01/95
ON-BS-01	A or B RBSP Discharge Checks	Written 02/13/95
ON-BS-02	A or B RBS Containment Isol. Checks	Written 02/13/95
ON-C-01	MDEFWPs Suction from UST Block	Written 02/13/95
ON-C-02	MDEFWPs Suction from UST Check	Written 02/13/95
ON-C-03	MDEFWPs Suction from Hotwell Check	Written 02/13/95
ON-CC-01	CC Supply/Return Containment Isol.	Written 02/13/95
ON-CC-02	CC Supply Containment Isol. Check	Written 02/13/95
ON-CF-01	CFT A and B Outlet Checks	Revised 09/01/95
ON-CF-02	LPI/CF Header Checks	Revised 09/01/95
ON-CF-03	CFT A and B Inlet Checks	Written 02/13/95
ON-CS-01	Quench Tank Recirc. Containment Isol. Check	Written 02/13/95
ON-FDW-01	OTSG Startup Block and Control	Written 02/13/95
ON-FDW-02	TDEFWP Discharge Checks, EFW to OTSG A or B, and OTSG Emergency Header Checks	Written 02/13/95
ON-FDW-03	A or B OTSG Main Flow Control	Written 02/13/95
ON-FDW-04	Normal FDW to Emergency Checks	Written 02/13/95
ON-HP-01	Letdown Containment Isolation	Written 02/13/95
ON-HP-02	RCP Seal Return Containment Isol.	Written 02/13/95
ON-HP-03	HPI Loop A Emergency Injection Control	Written 02/13/95
ON-HP-04	HPI A or B Crossover Valves	Written 02/13/95
ON-HP-05	LDST Outlet Checks	Written 02/13/95
ON-HP-06	HPI Pump Min. Recirculation Block	Written 02/13/95
ON-HP-07	Letdown Containment Isolation	Written 02/13/95
ON-HP-08	RC Seal Return Line Check	Written 02/13/95
ON-HP-09	HPI Min. Recirc. to LPI Suction Check	Written 02/13/95
ON-HP-10	HPI Pump Emergency Suction Checks	Written 02/13/95
ON-HP-11	HPI Pump Discharge Checks	Written 02/13/95
ON-HP-12	A1 or A2 Loop Injection Stop Checks	Written 02/13/95
ON-HP-13	B1 or B2 Loop Injection Stop Checks	Written 02/13/95
ON-HP-14	HPI Loop B Emergency Injection Checks	Written 02/13/95
ON-HP-15	HPI Loop A Emergency/Normal Injection Checks	Written 02/13/95
ON-HP-16	HPI Pump Min. Recirculation Stop Checks	Written 02/13/95
ON-HP-17	RCP Seal Supply Containment Isol. Checks	Written 02/13/95
ON-LP-01	Decay Heat Drop Line Isolation	Written 02/13/95
ON-LP-02	A or B LPI Header Containment Isol. Checks	Revised 09/01/95
ON-LP-03	Post-LOCA Boron Dilution Valves	Written 02/13/95
ON-LP-04	A LPI Pump Discharge	Written 02/13/95
ON-LP-05	BWST Outlet Isolation	Written 02/13/95
ON-LP-06	LPI Supply to HPI Isolation	Written 02/13/95
ON-LP-07	A or B LPI Header Isolation	Written 03/01/95
ON-LP-08	LPI Post Boron Dilution Valves	Written 09/01/95

Justification for Deferral	Applicability	Status
ON-LPSW-01	RCP Cooler Supply and Discharge Block	Written 02/13/95
ON-LPSW-02	U3 MTOT Cooler Supply Block	Written 02/13/95
ON-LPSW-03	Normal/Emergency Supply Checks to HPIP Motor	Written 02/13/95
ON-LPSW-04	U1 & 2 LPSW Seismic Isolation	Written 02/13/95
ON-MS-01	Turbine Stop	Written 02/13/95
ON-MS-02	Main Steam Turbine Bypass	Written 02/13/95
ON-MS-03	MS Supply to FDWPTs Block	Written 02/13/95
ON-MS-04	MS Supply to SSRH Block	Written 02/13/95
ON-MS-05	MS Supply to AS Checks	Deleted 09/01/95
ON-N-01	CFT A and B Inlet Containment Isol. Checks	Written 02/13/95
ON-PR-01	RB Purge Containment Isolation	Written 02/13/95
ON-RC-01	RCS/Reactor Vessel Vent Block	Written 02/13/95
ON-RC-02	Pressurizer Spray Control	Written 02/13/95
ON-RC-03	RCS Pressure Boundary Isolation	Submitted 09/01/95
ON-SSF-01	SSF ASW Supply to A OTSG	Written 02/13/95
ON-SSF-02	SSF RC Makeup Supply to RCP Seals	Written 02/13/95
ON-SSF-03	SSF RC Makeup to RCP Seals Block	Written 02/13/95
ON-SSF-04	Letdown to Spent Fuel Vent	Written 02/13/95
ON-SSF-05	SSF AFW Supply to B OTSG Control	Written 02/13/95

Justification for Deferrals written 02/13/95 were generated as a result of adopting the guidelines presented in OM-10. A cross-reference of 'old' Relief Requests and Cold Shutdown Justifications is contained in Attachment 1 (Summary of Program Changes) of the 02/21/95 Duke letter to the NRC (Response to 11/23/94 NRC SER).

Justification for Deferral

Item Number:	ON-CF-01 (RR-VLV-10)
Valve:	1CF-11, 2CF-11, and 3CF-11 1CF-13, 2CF-13, and 3CF-13
Flow Diagram:	OFD-102A-1.3/E-10, OFD-102A-2.3/D-10, and OFD-102A-3.3/E-10 OFD-102A-1.3/E-6, OFD-102A-2.3/D-6, and OFD-102A-3.3/E-6
Code Category:	A/C
ISI Class/Duke Class:	A/A
Function:	These valves normally prevent backflow from RCS to the core flood tanks. In an emergency they open to permit flow from the core flood tanks to the RCS.
Test Requirement:	Verify proper valve movement once per three months as required by OMa-1988 Part 10, 4.3.2.1 and 4.2.1.1.
Basis for Deferral:	These valves cannot be exercised at power or cold shutdown. These valves cannot be subjected to greater than RCS pressure during power operation. They cannot be full-stroke exercised during cold shutdown due to the possibility of over pressurization and hydraulic shock to the reactor coolant system. An alternative to 4.2.2.3(c) is requested because the alternate test methodology currently in place (see alternative testing discussed below) will produce equivalent results with no reduction in level of safety. Existing test methodology has been in place for several years and has yielded acceptable results. Conversion to a new methodology will require resources to acquire an additional test apparatus and to make procedure changes which are not justified by a compensatory increase in level of safety.

Test Alternative & Frequency: The valves are exercised at a refueling outage frequency. Partial stroke testing is performed during cold shutdowns.

Testing will be performed at a lower than accident pressure. The data are analyzed to verify that the valves will pass the required accident flow. The test method utilizes nitrogen overpressure on the Core Flood Tanks which are filled to normal Technical Specification level with outlet block valves closed. The outlet valves are opened while tank level and pressure data are recorded versus time. These data are used to calculate a flow rate through the check valves and to determine the flow coefficient (Cv) of the check valves. This Cv is then compared to the accident required Cv. A calculated Cv higher than the accident required Cv indicates that the valve was exercised to its accident required position. Qualification of methodology is provided by independent review of calculation in accordance with owner's Quality Assurance Program.

Justification for Deferral

Item Number:	ON-CF-02 (RR-VLV-17)
Valve:	1CF-12, 2CF-12, and 3CF-12 1CF-14, 2CF-14, and 3CF-14
Flow Diagram:	OFD-102A-1.3/D-9, OFD-102A-2.3/D-10, and OFD-102A-3.3/D-9 OFD-102A-1.3/D-7, OFD-102A-2.3/D-6, and OFD-102A-3.3/D-7
Code Category:	A/C
ISI Class/Duke Class:	A/A
Function:	These valves normally prevent backflow from RCS to the LPI and core flood systems. In an emergency they open to permit flow from the core flood tanks or the LPI system to the RCS.
Test Requirement:	Verify proper valve movement once per three months as required by OMa-1988 Part 10, 4.3.2.1 and 4.2.1.1.
Basis for Deferral:	These valves cannot be exercised at power or cold shutdown. These valves cannot be subjected to greater than RCS pressure during power operation. They cannot be full-stroke exercised during cold shutdown due to the possibility of over pressurization and hydraulic shock to the reactor coolant system. An alternative to 4.2.2.3(c) is requested because the alternate test methodology currently in place (see alternative testing discussed below) will produce equivalent results with no reduction in level of safety. Existing test methodology has been in place for several years and has yielded acceptable results. Conversion to a new methodology will require resources to acquire an additional test apparatus and to make procedure changes which are not justified by a compensatory increase in level of safety.

Test Alternative & Frequency: The valves are exercised at a refueling outage frequency. Partial stroke testing is performed during cold shutdowns.

Testing will be performed at a lower than accident pressure. The data are analyzed to verify that the valves will pass the required accident flow. The test method utilizes nitrogen overpressure on the Core Flood Tanks which are filled to normal Technical Specification level with outlet block valves closed. The outlet valves are opened while tank level and pressure data are recorded versus time. These data are used to calculate a flow rate through the check valves and to determine the flow coefficient (Cv) of the check valves. This Cv is then compared to the accident required Cv. A calculated Cv higher than the accident required Cv indicates that the valve was exercised to its accident required position. Qualification of methodology is provided by independent review of calculation in accordance with owner's Quality Assurance Program.

