TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

May 7, 1973

Mr. Norman C. Moseley, Director
Directorate of Regulatory Operations
U.S. Atomic Energy Commission
Region II - Suite 818
230 Peachtree Street, NW.
Atlanta, Georgia 30303

Dear Mr. Moseley:

This is in further response to DRO December 4, 1972, letter, RO:II:50-259, 50-260, 50-296, and 50-327, 50-328, on the subject of Limitorque valve operator failures.

Enclosed is a list, by system, of Browns Ferry unit 2 motor-operated valves showing those requiring corrective action to the torque switch torsion spring. The valves bearing the indication "later" are still in the procurement process; therefore, the operator information is not available. We will, however, assure that they have the correct operators.

We estimate the date for completion of corrective action to be October 1, 1973.

Very truly yours,

J. E. Gilleland

J. E. Gilleland
Assistant to the Manager of Power

Enclosure

8307080586 731116
PDR ADOCK 05000259
P PDR

50-259
260
296
327
328

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-1-55	[illegible]	SMB-000	333688H	[illegible]A	YES	NA	YES
FCV-1-56	[illegible]	SMB-000	333688G	[illegible]A	YES	NO	YES
FCV-1-57	47W400-10	SMB-00	335961A	111753	NO	NA	YES
FCV-1-58	47W400-10	SMB-00	335961A	111752	NO	NA	YES
FCV-1-59	47W400-6	SMB-000	335960A	110896	NO	NA	YES
FCV-1-121	47W400-5	SMB-00	335959A	111700	NO	NA	YES
FCV-1-125	47W400-1	SMB-000	3359[illegible]	[illegible]A	NO	NA	YES
FCV-1-129	47W400-5	SMB-00	335959A	11169[illegible]	NO	NA	YES
FCV-1-133	47W400-1	SMB-000	335949	93095A	NO	NA	YES
FCV-1-137	47W400-5	SMB-00	335959A	111698	NO	NA	YES
FCV-1-141	47W400-1	SMB-000	335949	93097A	NO	NA	YES
FCV-1-146	N1-MOV-82	SMB-00	347873A	119517	NO	NA	YES
FCV-1-149	N1-MOV-B	SMB-000	348768A	122555	NO	NA	YES
FCV-1-154	N1-MOV-86	SMB-00	347873A	119517	NO	NA	YES
FCV-1-155	47W400-22	SMB-000	362512A	150405	NO	NA	NO
FCV-1-156	47W400-22	SMB-000	362512A	150401	NO	NA	NO
FCV-1-168	47W400-22	SMB-000	362512A	150408	NO	NA	NO
FCV-1-169	47W400-22	SMB-000	362512A	150410	NO	NA	NO
FCV-1-170	47W400-22	SMB-000	362512A	150400	NO	NA	NO
FCV-1-171	47W400-22	SMB-000	362512A	150402	NO	NA	NO
FCV-1-172	47W400-22	SMB-000	362512A	150403	NO	NA	later
FCV-1-173	47W400-22	SMB-000	362512A	150404	NO	NA	later
FCV-1-176A	47W400-23				NO	NA	later
FCV-1-176B	47W400-23				NO	NA	later
FCV-1-145	————	SMB-0	347873B	119937	NO	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-1-1 through-20 ---- Instrument Tabulation

FCV-1-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED J.C. Key Jr. | RECOMMENDED [illegible] | APPROVED [illegible]

Knoxville [illegible] 67M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
LCV-2-4	47W420-120	SMB-0	342699A	111439	NO	NA	NA
LCV-2-7	47W420-115	SMB-0	342696A	110416	NO	NA	NA
FCV-2-31	47W420-21	SMB-00	336366A	111900	NO	NA	YES
FCV-2-35	47W420-21	SMB-00	336366A	111901	NO	NA	YES
FCV-2-36	47W420-21	SMB-00	336366A	111899	NO	NA	YES
FCV-2-41	47W420-21	SMB-00	336366A	111902	NO	NA	YES
FCV-2-72	47W420-6	SMB-1	336847	94999A	NO	NA	NA
FCV-2-83	47W420-6	SMB-1	345824A	112809	NO	NA	NA
FCV-2-84	47W420-6	SMB-1	336846	95220A	NO	NA	NA
FCV-2-95	47W420-6	SMB-1	336360A	9471[illegible]A	NO	NA	NA
FCV-2-96	47W420-6	SMB-1	336847	95000A	NO	NA	NA
FCV-2-108	47W420-6	SMB-1	345824A	112810	NO	NA	NA
FCV-2-109	[illegible]	SMB-000	342165A	107070	NO	NA	YES
FCV-2-124	47W420-5	SMB-1	336360A	94719A	NO	NA	NA
FCV-2-125	47W420-5	SMB-1	336365A	111191	NO	NA	NA
FCV-2-126	47W420-5	SMB-1	336365A	111190	NO	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-2-1 through-23 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville | 67 | M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL[illegible].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO. [illegible]	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-3-5	47W415-2	SMB-3	336233A	111898	NO	NA	NA
FCV-3-12	47W415-2	SMB-3	336235A	115788	NO	NA	NA
FCV-3-19	47W415-2	SMB-3	336233A	111897	NO	NA	NA
FCV-3-24	47W415-4	SMB-3	336825A	115789	NO	NA	NA
FCV-3-31	47W415-4	SMB-3	336233A	111896	NO	NA	NA
FCV-3-38	47W415-4	SMB-3	336234A	117567	NO	NA	NA
FCV-3-71	47W425-5	SMB-0	340054A	112799	NO	NA	NA
FCV-3-72	47W425-5	SMB-0	340054A	112797	NO	NA	NA
FCV-3-73	47W425-5	SMB-0	340054A	112798	NO	NA	NA
FCV-3-75	47W425-[illegible]	SMB-3	336294A	117566	NO	NA	NA
FCV-3-76	47W425-3	SMB-3	336234A	117565	NO	NA	NA
FCV-3-77	47W425-3	SMB-3	336825A	115790	NO	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-3-1 through-19 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 67 M 4 47A358-

VALVE TAG NO.	TVA MARK NO. OR GE MPL[illegible].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-5-5	47W410-5	SMB-0	336362A	113098	NO	NA	NA
FCV-5-9	47W410-5	SMB-0	336362A	113099	NO	NA	NA
FCV-5-13	47W410-5	SMB-0	336362A	113100	NO	NA	NA
FCV-5-17	47W410-10	SMB-00	336358A	94091A	NO	NA	YES
FCV-5-21	47W410-10	SMB-00	336358A	94093A	NO	NA	YES
FCV-5-25	47W410-10	SMB-00	336368A	111903	NO	NA	YES
FCV-5-38	47W410-15	SMB-1	336364A	111187	NO	NA	NA
FCV-5-51	47W410-15	SMB-1	336364A	111189	NO	NA	NA
FCV-5-64	47W410-15	SMB-1	[illegible]64A	111188	NO	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-5-1 through-6 ---- Instrument Tabulation

ECN M-209

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville | 67 | M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL [redacted].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO. [redacted]	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-6-63	47W425-6	SMB-000	344636A	111507	NO	NA	YES
FCV-6-74	47W425-6	SMB-000	344636A	111505	NO	NA	YES
FCV-6-85	47W425-6	SMB-000	344635B	112802	NO	NA	YES
FCV-6-94	47W425-18	SMB-00	341389A	111432	NO	NA	YES
FCV-6-95	47W425-18	SMB-00	341389A	111434	NO	NA	YES
FCV-6-96	47W425-18	SMB-00	341389A	111433	NO	NA	YES
FCV-6-97	47W425-14	SMB-00	341387A	111907	NO	NA	YES
FCV-6-98	47W425-14	SMB-00	341392A	111280	NO	NA	YES
FCV-6-99	47W425-14	SMB-00	341392A	111281	NO	NA	YES
FCV-6-100	MOV-SV1	SMB-000	342324A	109047	NO	NA	YES
FCV-6-101	MOV-SV3	SMB-000	342324A	109048	NO	NA	YES
FCV-6-102	MOV-SV5	SMB-000	342324A	109049	NO	NA	YES
FCV-6-103	MOV-SV7	SMB-000	342324A	109050	NO	NA	YES
FCV-6-104	MOV-CV1	SMB-000	343162A	109077	NO	NA	YES
FCV-6-105	MOV-CV3	SMB-000	343162A	109078	NO	NA	YES
FCV-6-106	MOV-CV5	SMB-000	343162A	109079	NO	NA	YES
FCV-6-107	MOV-CV7	SMB-000	343162A	109080	NO	NA	YES
FCV-6-109	MOV-S4	SMB-000	353566A	131050	NO	NA	YES
FCV-6-111	47W425-90	SMB-000	346560A	116251	NO	NA	YES
FCV-6-112	47W425-90	SMB-000	346560A	116252	NO	NA	YES
FCV-6-113	47W425-85	SMB-000	345163A	111510	NO	NA	YES
FCV-6-114	47W425-85	SMB-000	346560A	116259	NO	NA	YES
FCV-6-115	47W425-93	SMB-000	346560B	119952	NO	NA	YES
FCV-6-116	47W425-94	SMB-000	346560B	119954	NO	NA	YES
FCV-6-120	47W425-91	SMB-000	346560A	116245	NO	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-6-1 through-17 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