Justification for Deferral

Item Number:	ON-LP-02 (CSD-VLV-07)
Valve:	1LP-47, 2LP-47, and 3LP-47 1LP-48, 2LP-48, and 3LP-48
Flow Diagram:	OFD-102A-1.2/E-14, OFD-102A-2.2/E-14, and OFD-102A-3.2/E-14 OFD-102A-1.2/K-14, OFD-102A-2.2/K-14, and OFD-102A-3.2/K-14
Code Category:	A/C
ISI Class/Duke Class:	A/A
Function:	Loop A and B header penetration isolation check valves.
Test Requirement:	Verify proper valve movement once per three months as required by OMa-1988 Part 10, 4.2.1.1 and 4.3.2.1.
Basis for Deferral:	These valves open to permit flow from LPI system into RCS. During plant operation, aligning LPI pumps' suction headers to the RCS would result in overpressurization of LPI system. When taking suction from the BWST, the discharge pressure of the LPI pumps is insufficient to pass flow into the RCS through these valves. No alternate pressure source or flow path exists through which flow can be passed through these valves at power.
Test Alternative & Frequency:	The valves will be stroked open and closed at a cold shutdown frequency.

Justification for Deferral

Item Number:	ON-LP-08
Valve:	1LP-105
Flow Diagram:	OFD-102A-1.1/H-2
Code Category:	B
ISI Class/Duke Class:	B/B
Function:	This valve isolates the Secondary Boron dilution path. It is opened post accident if the Primary Boron Dilution path is unavailable.
Test Requirement:	Verify proper valve movement once per three months as required by OMa-1988 Part 10, 4.2.1.1.
Basis for Deferral:	The valve and piping arrangement is unique to Unit-1. The LPI suction from the Reactor Coolant System (RCS) has a high point that may get vapor locked if used as a gravity flow path (to mitigate boron precipitation concern post accident). Cycling of this valve will drain this portion of the LPI suction and introduce air. Due to this system constraint, this valve must be kept closed in order to avoid damaging the LPI pump(s). This valve must only be cycled when the system can be replenished properly and vented to ensure that the LPI suction from the RCS is maintained water solid. The RCS cannot replenish this line at power due to system pressure/temperature design limitations.
Test Alternative & Frequency:	This valve will be stroked at cold shutdown to allow proper venting of the system after valve stroking.

Interim Justification for Deferral

Item Number:	ON-RC-03
Valve:	1RC-004
Flow Diagram:	OFD-100A-1.2/J-9
Code Category:	B
ISI Class/Duke Class:	A/A
Safety Function:	This valve shall be capable of closing to isolate the RCS pressure boundary during an SSF event. If it is closed, this valve shall be capable of being opened to establish a post-accident vent path from the pressurizer steam space through this valve and the PORV.
Test Requirement:	Verify proper valve movement once per three months as required by OMa-1988 Part 10, 4.2.1.1.
Basis for Deferral:	After performing the last three timed stoke tests of 1RC-4 the downstream Pilot Operated Relief Valve (1RC-66) began leaking. This leakage continued even with 1RC-4 closed to islolate the PORV. 1RC-66 was removed during the May 1995 mini-outage on Unit 1 and was sent to Wyle Laboratory for repair and calibration. The valve was reinstalled on unit 1, but began to leak again during start-up after 1RC-4 was stroked during the PORV operability test (PT/0/A/0201/04). Leakage through 1RC-66 is additional RCS leakage and causes increased Quench Tank temperatures. All leakage into the Quench Tank is routinely assumed to come from the reactor coolant pump seals. If 1RC-66 does not reseat then a high probability exists that Technical Specification 3.1.6.9 would be exceeded and the plant would have to go to cold shutdown to repair 1RC-66. 1RC-4 has performed well in previous timed strokes and can be expected to perform its intended safety function for the duration of this deferral
Test Alternative & Frequency:	This valve will be stroked at the next cold shutdown. 1RC-66 will be repaired and recalibrated at the next refueling outage (10/95) and this Justification for Deferral (ON-RC-03) for 1RC-4 will be deleted. A work order has also been generated to repair leakage from 1RC-4 during the next refueling outage.

4.4 PUMP GENERIC RELIEF REQUESTS

Relief Request	Applicability	Status
GNR-PMP-01	Pumps in operation when test is started	No change
GNR-PMP-02	Positive Displacement Pumps	Revised 9/01/95
GNR-PMP-03		Deleted 2/13/95
GNR-PMP-04		Deleted 2/13/95
GNR-PMP-05	All Pumps (Vibration Measurement)	Deleted 9/01/95
GNR-PMP-06	All Pumps (Bearing Temperature Measurement)	Revised 9/01/95

Generic Relief Request

Item Number:	GNR-PMP-02
Category Type:	**Positive Displacement Pumps**
Test Requirement:	IWP-3100 (Table IWP-3100-1) requires differential pressure to be measured .
Bases for Relief:	For these positive displacement pumps, suction pressure is independent of discharge pressure. Therefore, using differential pressure as the acceptance criteria could mask a degraded pump or indicate degradation on a good pump.
Alternate Testing:	For positive displacement pumps, where suction pressure is independent of discharge pressure, acceptance criteria will be applied to the discharge pressure measurement.

Generic Relief Request

Item Number:	GNR-PMP-06
Category Type:	**Pump Bearing Temperature Measurement**
Test Requirement:	Tables IWP-3100-1 and IWP-3100-2 establish bearing temperature as an Inservice Test Quantity. IWP-4300 establishes requirements for temperature measurements. Specifically, IWP-4310 establishes requirements for bearing temperature measurement.
Bases for Relief:	OMa-1988 Part 6 does not require bearing temperature measurement during an inservice test. The Code recognizes that advanced vibration monitoring is much more reliable in detecting bearing degradation than bearing temperature measurement. Vibration monitoring should indicate a bearing problem before a change of bearing temperature is noted. Continuing to monitor pump bearing temperature during inservice testing when later editions of the Code do not require such monitoring places an unjustified burden on the equipment and the testing technicians. The equipment is run, often in a minimum or reduced flow configuration, until bearing temperatures stabilize. The data collected during this extra time adds no value to the test results and is unjustifiably keeping equipment/trains out of service. Additionally, it requires maintaining calibrations on the equipment used to measure pump bearing temperature. These calibrations would not be maintained otherwise.
Alternate Testing:	None. Advanced vibration monitoring and spectral analysis is sufficiently capable of detecting pump bearing degradation.

Oconee Nuclear Station
ASME Inservice Testing
Program Document

ONS ASME IST Program

September 1995

Prepared by: _____ Date: 9/26/95

Reviewed by: _____ Date: 9/26/95

Approved by: _____ Date: 9-26-95

TABLE OF CONTENTS

1.0 SCOPE OF DOCUMENT

The purpose of this program document is to specify the Oconee Nuclear Site (or hereafter refer to as "licensee") In Service Testing program for performing valve and pump testing in accordance with NRC and ASME guidelines on how to assess operational readiness of safety related pumps and valves. This directive will only discuss the intent of Duke Power Company's Oconee Nuclear Site and the ASME Section XI (and OM Code for Nuclear Plant Operations and Maintenance Program where applicable) testing positions and philosophies and not reiterate the portions of IWV/IWP (or OM Code). This document will also outline the process for additions, changes, and deletions of pumps and valves from site IST program.

Technical Specification 4.0.4 requires performance of pump and valve testing in the ASME Section XI IST program. This program document defines how we comply with the ASME Code, Technical Specifications, as well as our positions on alternative testing techniques and options. Failure to meet the requirements of this program is a violation of Technical Specifications and 10CFR 50.55a.

1.1 Program Period:

Third Ten-Year Interval; 120 month period beginning July 1, 1992

1.2 Applicable ASME Code(s) and Addenda:

ASME Boiler and Pressure Vessel Code Subsection IWP 1986 Edition
ANSI/ASME OM-1-1987 | **Revision 23**
ASME/ANSI OM-1987 Standard OMa-1988 Part 10

1.3 Program Changes:

The NRC shall be notified of IST program changes. However, component additions and deletions will be submitted and testing implemented or deleted without prior NRC approval. In the instance that a component has been added to the IST program, testing and the appropriate program changes will take place within 90 days of revising the program source documents unless determined to be impractical. If a hardship is identified, notification will be submitted to the NRC and an interim extension from testing implementation obtained. | **Revision 23**

Program updates will be done as dictated by DBD and design calculations (program source documents). The IST database will be updated as needed and will be the official IST program. The Pump and Valve Inservice Test Program Manual will be updated and submitted to the NRC when a sufficient number of revisions to the IST database have been made. Oconee Nuclear Site took the opportunity to update the valve In-Service Testing program to follow the requirements of the ASME/ANSI Operational and Maintenance Standard OM-1987 Standard OMa-1988 Part 10 (OM-10) in the February 1995 response to the November 1994 NRC Safety Evaluation Report. Every 120 months ONS is mandated to review current testing requirements and upgrade testing to the latest approved version of the code as specified by 10CFR50.55a, 12 months prior to the anniversary date. Old IWV standards are being superseded by the new standards designated by the "OM" designation. | **Revision 23**

The content of this program document is for non-mandatory compliance to a recommendation stated in NUREG-1482 and is intended for the purpose of maintaining program continuity and documenting additional discussions and positions relative to code interpretations. Therefore, changes to the document will not require prior NRC review and/or approval unless the licensee determines a need to do so.

2.0 REFERENCES

The following documents were used as references in the development of this directive:

Generic Letter 89-04, Generic Letter 89-10

10 CFR 50, Appendix "B"

10 CFR 50.55a

ASME Section XI, IWV and IWP (1986)

ASME OM-6, OM-10 (OMa-1988), and OM-1 (1987)

Technical Specifications

Safety Analysis Report (SAR)

NRC Safety Evaluation of the Inservice Testing Program Relief Requests For Pumps and Valves (7-23-93)

NRC Safety Evaluation of the ONS, Units 1, 2, and 3 Pump and Valve IST Program, Revision 21 (11-23-94)

Non-Mandatory References:

NUREG/CP-0123, Proceedings of the Second NRC/ASME Symposium on Pump and Valve Testing

NUREG-1482, Guidelines for Inservice Testing at Nuclear Power Plants, April 1995| **Revision 23**

OM-1, (1981) is the standard for assessing the operational readiness for pressure relief devices.

OM-13, the new standard for assessing the operational readiness for Power Operated Relief Valves.

OM-22, the new standard for assessing the operational readiness for check valves.

ASME OMc CODE-1994

3.0 DEFINITIONS/TERMS

Generic Letter 89-10 - the NRC letter providing additional requirements in testing MOVs to design basis conditions.

Generic Letter 89-04 - the NRC letter providing supplemental guidance on developing and enhancing plant IST programs.

ASME Section XI - the section of ASME Codes and Standards Manual that determines how to perform in-service testing of light water reactor nuclear plant components.

ASME IWV Codes - the part of Section XI codes dealing with the in-service testing of valves.

ASME IWP Codes - the part of Section XI codes dealing with the in-service testing of pumps.

Frequencies - the interval of time between in service testing of the components. These intervals are defined in ONS Technical Specifications 4.0:

1) Double frequency - 67 days maximum

2) Quarterly (3 months) - 135 days maximum

3) Cold Shutdown (CSD) - Unit RCS temperature below 200 °F and reactor subcritical. (No testing is required if it has been less than 90 days since the last test was performed.)

4) Refueling (RF) - Unit at CSD for the purpose of replacing or rearranging all or a portion of the fuel assemblies or control rods.

IST Component - components (valves and pumps) that are required to be tested per ASME Section XI. Sections 4.1 and 5.1 of this document define the criteria to be included in the IST program. Revision 23

"Appendix B Component" - components (valves and pumps) tested under jurisdiction of 10CFR50, Appendix B. They are not required be tested per the Code and no Relief Request or Justification for Deferral will be submitted . | Revision 23

"Appendix J Component" - components leak tested for containment integrity under jurisdiction of 10CFR50, Appendix J. | Revision 23

| Revision 23

Active Component - a component that must perform a mechanical motion during the course of accomplishing a system safety function.

Passive Component - a component that does not perform a mechanical motion during the course of accomplishing a system safety function.

| Revision 23

System Resistance- the hydraulic resistance to flow in a system

Trending- a comparison of current data to previous data obtained under similar conditions for the same equipment.

Set Point - the value for which relief valves are set to relieve its pressure.

Leak Test - testing of valves to verify seat leakage as limited to a specified maximum.

Stroke-Time - the time interval from valve actuation to the limit switch indication light at the end of the actuating cycle. | Revision 23

Limiting Stroke Time - the maximum time allowed for an IST required valve to stroke before becoming immediately inoperable.

Relief Requests - A request submitted to the NRC requesting relief from the requirements of the Code for testing a particular component or a generic group of components.

Justification for Deferrals - A documented explanation of why a valve can only be tested at a cold shutdown or refueling outage frequency as opposed to quarterly.

IST Database - Official up to date IST program document. This document is stored on a limited access server in a controlled database. | Revision 23

4.0 VALVE PROGRAM

4.1 In-Service Testing (IST) Program

As required by 10CFR50.55a, valves that are classified in accordance of NRC Regulatory Guide 1.26 as ISI Class A, B, or C, which corresponds to ASME Class 1, 2, or 3 respectively, are included in the ONS IST Program. The following defines the criteria for inclusion of equipment in the IST Program:

a) All Category A valves that fall within the Duke ISI Class A, B, or C boundaries.

b) All Category B and C valves that fall within the Duke ISI Class A, B, or C boundaries and are active in the mitigation of the Design Basis Accidents (Design Basis Accident is defined as those described in SAR Chapter 15).

c) Valves in systems specifically required by Technical Specifications to be tested per ASME Section XI. | **Revision 23**

Oconee has some valves that are active in certain non-Design Basis Events, are cold shutdown valves not associated with a FSAR Chapter 15 event, are significant to plant safety, or are of economic importance that are beyond the scope of 10CFR50.55a. Such valves are tested in the supplemental, 10CFR50 Appendix B Program. See Appendix A of this document for a discussion of this program. | **Revision 23**

The scope of the OM Standards and Code has been expanded to include all safety-related pumps and valves in the IST program. Until the scope of 10CFR50.55a is changed, the scope of the IST program will continue to include those components within the Code classes.

Oconee is licensed to operate with a "safe" shutdown condition of hot shutdown and will subsequently only test components required to bring the unit(s) to this safe shutdown condition. The following NRC evaluation best summarizes this position (ref. Letter dated 7/23/93 from David Matthews, NRC, to Jim Hampton regarding Safety Evaluation of the Inservice Testing Program Relief Requests for Pumps and Valves - Oconee Nuclear Station, Units 1, 2, and 3 [TAC Nos. M84025, M84026, and M84027]):

> Early plants such as Oconee were licensed to operate with a "safe" shutdown condition of hot standby or hot shutdown, and were not required to achieve cold shutdown following a design basis accident. For such plants, components and systems necessary to achieve cold shutdown may not be safety-related and/or subject to quality assurance requirements. These components are not credited to achieve "safe" shutdown.
>
> The licensing basis for Oconee is contained in the Final Safety Analysis Report (FSAR). Chapter 15 of the Oconee FSAR examines the effects and consequences of transients and accidents that constitute the design basis. The ability of the plant to operate within regulatory guidelines without undue risk to public health and safety was evaluated and accepted by the Staff. The fact that the transients and accidents analyzed in the FSAR do not continue beyond the hot shutdown condition, indicates that the capability to establish this condition would provide an acceptable level of quality and safety.
>
> The licensee has proposed to exclude from IST those components that are not required to perform a specific function in shutting down the reactor to the safe shutdown condition. The licensee has proposed to "test these valves in accordance with their Appendix B program." 10CFR50, Appendix B addresses quality assurance for safety-related components. These component may not, however, be safety-related, as discussed above. In any case, the licensee has stated in the basis that the component's operability would be assured during normal plant shutdown. Based on the determination that the licensee's proposed alternative would provide an acceptable level of quality and safety, it is recommended that the alternative be authorized in accordance with §50.55a ¶(a)(3)(i).

4.2 Valve Testing Program Exemptions and Position Statements

Valves tested under the jurisdiction of this program will be tested per code requirements of OM-10 at the specified frequencies unless it has been determined to be impractical. This section of the program document is to provide the site's positions on interpretations, guidance and other options regarding testing alternatives.

4.2.1 Category A and A/C valves (containment and pressure isolation valves) will be leak tested in accordance with OM-10 (OMa-1988) section 4.2.2.3 and 10CFR50 Appendix J.

4.2.2 Valve stroke times will be recorded to at least the nearest second, except for valves which have stroke times of less than one second. For these valves, a time of one second will be recorded. Valves that stroke in less than 2 seconds may be exempted from reference ranges and the maximum limiting stroke time shall be 2 seconds as specified by OM-10 section 4.2.1.8 (e). Additionally, documented stroke times will be to the nearest full second. Time $\leq$.49 seconds will be rounded down and time $\geq$.5 will be rounded up

4.2.3 Stopwatches used to measure stroke times will be calibrated annually.

4.2.4 OM-10, section 6.3 (h) requires the signature of the person or persons responsible for conducting and analyzing the test. The dated initials of the person or persons responsible for conducting and analyzing the test may be used in place of a signature in the record of the tests. Initials can be used as signatures to meet the intent of the OM-10 as long as somewhere in the test procedure the initials are identified by a full signature or the initials will be construed as signatures.