Knoxville 67M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL[redacted].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO. [redacted]	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-6-121	47W425-91	SMB-000	346560A	116770	NO	NA	YES
FCV-6-122	47W425-86	SMB-000	346560A	116250	NO	NA	YES
FCV-6-123	47W425-86	SMB-000	346560A	116271	NO	NA	YES
FCV-6-124	47W425-89	SMB-000	346560B	119951	NO	NA	YES
FCV-6-125	47W425-91	SMB-000	346560A	116299	NO	NA	YES
FCV-6-126	47W425-91	SMB-000	346560A	116291	NO	NA	YES
FCV-6-127	47W425-86	SMB-000	346560A	116275	NO	NA	YES
FCV-6-128	47W425-86	SMB-000	346562A	116289	NO	NA	YES
FCV-6-129	47W425-89	SMB-000	346560B	119955	NO	NA	YES
FCV-6-130	47W425-91	SMB-000	346560A	116298	NO	NA	YES
FCV-6-131	47W425-91	SMB-000	346560A	116286	NO	NA	YES
FCV-6-132	47W425-86	SMB-000	346560A	116247	NO	NA	YES
FCV-6-133	47W425-86	SMB-000	346560A	116292	NO	NA	YES
FCV-6-134	47W425-89	SMB-000	347817A	117676	NO	NA	YES
FCV-6-153	47W425-87	SMB-000	346560B	119999	NO	NA	YES
FCV-6-154	47W425-91	SMB-00	346560A	116294	NO	NA	YES
FCV-6-155	47W425-87	SMB-000	346560B	119953	NO	NA	YES
FCV-6-156	47W425-91	SMB-000	346560A	116293	NO	NA	YES
FCV-6-157	47W425-87	SMB-000	346560B	119950	NO	NA	YES
FCV-6-158	47W425-91	SMB-000	346560A	116296	NO	NA	YES
FCV-6-167	47W425-86	SMB-000	346560A	116264	NO	NA	YES
FCV-6-170	47W425-6	SMB-000	344635B	112801	NO	NA	YES
FCV-6-172	47W425-6	SMB-000	344635B	112803	NO	NA	YES
FCV-6-174	47W425-6	SMB-000	344635A	112102	NO	NA	YES

*Remove torque switch from opening circuit.

ECN M-203

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville | 67M 4 47A366-

VALVE TAG NO.	TVA MARK NO. OR GE MPL[illegible].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO. [illegible]	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-12-3	47M404-25	SMB-000	345163A	111510	NO	NA	YES
FCV-12-5	47M404-25	SMB-000	345163A	111509	NO	NA	YES
FCV-12-70	47M404-200				NO	NA	Later
FCV-12-72	47M404-200				NO	NA	Later
FCV-12-74	47M404-201				NO	NA	Later
FCV-12-75	47M404-201				NO	NA	Later

*Remove torque switch from opening circuit.