4.2.5 Many requests were submitted in 1993 for HPI and LPI valves for relief from post maintenance testing because the HPI full flow test was performed at the beginning of an outage. The current philosophy for the HPI full flow test is that it should be performed at the end of an outage after all valve maintenance has been completed. Reliefs from post maintenance testing will no longer be submitted for these valves. In the event that maintenance is performed on one of these valves during a cold shutdown instead of a refueling outage, then a one-time relief request will be submitted for that valve. The following is a list of valves that once required such relief requests:

1, 2, 3HP-101	1, 2, 3HP-113	1, 2, 3HP-152	1, 2, 3HP-194
1, 2, 3HP-102	1, 2, 3HP-126	1, 2, 3HP-153	1, 2, 3LP-55
1, 2, 3HP-105	1, 2, 3HP-127	1, 2, 3HP-188	1, 2, 3LP-57
1, 2, 3HP-109			

4.2.6 It is the licensee's position that valve testing will be deferred if the normal code required test frequency or plant conditions would result in increased personnel risk or damage to plant equipment. Practicality of such deferral shall be determined by the licensee and documented in the "Justification Of Deferral" section of the IST Program manual. In such cases, the licensee will not perform any type of destructive testing to determine the period of time at which damage to the equipment or risk to personnel would occur. Exercising valves on a cold shutdown or refueling outage frequency is not a deviation from the code (reference NUREG-1482, Section 2.4.5).

4.2.7 Manual valves that meet the scope requirements of OM-10 or are taken credit for in the safety analysis for being capable of repositioned to shut down the plant, to maintain the plant in a safe shutdown condition, or to mitigate the consequences of an accident will be included in the IST program. However, testing of such valves will be solely based on exercising requirements established by the licensee.

4.2.8 Valves that are not categorized as ISI Class A, B, or C need not be included in the IST Program. However, according to GL 89-04, Position 11, "The intent of 10 CFR 50 Appendix A, GDC-1, and Appendix B, Criterion XI, is that all components, such as pumps and valves, necessary for safe operation are to be tested to demonstrate that they will perform satisfactorily in service." The licensee reserves the right to include valves which do not meet these criteria in the IST Program. These valves are typically tested In the Supplemental Program. In such cases, the licensee will specify how the component is tested or if a deviation from the Code guidelines is allowable. The licensee will not submit relief requests for non-Code Class valves. | **Revision 23**

4.2.9 After valve maintenance baseline stroke times will be reset per OM-10 section 3.4. | **Revision 23**

4.2.10 Motor operated valves (EMOs) which are active in both the open and closed directions will be stroked in both directions, but timed in one direction only. For EMOs the stroke time is the same in both directions due to constant speed motors. | **Revision 23**

4.3 Check Valve Testing

Check valves tested under the jurisdiction of this program will be tested per Code requirements at the specified frequencies unless it has been determined to be impractical. This section of the program document is to provide the ONS positions with regards to interpretations, guidance and other options and testing alternatives for check valves.

4.3.1 Check valves will be exercised as per OM-10 (OMa-1988), section 4.3.2 every 3 months, except as provided by OM-10 sections 4.3.2.2, 4.3.2.3, 4.3.2.4, and 4.3.2.5. Where testing is deferred, it will be noted in the valve data sheets with a specific Justification for Deferral or included in the Sample Disassembly program as stated in OM-10 section 4.3.2.4 (d). Check valves in series, where one valve could be removed without creating an unreviewed safety question or creating a conflict with regulatory or licensing requirements, may be tested concurrently to meet IST requirements. (ref. NUREG-1482, section 4.1.1). In such case, if corrective action is required, the licensee will disassemble, inspect, and repair or replace both valves.

4.3.2 Category A and A/C valves (containment and pressure isolation check valves) will be leak tested in accordance with OM-10 (OMa-1988) section 4.2.2.3, and 10CFR50 Appendix J.

4.3.3 Full stroke testing of check valves will not necessarily constitute the obturator contacting the back-stop. Where possible, sufficient flow will be passed through the valve to verify design basis accident flow. If full flow is not possible, then the licensee will perform correlation testing, partial stroking, or other alternatives as provided by OM-10 section 4.3.3.3. Additionally, the code allows use of indirect evidence (such as system pressure, flow, temperature or level) or other positive means to verify flow or pressure requirements. These indirect methods will not be subject to the range and accuracy requirements of the code. (ref. NUREG-1482, section 4.1.2).

Check valve exercising to verify the closed position will not require demonstration that the valve was open prior to closure.

4.3.4 Seismic boundary check valves will be included in the program.

4.3.5 Check valves included in the Sample Disassembly portion of the IST program will be disassembled and inspected under the provisions and guidelines given in GL 89-04 and per OM-10 (OMa-1988), section 4.3.2.4 (c).

4.3.6 Per Oconee's response to Generic Letter 89-04, back flow testing of check valves will be performed with GL 89-04 guidance. Examples of methods that may be used to verify valve closure are as follows: | **Revision 23**

4.3.6.1 Pump discharge check valves - verified closed by meeting a parallel pump's acceptance criteria while cross-connected. | **Revision 23**

4.3.6.2 Appendix J testing | **Revision 23**

4.3.6.3 Measure back flow through the valve using an open vent on the backside of the valve or ultrasonic flow measurement techniques. | **Revision 23**

4.3.6.4 Pressure drop across a pump | **Revision 23**

4.3.6.5 Observation of external indication on valve stem | **Revision 23**

4.3.6.6 Pump windmilling | **Revision 23**

4.3.7 As per NUREG-1482 and recommendations stated in ONS SER, the licensee recognizes the NRC's acceptance of nonintrusive techniques (N.I.T.) for testing check valves. The licensee in fact has purchased N.I.T. equipment and is investigating incorporation into the testing program. However, this N.I.T. equipment has only recently been introduced to the industry and was not supplied from the vendor under the elements of the Q.A. program as with other equipment utilized for testing safety related components. This presents the burden on the licensee to validate the technology (i.e. software qualifications, calculation validity, engineering correlation, etc.). Therefore, it is the licensees position that (N.I.T.) is a voluntary option and will be evaluated on a specific application basis if full stroke exercising or sample disassembly cannot be performed.

4.4 Relief Valve Testing

Relief valves tested under the jurisdiction of this program will be tested per code requirements of OM-1, 1987, unless it has been determined to be impractical. This section of the program document is to provide the site's positions with regards to interpretations, guidance, and testing alternatives for relief valves. Relief valves shall be considered for inclusion in the program if they provide overpressure protection for portions of systems that perform a specific function in shutting down a reactor or in mitigating the consequences of an accident.

4.4.1 Relief valves that are not credited for assisting in mitigating the consequences of an accident and are only installed for over-pressure protection are considered passive.

4.5 Leak Rate Testing

All category A valves will be tested per OM-10, section 4.2.2.2, except those valves which function in the course of plant operation in a manner that demonstrates adequate seat leak-tightness need not be leakage tested. In such cases (i.e., Containment Purge Isolation Valves) proper administrative controls will be implemented and the valves leak tested during refueling outages.

4.5.1 Category A containment isolation valves shall be tested per 10CFR50, Appendix J and shall be included in the program per GL 89-04, Position 10. Where a valve is identified as a containment isolation valve in the Technical Specification or SAR and if it is determined to be an "active" valve with respect to this function, it will be exercised to the closed position when there is an associated requirement for leak testing.

4.6 Testing from Remote Location

Section 4.1 of OM-10 requires valves with remote position indication to be tested at least once every 2 years to verify that the valve operation is accurately indicated. Valves that have remote operating switches and/or power supplies (e.g. SSF valves) shall also be tested and verified for proper indication from the remote location. Other valve operating parameters, such as timing will not be performed from the remote location during this testing.

4.7 Post Maintenance/Modification Testing (Retest)

See NSD-408 Testing Sections 408.9 and 408.10. | **Revision 23**

4.8 Fail-Safe Testing of Valves

All Fail-Safe valves shall be tested in accordance with OM-10, section 4.2.1.6. Control valves are typically excluded from testing in the IST program. However, if a control valve must change position to support a safety-related function and it has a fail-safe position, then it must be included in the program and tested to verify the ability to perform that function with power removed (or simulated power removal).

4.9 Skid-Mounted Valves

Until the scope of components for 10CFR50.55a, is expanded to include all safety-related pumps and valves, and until the OM codes and standards specifically address skid-mounted components, the testing of the 'major' components supported by skid mounted equipment will be an acceptable means for verifying the operational readiness of the skid-mounted equipment sub-components and assemblies. The licensee however, may opt to include certain components contained on these skids in the IST program for testing purposes. In such cases, the licensee will not be obligated to submit relief request on testing alternatives nor will it be obligated to trend the performance of such components as required with components which meet the scope of OM-10.

4.10 Valve Test Acceptance Criteria

All valve test acceptance criteria (IST-TAC) will be developed in accordance with the provisions specified in OM-10. The applicable acceptance criteria will be developed when the valve is known to be performing in a satisfactory manner. Where IST-TAC other than that required by code is established for a given valve (i.e., additional N.I.T diagnostics), the documentation of that criteria will be at the discretion of the licensee and not required to be part of the test record. Trending of valve IST-TAC will be performed by the licensee on a periodic basis. Leakage criteria for valves (other than those tested in accordance to 10CFR50, Appendix J) will be determined based on leakage rates specified by the licensee or using the guidance specified in 4.2.2.3. Relief valve IST-TAC will be established per OM-1, 1987.

Such 'IST-TAC' should not be confused with the acceptance criteria specified in DBDs, DBD associated TAC Sheets, Technical Specifications, or any SAR. Such acceptance criteria are the most limiting values and can not be exceeded. IST-TAC are set to verify operational readiness of the valves and to identify valve degradation before the 'most limiting' acceptance criteria are exceeded. IST-TAC are based upon stroke times measured when the valve is know to be in good working order and are controlled within the test procedures. Alternatively, DBD-TAC are specific criteria associated with a valve's design basis.