Reference Drawings:
[illegible] through -5 ---- Instrument Installation

ECN M-209

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

DRAWN | RECOMMENDED | APPROVED

Knoxville [illegible] 67M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-23-34	GE-10-89A	SMB-2	332194I	87003A	YES	NA	NA
FCV-23-40	GE-10-89C	SMB-2	332194J	87215A	YES	NA	NA
FCV-23-46	GE-10-89B	SMB-2	332194I	87001A	YES	NA	NA
FCV-23-52	GE-10-89D	SMB-2	332194J	87216A	YES	NA	NA
FCV-23-57	GE-10-169	SMB-00	335954A	111742	YES	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings
47W601-23-1 through 8 ---- Instrument [illegible]

ECN M-203

DSGN | DRWN HAPS | CHKD RGC | TRCD | COMP | SUPV RGC | WSP

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville [illegible]-73 | 57 | M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL .	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-24-25	47W447-100	TELEDYNE MOTOR OPERATOR			NA	NA	NA
FCV-24-41	47W447-101	TELEDYNE MOTOR OPERATOR			NA	NA	NA
FCV-24-57	47W447-102	TELEDYNE MOTOR OPERATOR			NA	NA	NA
FCV-24-65	47W447-101	TELEDYNE MOTOR OPERATOR			NA	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-24-1 through -16 ---- Instrument Tabulation

ECN M 235

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 57M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-27-17	————	SMB-2	328194A	81875A	NO	NA	NA
FCV-27-21	————	SMB-2	328194A	81876A	NO	NA	NA
FCV-27-29	————	SMB-2	328194A	81877A	NO	NA	NA
FCV-27-30	47W300-450	SMB-000	349800A	1234824	NO	NA	YES
FCV-27-31	47W486-25	SMB-00	328194B	80981A	NO	NA	NO
FCV-27-38	47W486-25	SMB-00	328194B	80969A	NO	NA	NO
FCV-27-39	47W486-25	SMB-00	328194B	80962A	NO	NA	NO
FCV-27-46	47W486-25	SMB-00	328194B	80973A	NO	NA	NO
FCV-27-47	47W496-25	SMB-00	328194B	80963A	NO	NA	NO
FCV-27-54	47W486-25	SMB-00	328194B	80984A	NO	NA	NO
FCV-27-55	47W486-25	SMB-00	328194B	[illegible]	NO	NA	NO
FCV-27-62	47W486-25	SMB-00	328194B	80964A	NO	NA	NO
FCV-27-63	47W486-25	SMB-00	328194B	[illegible]	NO	NA	NO
FCV-27-70	47W486-25	SMB-00	328194B	80966A	NO	NA	NO
FCV-27-71	47W486-25	SMB-00	328194B	80965A	NO	NA	NO
FCV-27-78	47W486-25	SMB-00	328194B	80972A	NO	NA	NO
FCV-27-100	37W205-334	TELEDYNE MOTOR OPERATOR			NA	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-27-1 through -10 ---- Instrument Tabulation

FCN M-203

POWERHOUSE - YARD - PUMPING STA
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 67 M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-66-2	47W405-5	SMB-000	338460A	100643	NO	NA	YES
FCV-66-3	47W405-5	SMB-000	338460A	100924	NO	NA	YES
FCV-66-4	47W405-5	SMB-000	338460A	101226	NO	NA	YES
FCV-66-5	47W405-5	SMB-000	338460A	100644	NO	NA	YES
FCV-66-6	47W405-5	SMB-00	338460A	100922	NO	NA	YES
FCV-66-7	47W405-5	SMB-000	338460A	100926	NO	NA	YES
FCV 66-10	47W405-1	SMB-000	337751A	99136A	NO	NA	YES
FCV-66-34	MOV-D1	SMB-000	338460A	130706	NO	NA	YES
FCV-66-35	MOV-D2	SMB-000	338460A	130707A	NO	NA	YES
FCV-66-36	47W405-6	SMB-000	338468A	99134A	NO	NA	YES
FCV-66-1A	[illegible]	SMB-00	341266A	111910	NO	NA	YES
FCV-66-1B	[illegible]	SMB-00	341266A	111909	NO	NA	YES
FCV-66-40	47W405-6	SMB-000	338468B	[illegible]	NO	NA	YES
FCV-66-72	47W405-55	SMB-0	369825		NO	NA	NA
FCV-66-70	47W405-50	SMB-1	369824		NO	NA	NA
FCV-66-85	47W405-55	SMB-0	369825		NO	NA	NA
FCV-66-91	47W405-50	SMB-1	369824		NO	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-66-1 through -6 ---- Instrument Tabulation

ECN NO 208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville [illegible] 67 M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL [illegible].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-67-21	47W451-5	SMB-000	347414A	117763	NO	NA	YES
FCV-67-22	47W451-5	SMB-000	347414A	117760	NO	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-67-1 through -6 ---- Instrument Tabulation