4.10.1 Valve Stroke-Time Acceptance Criteria:

The following cases present the options available for determining valve operability based on stroke time:

CASE 1 : The valve strokes within its acceptable stroke time. The valve is considered operable.

CASE 2 : The valve doesn't move at all on the first try or exceeds its LIMITING VALUE. OM-10 immediately refers to this valve as being inoperable. An engineering evaluation needs to be done to determine the cause of the valve failure and system operability.

CASE 3 : The valve fails to meet the acceptance stroke time, but strokes in less than the LIMITING VALUE. Per OM-10, the valve shall immediately be retested to achieve an acceptable stroke time. Per the Oconee valve testing program:

a. If the valve successfully strokes on the retest, the valve is considered operable. The cause of the initial deviation shall be analyzed and the results documented in the test procedure. A

third valve stroke may be performed to demonstrate consistent valve operation.

b. If the valve does not fall within the acceptable range on the retest, then the valve is declared inoperable. An evaluation must be performed to determine the root cause of the failed test. The evaluation may determine that either corrective maintenance must be performed on the valve or the new stroke data is acceptable and new baselines must be established. Such results must be documented in the test procedure.

c. In the event the initial stroke and the retest results are inconsistent, but the engineering evaluation shows the new stoke time is acceptable, a third test may be performed to verify consistent behavior. Documentation of the third test will be optional if it shows no deviation from the "retest".

4.10.2 Valve Stroke-Time Measurements and Methods:

Valve stroke times are measured with a stopwatch to the nearest second. The stopwatch is started when the valve is actuated and it is stopped when an indication light is received indicating that the valve has completed its full stroke. | **Revision 23**

4.10.3 Limiting Value Stroke-Time Acceptance Criteria:

Limiting Values for stroke-times will be established in accordance with the guidance given in GL 89-04, Position 5. It is the position of the licensee that these values will be determined as follows (with the limitations of Tech. Specs. and Safety Analysis limits being the most limiting):

Valve Type	Limiting Value Calculation
EMO (> 10secs.)	1.3R (to the nearest 0 or 5sec.)
EMO (≤ 10secs.)	1.5R (to the nearest 0 or 5sec.)
POV (> 10secs.)	2.0R (to the nearest 0 or 5sec.)
POV (≤ 10secs.)	2.25R (to the nearest 0 or 5sec.)

Note: Where 'R' represents the valve reference value at acceptable operation.

4.10.4 Engineering Evaluations:

Discussion to be completed at a later date.

5.0 PUMP PROGRAM

5.1 In-Service Testing (IST) Program

As required by 10CFR50.55a certain pumps that are classified in accordance of NRC Regulatory Guide 1.26 as ISI Class A, B, or C, which corresponds to ASME Class 1, 2, or 3 respectively are included in the IST Program. The following defines the criteria for inclusion of equipment in the IST Program:

a) Pumps in systems specifically required by Technical Specifications to be tested per ASME Section XI. | **Revision 23**

b) All pumps which fall within the Duke ISI Class A, B, or C boundaries that are provided with an emergency power source and are also active in mitigating the consequences of the Design Basis Accidents (Design Basis Accident is defined as those described in SAR Chapter 15).

Currently the Oconee Nuclear Site is under the requirements of the ASME Code and Standards, Section XI IWP Codes and Standards, 1986 Version. This was the version of code in effect 12 months prior to the anniversary date of ONS 120-month update. Currently, OM-6 requirements would require additional test equipment and program changes that are not available at the site. Long-term plans include updating to the new OM-6 Codes for corporate consistency.

Reference section 4.1 for additional program scope discussion. | **Revision 23**

5.2 Pump Testing Program Exemptions and Position Statements

Pumps tested under the jurisdiction of this program will be tested per code requirements of IWP at the specified frequencies unless it has been determined to be impractical. This purpose of this section of the program document is to provide the site's positions on interpretations, guidance and other options regarding testing alternatives.

5.2.1 IWP-6240(f) requires the signature of the person or persons responsible for conducting and analyzing the test. The dated initials of the person or persons responsible for conducting and analyzing the test may be used in place of a signature in the record of the tests. Initials shall be used as signatures to meet the intent of the IWP as long as somewhere in the test procedure the initials are identified by a full signature.

5.2.2 Developed head acceptance should be rounded up for conservatism in calculations to the nearest .5 psi, if possible. In most cases the suction gauges used will allow this type of accuracy.

5.2.3 Vibration acceptance should be truncated to 2 decimal places for operability determinations. The full four digit display number should still be recorded.

5.2.5 Pumps whose only safety function is predicated on plant shutdown and recovery from a fire per commitments made as a result of 10CFR50, Appendix R are not included in the IST Program. The licensee will test these in accordance with Appendix R requirements.

5.2.6 Pumps that are not provided with an emergency source of power will not be required to meet IST requirements. The licensee however, may elect to include these pumps in the IST program for testing purpose only.

5.2.7 Pumps which can only be tested during plant operation will be tested within 1 week following plant startup. To comply with GL 87-09 guidance, if the testing schedule is not maintained during plant shutdowns, the affected pump(s) must be tested before entering an operational mode which requires the pump(s) to be operable. The licensee however, may elect to delay repairs and/or retest of pumps not required to be operable for plant startup or other operational modes.

5.2.8 The SSF Submersible Pumps are only tested at a two year frequency. The only test parameters monitored are developed head and flow rate. This meets the requirements of Technical Specification 4.20. This is not a deviation from Code since these pumps are non-Code Class components.

5.2.9 The ONS Pump Testing Program is governed by IWP 1986. Per discussion in NUREG-1482, Section 5.1.2 Continued Measurement of Parameters Deleted from OM-6, the following IWP parameters are no longer monitored during In-Service Testing:
| **Revision 23**

5.2.9.1 Inlet Pressure - this value will only be measure for tests where it is required for calculating the pump's developed head. | **Revision 23**

5.2.9.2 Differential Pressure for Positive Displacement Pumps - discharge pressure is the sole indicator of pump degradation for positive displacement pumps since the discharge pressure for such pumps is independent of suction pressure.
| **Revision 23**

5.2.9.3 Proper Lubricant Level of Pressure - this is a parameter that is analyzed through preventive maintenance techniques. | **Revision 23**

5.2.9.4 Bearing Temperature - advanced vibration monitoring is a better indication of bearing failures or problems than bearing temperature. | **Revision 23**

5.2.10 After pump maintenance, pump performance parameters will be reset per IWP-3111.
| **Revision 23**

5.3 Mini-flow/Full Flow Pump Testing

As discussed in the ONS response to Generic Letter 89-04, no pump testing is performed using the pump's minimum flow line. | **Revision 23**

5.4 Vibration Monitoring

Pumps tested under the jurisdiction of this program will be tested per code requirements at the specified frequencies unless it has been determined to be impractical. This purpose of this section of the program document is to provide the site's positions with regards to interpretations, guidance and other options of vibration monitoring and analysis.

5.4.1 Pump drivers.

Discussion to be completed at a later date.

5.4.2 Smooth Running Pumps.

Discussion to be completed at a later date.

5.4.6 Vibration points for pumps.

Discussion to be completed at a later date.

5.5 Testing required from Remote Locations:

Pumps with remote indications shall be observed at least once every 2 years to verify that pump operation is accurately indicated.

Pumps that have remote operating switches and/or power supplies shall be remotely tested, (i.e. the HPI pumps). They shall be tested and verified for proper pump operation and indication from the remote location as a good engineering practice. Other pump operation parameters, such as vibration, bearing temperatures, pressure and flow do not have to be performed from the remote location during testing.

5.6 Post Maintenance/Modification Testing (Retest)

See NSD-408 Testing sections 408.9 and 408.10. | **Revision 23**

5.7 Skid-Mounted Pumps

Until the scope of components for 10CFR50.55a, is expanded to include all safety-related pumps and valves, and until the OM codes and standards specifically address skid-mounted components, the testing of the 'major' component supported by skid mounted equipment will be an acceptable means for verifying the operational readiness of the skid-mounted equipment sub-components and assemblies. The licensee however, may opt to include certain components contained on these skids in the IST program for testing purposes. In such cases, the licensee will not be obligated to submit relief request on testing alternatives nor will it be obligated to trend the performance of such components as is required for components which meet the scope of IWP.

5.8 Pump Test Acceptance Criteria

All pump test acceptance criteria (IST-TAC) will be developed in accordance with the provisions specified in IWP. The applicable acceptance criteria will be developed when the pump is know to be performing in a satisfactory manner. Where IST-TAC other than that required by code is established for a given pump (i.e., pump curves), the documentation of that criteria will be at the discretion of the licensee and not required to be part of the test record. Trending of pump IST-TAC will be performed by the licensee on a periodic basis.

Such 'IST-TAC' should not be confused with the acceptance criteria specified in DBDs, DBD associated TAC Sheets, Technical Specifications, or any SAR. Such acceptance criteria are the most limiting values and can not be exceeded. IST-TAC are set to verify operational readiness of the pumps and to identify pump degradation before the 'most limiting' acceptance criteria are exceeded. IST-TAC are based upon performance data measured when the pump is know to be in good working order and are controlled within the test procedures. Alternatively, DBD-TAC are specific criteria associated with a pump's design basis.

5.8.1 Pump Hydraulic Parameters Acceptance Criteria:

The ONS IST Program does not follow IWP-3300 (Table-3100-1) for acceptance criteria for pump Developed Head (ΔP) and Flow Rate (Q). Per the November 23, 1994, NRC SER (Actions Items 4.5 and 5.5), Section XI IWP-3210, and NUREG-1482 Section 5.6 the use of alternate acceptance criteria is acceptable as long as the expanded ranges and basis for finding that the pump performance does not demonstrate degrading conditions is documented in the record of tests. The acceptance criteria is documented in the test procedures. The test procedures reference this document which discusses (below) the basis for assuring the pump performance is not degraded. | **Revision 23**

5.8.1.1 The following discusses the basis for not following testing requirements in Section XI Table-3100-1 for pump developed head and flow rate acceptance criteria:

Data scatter from process fluctuations and instrument readability combined with code allowable instrument error can result in pumps being placed on double frequency or declared inoperable in situations where true pump degradation has not occurred due to the upper acceptance limits defined by Table IWP-3100-1. For example:

ΔP_{ref} = 100 psid
$\Delta P_{acceptable}$ = 93 to 102 psid
(per Table IWP-3100-2)

Differential Pressure Gauge:

Full Scale Range = 300 psid
(per IWP-4120)
Accuracy = ± 2% of full scale
(per Table IWP-4110-1)

Acceptable Gauge Tolerance
= ± 2% * 300 psid
= ± 6 psid

Thus:
Instrument error allowed by code when applied to ΔP_{ref} could be 94 to 106 psid, which exceeds $\Delta P_{acceptable}$ by 4 psid on the upper end.

The high limits allowed in Table IWP-3100-2 are more restrictive than the instrument calibration limits.

5.8.1.2 Based on the situation address above, per IWP-3210 Oconee Nuclear Station specifies the following acceptance in lieu of those specified in Table IWP-3100-2.

Range for ΔP will, at our discretion, be as follows:

Acceptance range: 0.93 to 1.07 ΔP_{ref} ,
Low alert range: 0.90 to 0.93 ΔP_{ref} ,
High alert range: 1.07 to 1.10 ΔP_{ref} ,
Low required action range: < 0.90 ΔP_{ref} , and
High required action range: > 1.10 ΔP_{ref} .

Range for Q will, at our discretion, be as follows:

Acceptance range: 0.94 to 1.06 Q_{ref} ,
Low alert range: 0.90 to 0.94 Q_{ref} ,
High alert range: 1.06 to 1.10 Q_{ref} ,
Low required action range: < 0.90 Q_{ref} , and
High required action range: > 1.10 Q_{ref} .

5.8.1.3 Safety significance for this deviation from Code is insignificant. The deviation from Code is for the upper acceptance ranges only. Pumps do not improve over time, thus the increase in acceptable upper limits is justified. Enhanced vibration analysis including spectral analysis to identify pump problems is being used at multiple points. Enhanced vibration analysis techniques further justify relaxed hydraulic limits.

6.0 Relief Requests

The purpose of a Relief Request is to exclude components from testing requirements of the Code which cannot be followed (see NSD-408 Testing section 408.8.5 for additional discussion). Therefore, if the testing on the component can not be done due to plant configuration, plant safety, equipment limitations, type, or hazards to personnel, relief from the code will be requested. Submitted relief requests will address if the proposed alternative will: (1) give an acceptable level of quality and safety, (2) compliance would result in a hardship without a compensating increase in safety or (3) complying with code requirements is impractical. Relief Request for components that are in the ASME IST Program will be sent to the NRC for approval. Each Ten Year Interval, when the site testing program is being upgraded to the new testing requirements, all relief requests will be reviewed to insure that their reasons for issuance are still valid. In cases where a Specific Relief was previously submitted to the NRC and approval granted, but the conditions and provisions do not change (i.e. code change or modification to equipment) to eliminate the relief, the relief will not be re-submitted for review the next Ten Year Interval. Relief requests will not be written for any non-Code Class components which were included in the ASME IST Program. | **Revision 23**

6.1 Implementing Relief Requests:

When a relief requests is submitted for those requirements which have been determined to be clearly impractical, the licensee reserves the right to implement the proposed alternative testing while the NRC is reviewing the relief request. This position is referenced from NUREG-1482, section 2.5.

Furthermore, an April 17, 1990 letter from Caudle Julian (NRC) to Hal Tucker documenting an Inspection Report of Oconee's IST program illustrates the NRC's acceptance of this position. The following statements are from this report: | **Revision 23**

"The licensee stated that NRC approval or notification was not required prior to implementing changes to the IST program because TS 4.0.4 is different than standard TSs in that prior written NRC approval is not required to implement relief requests." | **Revision 23**

"As previously discussed in the check valve section of this report, the 1984 IST meeting minutes were not legally binding and relief requests do not require prior NRC approval; therefore, the licensee was meeting the approved requirements of TSs and 10 CFR 50.55a(g)." | **Revision 23**

"On March 28, 1990, a telephone conversation was conducted between the inspector and licensee representative K. Chea. The licensee was informed that their methods for IST relief request approval and submittal and changing IST implementing procedures prior to changing the IST program were determined to be within existing regulations." | **Revision 23**

| **Revision 23**

Note: The Relief Request Form is found in Enclosure 9.7.

| **Revision 23**

6.2 Interim Relief Requests:

When a relief request is required on an interim basis, the licensee will submit the relief for review, but as with section 6.1, may implement the relief while the NRC is reviewing the request. Updates to schedules or impacts to design/modification implementation of the component with interim relief will be communicated to the NRC as the program is updated. Interim reliefs shall be withdrawn as soon as the licensee no longer requires them.

7.0 Justifications for Deferrals:

Justification for deferrals (JFDs) are written when a valve can not be tested at a quarterly frequency. This could be due to an impracticality of testing the component at power or due to plant safety concerns introduced by the testing configuration. The basis for determining the impracticality of testing at power and expanding the valve's testing frequency to a Cold Shutdown or Refueling Outage frequency is documented for the IST Program in a Justification for Deferral.

In-Service Testing to be performed at Cold Shutdown shall:

a) be performed during each cold shutdown when the planned length is of sufficient duration to establish the necessary test conditions and to perform the test, and

b) be performed as to not impact the timely completion of the shutdown related activities and subsequent return to operation. For outages when the planned length is not of sufficient duration to complete all tests, testing will start within 48 hours of reaching cold shutdown conditions. This is supported by the position stated in OM-10, section 4.3.2.2, OMa-1988 Addenda.

c) be performed at the next available cold shutdown consistent with the above criteria if an opportunity to test the valve is not available (Completion of the IST is not a prerequisite to return to operation).

Any testing required to be performed during a refueling outage shall be completed prior to plant operation. Components tested during start-up will not delay start-up if the site Technical Specifications allow start-up with the component out of service or inoperable. Retest and corrective actions shall be performed at the first available opportunity.

7.1 Testing Deferral Justifications:

7.1.1 Purpose: The purpose of the testing Justification for Deferral form is to document the reason that a pump or valve can only be tested at cold shutdown or at refueling outage.

Valid reasons could be plant configuration for testing which would jeopardize the safety of plant operation, access to the component which would be against ALARA, access to the component due to the environmental conditions endangering personnel safety, or that plant configuration for testing would require the plant to be in a mode not suitable for power production. Removing one train for testing or entering a limiting condition of operation is not sufficient basis for not performing the required tests, unless the testing renders systems inoperable for extended periods of time. It is not the intent of IST to cause unwarranted plant shutdowns or to unnecessarily challenge other safety systems. Other factors such as the effect on plant safety and the difficulty of the test should be considered. As stated earlier, testing should not interfere with power production.

| **Revision 23**

Note: The Justification of Deferral Form is found in Enclosure 9.6. | **Revision 23**

| **Revision 23**

Appendix A: 10CFR50, Appendix B Program (Supplemental Testing Program)

The scope of the Oconee pump and valve testing programs includes all components which are active in mitigating the consequences of Design and non-Design Basis Events, are required for cold shutdown, provide a containment isolation function, or are designated by station Technical Specifications to be included in testing programs. This scope is further divided into IST testing and "Appendix B" testing. (11/1/1990 Generic Letter 89-04 response - M. S. Tuckman to NRC) | **Revision 23**

The scope of the IST program is discussed in detail in Sections 4.1 and 5.1 of this document. | **Revision 23**

The selected components tested under the jurisdiction of the Appendix B portion of the Oconee Pump and Valve testing program provide a function to the safety of nuclear power plant operation, but are not explicitly under the scope of ASME Codes and Standards. Specifically, the Appendix B program encompasses pumps and valves not included in the IST program which are active in certain non-Design Basis Events, are cold shutdown valves not associated with a FSAR Chapter 15 event, are significant to plant safety, or are of economic importance and that are considered beyond the scope of 10CFR50.55a. Pumps and valves used in mitigation of tornado, station blackout, fire, flood, sabotage, and loss of Keowee Dam are included within this scope. (11/1/1990 Generic Letter 89-04 response - M. S. Tuckman to NRC) | **Revision 23**

The Appendix B components are tested in accordance with internal Duke Power procedures and requirements (per 10 CFR 50, Appendix B). The methods and acceptance criteria used to adequately test the components should use the criteria as specified by the IST program administrator. Deviations from the standard testing procedures will be allowed, if substantiated in writing per the methods outlined in the Attachments to this document. Relief Requests do not have to be generated for valves in the Appendix "B" Testing Program. (11/1/1990 Generic Letter 89-04 response - M. S. Tuckman to NRC) | **Revision 23**

The ONS Appendix B Program is administered the same as the IST Program. Where possible, Appendix B components are tested per the requirements of the IST Program using "A" procedures. If the requirements of the IST Program (IWP or OM Code) cannot be followed, relief requests need not be submitted to the NRC. Such deviations from Code 'recommendations' will be documented at the end of this appendix to the IST Program Document. | **Revision 23**

Supplemental Program Testing Deviations/Positions: | **Revision 23**

A.1 The Core Flood Tank A and B Discharge Isolation Valves (1CF-1, 2CF-1, 3CF-1, 1CF-2, 2CF-2, and 3CF-2) will be exercised at cold shutdown. Per ONS Technical Specifications, the electrical breakers for these valves are tagged open when the RCS pressure is above 800 psig.