ECN M-208

DSGN NMS
DRWN RGC
SUPV RGC

POWERHOUSE AND PUMPING STA
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 3-31-75 | 67M | 4 | 47A368-

NO.	OR GE MPL NO.	TYPE & SIZE	TORQUE ORDER NO.	SERIAL NO.	OPENING CIRCUIT *	TORQUE SWITCH IN CLOSING CIRCUIT	SWITCH TORSION SPRING CHANGE
FCV-68-1	GE-2-43A	SMB-2	329731G1	121366	NO	NA	NA
FCV-68-3	GE-2-53A	SMB-3	[illegible]	127703	NO	NA	NA
FCV-68-4	GE-2-54A	SMB-000	329731G4	120761	NO	NA	YES
FCV-68-33	GE-2-65B	SMB-2	329731F3	119464	NO	NA	NA
FCV-68-34	GE-2-66B	SMB-000	329731G5	121260	NO	NA	YES
FCV-68-35	GE-2-65A	SMB-2	329731F3	119465	NO	NA	NA
FCV-68-36	GE-2-66A	SMB-000	329731G5	121261	NO	NA	YES
FCV-68-77	GE-2-43B	SMB-2	329731G1	121867	NO	NA	NA
FCV-68-79	GE-2-53B	SMB-3	329731F2	120686	NO	NA	NA
FCV-68-80	GE-2-54B	SMB-000	329731E4	101853	NO	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings:

47B601-68-1 through -14 ---- Instrument Tabulation

ECN M-283

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville | 67M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL[illegible].	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
CV-69-1	GE-12-15	SMB-0	333688C	95210A	YES	NA	NA
FCV-69-2	GE-12-18	SMB-0	333688B	94872A	YES	NO	NA
FCV-69-8	GE-12-74	SMB-00	333688E	94123A	NO	NA	YES
FCV-69-12	GE-12-63	SMB-00	333688E	94125A	YES	NA	YES
FCV-69-14	GE-12-53	SMB-00	333688F	94170A	NO	NA	YES
FCV-69-16	GE-12-56	SMB-00	333688D	94095A	NO	NA	YES
FCV-69-17	GE-12-57	SMB-00	333688D	94098A	NO	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-69-1 through -9 ---- Instrument Tabulation

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville | 67 | M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-70-47	GE-50-87	SMB-000	358105A	139872	NO	NA	YES
FCV-70-48	47N464-1	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-70-67	47N464-1	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-70-68	47N464-1	ROTORK MOTOR OPERATOR			NA	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
473601-70-1 through -8 ---- Instrument Tabulation

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville 67 M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-71-2	GE-13-15	SMB-00	332215F	85223A	YES	NA	NO
FCV-71-3	GE-13-16	SMB-00	332215C	86086A	YES	NO	NO
FCV-71-8	GE-13-131	SMB-0	337182A	96819A	YES	NO	NA
FCV-71-9		SMB-000	330732A	81556A	NO	NO	NO
FCV-71-17	GE-13-41	SMB-00	332215E	85220A	YES	NO	NO
FCV-71-18	GE-13-39	SMB-00	332215E	85219A	YES	NO	NO
FCV-71-19	GE-13-18	SMB-00	332215A	85217A	YES	NO	NO
FCV-71-25	47W456-301	SMB-000	345791A	115291	YES	NO	YES
FCV-71-37	GE-13-20	SMB-1	332215G	86395A	YES	NO	NA
FCV-71-38	GE-13-30	SMB-1	332215B	87192A	YES	NO	NA
FCV-71-39	GE-13-21	SMB-1	332215G	86394A	YES	NO	NA
FCV-71-34	47W456-301	SMB-000	345791A	115293	YES	NO	YES

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-71-1 through -6 ---- Instrument Tabulation