A.2 The Condenser Discharge Valves (1CCW-20, 21, 22, 23, 24, 25; 2CCW-20, 21, 22, 23, 24, 25; and 3CCW-20, 21, 22, 23, 24, 25) will be exercised at cold shutdown. These valves cannot be stroked at power. Stroking these valves at power would place undue stress on the condenser expansion joints and necessitate a decrease in power output of the unit affected.

A.3 The Condenser Discharge Header Mid-Point Vents (1CCW-90, 2CCW-90, 2CCW-91, and 3CCW-91) will be exercised during refueling outages. These valves cannot be stroked when a CCW pump is running because of built-in electrical interlocks. | **Revision 23**

A.4 The Hydrogen Analyzer Sample Select Valves (1PR-71, 72, 73, 74, 75, 76, 77, 78, 79, 80; 2PR-71, 72, 73, 74, 75, 76, 77, 78, 79, 80; and 3PR-71, 72, 73, 74, 75, 76, 77, 78, 79, 80) will be stroked quarterly to assure functionality, but the valves will not be timed. These solenoid valves do not have an external indicator which signals a change of disk position. An air pressure change is used to verify a change of disk position.

A.5 Per Oconee's GL 89-04 response, Appendix B manual valves are only stroked at a refueling frequency. | **Revision 23**

Appendix B: Responsibilities

1.0 IST Coordinator:

The IST Coordinator position will be filled by a qualified individual knowledgeable of plant system operation. He/she ensures the site is in compliance by its performance testing and trending methods. The IST Coordinator will accomplish this by maintaining consistency among the System Engineers and overall program management.

The IST Coordinator may publish overall summary (in the form of an annual summary), on the current status of the site performance monitoring of the valves and pumps tested under the requirements of the IST or Appendix B program.

The IST Coordinator will be responsible for notifying Regulatory Compliance of any changes to the Valve and Pump Testing Program described in this directive, including changes to the data sheet information.

The IST Coordinator will be responsible for updating and maintaining the IST database.
| **Revision 23**

The IST Coordinator will be responsible for coordinating and implementing the program update and renewal per 10CFR50 every 10 years.

2.0 Mechanical Systems Engineering: | **Revision 23**

Each MSE is responsible for the following:

- ensuring the accuracy of IST dataset information,
- notifying IST coordinator of changes in calculations,
- defining test acceptance criteria (TAC),
- ensuring Code testing requirements are met,
- documenting reasons for scope or Code deviation,
- providing technical assistance for writing and reviewing test procedures,
- trending data,
- complete valve and pump data sheets for program revisions.

Each MSE is responsible for the components within their systems which are in the program. If the status of a component changes via the modification process the MSE is responsible for referencing the IST database as an affected document which will assure the IST program is properly revised. If the status of a component changes via the calculation or licensing (T.S. or FSAR) process the MSE is responsible for notifying the IST Coordinator to assure the IST database is properly revised.

3.0 Mechanical Equipment Engineering: | **Revision 23**

Each MCE is responsible for the following:

- notifying the IST Coordinator of maintenance that could affect the baseline data for any IST component,
- overall administration of the relief valve testing program (OM-10).
- administrating the check valve sample disassembly program,
- evaluating specific component problems/failures (why failed test, baseline changed, etc.,)

4.0 Operations Performance Test Group: | **Revision 23**

This group is responsible for the following:

- performing tests,
- accurately recording test results in procedure and database,
- notifying MSE of any testing problems,

- initiating a PIP when a test is failed or a problem is encountered,
- documenting test discrepancies on the procedure.

5.0 Operations Procedure Group

This group is responsible for the following:

- updating and maintaining all IST procedures,
- verifying all technical changes with the IST Coordinator and respective MSE.

| **Revision 23**

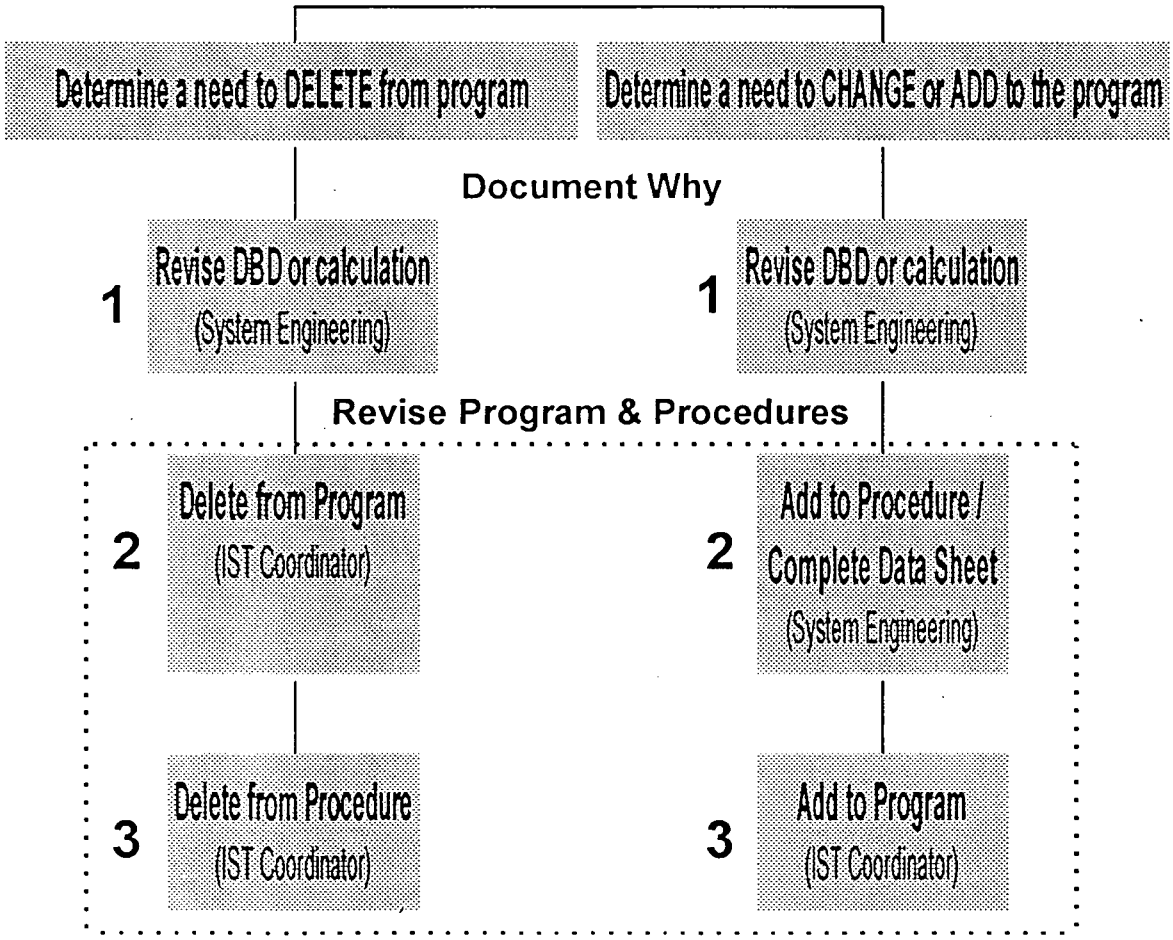
Appendix C: Notification of Program changes

The Mechanical System Engineer shall initiate program changes as changes are made to the respective system DBDs or active/passive valve calculations. Notification of external customers (e.g. Regulatory Compliance Group) of such changes to the program will occur by issuing a Minor Modification Request through the DBD revision process.