ECN M-598

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville | 67 | M | 4 | 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-73-2	GE-23-15	SMB-2	329945B	80659A	YES	NA	NA
FCV-73-3	GE-23-16	SMB-2	329946A	86715A	YES	NO	NA
FCV-73-16	GE-23-14	SMB-2	329945A	80657A	YES	NO	NA
FCV-73-26	GE-23-58	SMB-0	329946E	91407A	YES	NO	NA
FCV-73-27	GE-23-57	SMB-0	329946F	91406A	YES	NO	NA
FCV-73-30	47W455-405	SMB-0	33966A	116008	YES	NO	NA
FCV-73-34	GE-23-20	SMB-4T	329946D	92393A	YES	NO	NA
FCV-73-35	GE-23-21	SMB-4T	336716B	96057A	YES	NO	NA
FCV-73-36	GE-23-24	SMB-2	333688A	95417A	YES	NO	NA
FCV-73-40	GE-23-[illegible]	SMB-0	329946C	86664A	YES	NO	NA
FCV-73-44	GE-23-19	SMB-4T	329946D	92392A	YES	NO	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-73-1 through -7 ---- Instrument Tabulation

ECN M-103

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville 67 M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-74-1	GE-10-13A	SMB-1	332194G	86225A	YES	NA	NA
FCV-74-2	47W452-413	SMB-0	335956A	113003	YES	NA	NA
FCV-74-[illegible]	47W452-410	SMB-000	335964A	11695	YES	NA	YES
FCV-74-12	GE-10-13C	SMB-1	332194G	86224A	YES	NA	NA
FCV-74-13	47W452-415	SMB-0	335956A	113001	YES	NA	NA
FCV-74-24	GE-10-13[illegible]	SMB-1	332194G	86220A	YES	NA	NA
FCV-74-2[illegible]	47W452-413	SMB-0	335956A	113004	YES	NA	NA
FCV-74-30	47W452-4[illegible]	SMB-000	335955A	111430	YES	NA	YES
FCV-74-[illegible]	GE-10-13D	SMB-1	332194G	86219A	YES	NA	NA
FCV-74-36	47W452-415	SMB-0	335956A	113002	YES	NA	NA
FCV-74-46	47W452-405	SMB-2	335962A	119524	YES	NA	NA
FCV-74-47	GE-10-17	SMB-3	332194F	90610A	YES	YES	NA
FCV-74-48	GE-10-18	SMB-2	332194E	89025A	YES	NA	NA
FCV-74-52	GE-10-154A	SMB-5	332543K	94155A	YES	NA	NA
FCV-74-53	GE-10-25A	SMB-4	332194H	92552A	YES	NA	NA
FCV-74-57	GE-10-39A	SMB-2	332194D	85632A	YES	NA	NA
FCV-74-58	GE-10-38A	SMB-00	357504A	138767	YES	NA	YES
FCV-74-59	GE-10-34A	SMB-2	332194I	87005A	YES	NA	NA
FCV-74-60	GE-10-2[illegible]A	SMB-2	332194C	85935A	YES	NA	NA
FCV-74-61	GE-10-31A	SMB-2	332194C	85933A	YES	NA	NA
FCV-74-62	45W452-414	SMB-00	347702A	124342	NO	NA	YES
FCV-70-63	47W452-414	SMB-00	347703A	124344	NO	NA	YES
FCV-74-66	GE-10-154B	SMB-5	332194K	94154A	YES	NA	NA
FCV-74-67	GE-10-25B	SMB-4	332194H	92553A	YES	NA	NA
FCV-74-71	GE-10-39B	SMB-2	332194D	85631A	YES	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-74-1 through -14 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville [illegible] 57 M 4 47A368-[illegible]

VALVE TAG NO.	TVA MARK NO. OR GE MH[illegible]NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-74-72	GE-10-33B	SMB-00	357504A	138766	YES	NA	YES
FCV-74-73	GE-10-34B	SMB-2	332194I	87000A	YES	NA	NA
FCV-74-74	GE-10-26B	SMB-2	332194C	85939A	YES	NA	NA
FCV-74-75	GE-10-31B	SMB-2	332194C	85940A	YES	NA	NA
FCV-74-77	GE-10-33	SMB-00	332194A	85787A	YES	NO	NO
FCV-74-78	GE-10-32	SMB-00	332194B	85656A	YES	NA	NO
FCV-74-96	47N452-403	SMB-00	347694A	124336	YES	NA	YES
FCV-74-97	47N452-403	SMB-00	347694A	124338	YES	NA	YES
FCV-74-98	47N452-403	SMB-00	347694A	124339	YES	NA	YES
FCV-74-99	47N452-403	SMB-00	347696A	125218	YES	NA	YES
FCV-74-100	47N452-407	SMB-00	335954A	111743	YES	NA	YES
FCV-74-101	47N452-407	SMB-00	335963A	119106	YES	NA	YES
FCV-74-104	47N452-412	SMB-00	347704A	124346	NO	NA	YES
FCV-74-105	47N452-4[illegible]	SMB-00	347704A	124347	NO	NA	YES
FCV-74-106	47N452-424	SMB-0	347699A	124406	NO	NO	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-74-1 through -14 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville 67M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-75-2	GE-14-7A	SMB-0	332215H	86214A	YES	NA	NA
FCV-75-[illegible]	GE-14-68A	SMB-00	345878A	114988	YES	NA	YES
FCV-75-11	GE-14-7C	SMB-0	332215H	86215A	YES	NA	NA
FCV-75-22	GE-14-26A	SMB-2	330639B	83034A	YES	NA	NA
FCV-75-23	GE-14-11A	SMB-2	330639A	83167A	YES	NA	NA
FCV-75-25	GE-14-12A	SMB-2	330639A	83176A	YES	NA	NA
FCV-75-30	GE-14-7B	SMB-0	335902A	93864A	YES	NA	NA
FCV-75-37	GE-14-68B	SMB-00	345878A	114986	YES	NA	YES
FCV-75-39	GE-14-7D	SMB-0	335902A	93863A	YES	NA	NA
FCV-75-50	GE-14-26B	SMB-2	330639B	83031A	YES	NA	NA
FCV-75-51	GE-14-11B	SMB-2	330639A	83169A	YES	NA	NA
FCV-75-53	GE-14-12B	SMB-2	330639A	83172A	YES	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-75-1 through -6 ---- Instrument Tabulation

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 67M 4 47A368- -

ECN M-208

DSGN — DRWN HMS — CHKD RGC — SUPV RGC

VALVE TAG NO.	TVA MARK NO. OR GE MPI NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-78-61	47N454-56A	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-62	47N454-12	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-63	47N454-45A	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-64	47N454-46	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-65	47N454-37A	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-66	47N454-40	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-67	47N454-15A	ROTORK MOTOR OPERATOR			NA	NA	NA
FCV-78-68	47N454-16	ROTORK MOTOR OPERATOR			NA	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-78-1 through -6 ---- Instrument Tabulation

ECN 11-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED | RECOMMENDED | APPROVED

Knoxville 4-30-75 67M 4 47A358-

VALVE TAG NO.	TVA MARK NO. OR GE MPL NO.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-85-23	GE-3-20	SMB-000	331261A	84515A	NO	NA	NO
FCV-85-27	GE-3-22	SMB-000	331261A	84515A	NO	NA	NO
FCV-85-50	GE-3-109	SMB-00	337950A	100849	NO	NA	YES

*Remove torque switch from opening circuit.

Reference Drawings:
47B601-85-1 through -15 ---- Instrument Tabulation

ECN M-208

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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Knoxville | 67M 4 47A368-

VALVE TAG NO.	TVA MARK NO. OR GE MP[illegible]O.	OPERATOR TYPE & SIZE	LIMI-TORQUE ORDER NO.	OPERATOR SERIAL NO.	MODIFY OPENING CIRCUIT *	MODIFY TORQUE SWITCH IN CLOSING CIRCUIT	TORQUE SWITCH TORSION SPRING CHANGE
FCV-90-146A	Part of Dwg 25-39	ATKOMATIC VALVE			NA	NA	NA
FCV-90-153		HONEYWELL VALVE			NA	NA	NA
FCV-90-254A	GE-16-20-72A	RAMCO VALVE			NA	NA	NA
FCV-90-254B	GE-16-20-72B	RAMCO VALVE			NA	NA	NA
FCV-90-255	GE-16-20-72[illegible]	RAMCO VALVE			NA	NA	NA
FCV-90-257A	GE-16-20-72[illegible]	RAMCO VALVE			NA	NA	NA
FCV-90-257B	GE-16-20-72[illegible]	RAMCO VALVE			NA	NA	NA

*Remove torque switch from opening circuit.

Reference Drawings:
473601-90-1 through -32 ---- Instrument Tabulation

ECN M-203

DSGN
DRWN HAMS
CHKD RGC
SUPV RGC

POWERHOUSE
UNIT 2

MECHANICAL
VALVE MOTOR OPERATOR
TABULATION

BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

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