Enclosure 9.1

| Revision 23

Revising the Program



Notes:

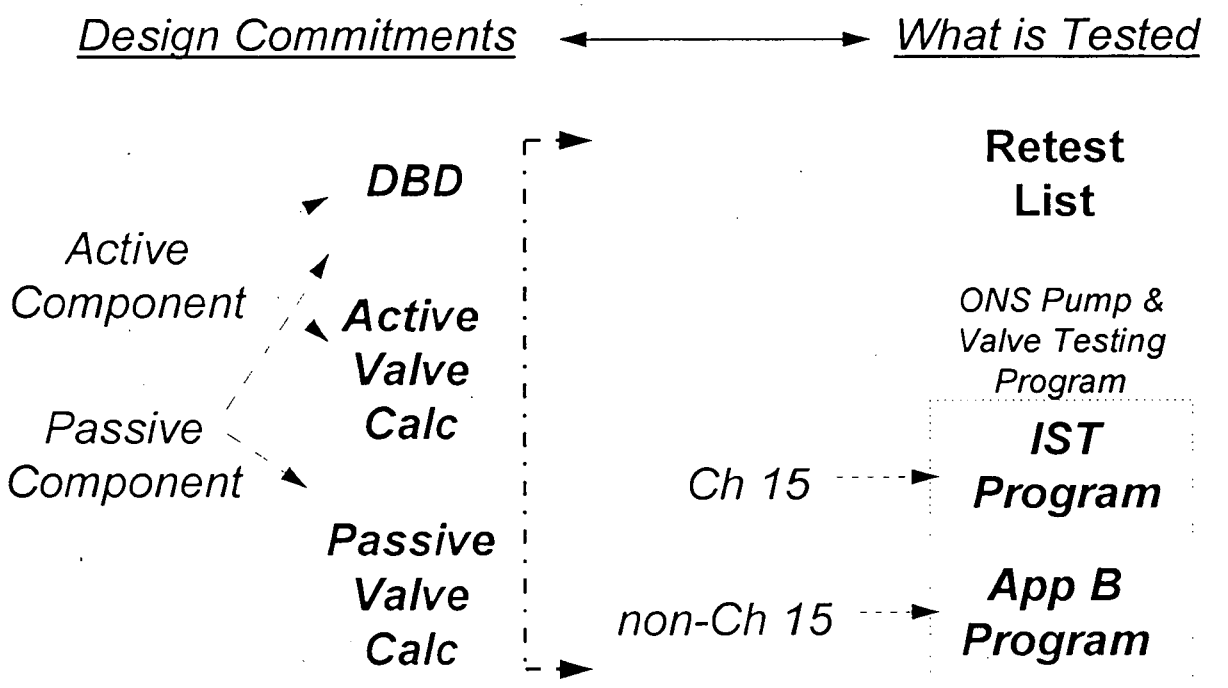
When changing the program by revising a DBD, appropriate groups are notified via the minor modification 535 review process. The IST database should be listed as an affected document.

When changing the program by revising a calculation (for systems that do not have DBDs), there is no programmatic method of informing station personnel of changes in the calculation like there is for a DBD. The person who revises the calculation is responsible for informing the appropriate station and engineering personnel of changes to the calculation and the need for subsequent changes to the test procedures and the program.

Enclosures 9.2, 9.3, and 9.4 are included to assist station personnel in documenting program changes for the IST Coordinator.

The following illustration emphasizes the ONS Pump and Valve Testing program philosophy for controlling what is included in the program. This shows why the particular method for changing the program, as discussed in Enclosure 9.1, was chosen (i.e. changing source documents prior to revising the testing program). Ultimately, the system Design Basis Documents, Active Valve Calculations and the Passive Valve Calculations serve as the program source documents. Any changes to design commitments as documented in these source documents can ultimately affect what or how a component is tested in the ONS Pump and Valve Testing Program.

The Big Picture



To ensure Code compliance for the ONS Pump and Valve Testing Program, the IST Coordinator should be notified of any of the following changes:

- changing the active/passive status of a component,
- changing the leakage requirements of the component,
- changing the piping classification of the component (Duke Class and ISI Class),
- something changes with how the component may be tested,
- a commitment is made or changed for testing or operation of a component,
- taking credit for a new function, flow path, etc.,

Enclosure 9.3

Valve Data Sheet

Revision **Addition** **Deletion**

Reason for change _____

Valve Number _____ **Description** _____

Valve Type BA BF CK DI EX GB GT

PG PR RV SC ST SV VB

Valve Size _____ **Actuator Type** AO HO MA ML MO MR PA SA SO

Flow Diagram _____ **Coordinate** _____

System Engineer PROFS ID _____

Containment Isolation Valve	Yes	No	**Generic Letter 89-10 Valve**	Yes No
Active Valve	Yes	No	**ESF Valve**	Yes No
Auxiliary Safe Guard Valve	Yes	No	**Skid Mounted Valve**	Yes No
Vent/Drain	Yes	No		

Valve Category A B C D (See OM-10 section 1.4)

ASME Class A B C N (non code class)

Required Accident Position	Open	Closed	Throttled	
Cold Shutdown Position	Open	Closed	Throttled	NA
Alternate Feedwater Path	Yes	No		

DBD Time OPEN	_____	**DBD Time CLOSED**	_____
TS Time OPEN	_____	**TS Time CLOSED**	_____
FSAR Time OPEN	_____	**FSAR Time CLOSED**	_____

Valve Test Type FS PS ST LJ LT

Test Direction OC CO BOTH

Test Frequency Q CSD RF

Test Procedure (1) _____

(2) _____

Enclosure 9.4
Pump Data Sheet

Revision **Addition** **Deletion**

Reason for Change_____

Pump(s):_____

Pump Information

ISI Class		A B C
Duke Class		A B C D F G
Pump Manufacturer	-	_____
Pump Type	-	_____
Pump BEP (Design Pt.)	-	_____ gpm _____ psi
Driver Manufacturer	-	_____
Driver Size	-	_____
OFD	-	_____ **Coor.** _____
ES Actuation Channels		1 2 3 4 5 6
Procedure No(s).:	-	_____
Accident Pump Flow	-	_____
Delta P Required	-	_____
Full Flow Requirement	-	_____
TAC Sheets	-	_____
Procedure No(s).:	-	_____
Test frequency		Q CSD RF

| **Revision 23**

Justification of Deferral

Item Number:

Valve:

Flow Diagram:

Code Category:

ISI Class/Duke Class:

Function:

Test Requirement:

Basis for Deferral:

Test Alternative & Frequency:

Specific Relief Request

Item Number:

Component:

Flow Diagram / Coordinates:

Function:

ISI Class/Duke Class:

Code Category:

Test Requirement:

Basis for Relief:

Alternate Testing:

Enclosure 9.8

System Piping Classification Correlation for ONS:

Duke System Piping Classification	(1) Safety Related	NRC Quality Group	Duke QA Condition	ANS (9) Safety Class	(6) Code Design Criteria	Seismic Pressure Boundary Integrity	Seismic Category	Normally Contains Radioactive Material
A	YES	A(2)	1	1(2)	Class 1, ANSI B31.7	YES	SC-1	YES
B	YES	B(2)	1	2(2)	Class 2, ANSI B31.7	YES	SC-1	YES
C	YES	C(2)	1	3(2)	Class 3, ANSI B 31.7	YES	SC-1	YES
D	NO	-	4	NNS(3)	ANSI B31.1.0	YES	SC-11(8)	NO
E	NO	D(4)	2(5)	NNS(3)	ANSI B31.1.0	NO	-	YES
F	YES	B,C	1	2,3	ANSI B31.1.0	YES	SC-1	NO
G	NO	-	-(5)	-	ANSI B31.1.0	NO	-	NO
H	NO	-	-(5)	-	Duke Power Specification	NO	-	NO
H (Duke HVAC Duct Classification)	YES	-	-(7)	-	Duke Power Specification	YES	SC-1	NO

NOTES:

(1) Safety Related as used herein is in accordance with 10CFR50 Appendix A General Design Criteria for Nuclear Power Plants and is applicable to function only; i.e., structures, systems, and components required to function such that the facility can be operated without undue risk to the health and safety of the public are safety related.

(2) Due to the evolution of requirements, Duke Classes A, B, and C for Oconee are similar but not exact to NRC Quality Group and ANS Safety Class definitions used for McGuire and Catawba, refer to Oconee FSAR for specifics.

(3) NNS = Non-Nuclear Safety

(4) Class E piping is equivalent to NRC Quality Group D; i.e., the system is designed to normally carry a radioactive fluid; however, is considered NNS as a component failure would not result in a calculated potential exposure in excess of the limits established by 10 CFR20.

(5) Class E, G, and H piping systems may also be assigned QA Condition 3 and/ or 4 to denote additional requirements for fire protection of safety related components and/ or seismic structural integrity (except pressure boundary) to preclude adverse interactions with safety related structures, systems and components, respectively; refer to Duke Nuclear Guide 1.29.

(6) Code and Standards Applicability: Duke Power Company establishes an "effective code date" in accordance with 10CFR50, par. 50.55a for Oconee Nuclear Site. Due to the numerous code and standards references applicable to each station, no attempt is made to specifically identify these references as they are amended, superseded, or substituted. Duke reviews and complies with all or portions of the latest versions of the above Codes and Standards unless materials and/ or design commitments have progressed to a stage that it is not practical to make a change. When only portions of addenda to Codes and Standards are utilized, the appropriate engineering review of the entire agenda assures that the overall intent of the Code Standard is still maintained. These codes and standards are identified in the Oconee Piping Installation Specification OS-243.00-00-00-0001.

(7) HVAC Duct Systems may be constructed of either sheet metal of piping materials depending upon the design function and requirements. Non-Safety Related HVAC may be assigned QA Condition 4, SC-11 Support Restraints to preclude adverse interactions with safety related structures, systems, and components. Refer to Duke Nuclear Guide 1.29.

(8) Class D for piping systems is used when pressure boundary protection is required. Seismic Category II hangers may be use on Class E, G, or H piping systems when pressure boundary integrity is not required. See Duke Guide 1.29.

(9) ANSI N18.2, 1973 with 1975 addenda.