Nebraska Public Power District

NEBRASKA PUBLIC POWER DISTRICT
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GUY R. HORN
Vice-President, Nuclear
(402) 563-5518

NLS950006
January 8, 1995

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Request for Schedule Extension; Generic Letter 89-10 Activities
Cooper Nuclear Station
NRC Docket 50-298, DPR-46

Reference:
1) Letter (No. NLS940149) to U.S. NRC Document Control Desk from G. R. Horn (Nebraska Public Power District) dated December 31, 1994; Subject: Generic Letter 89-10 Testing Schedule
2) Generic Letter 89-10, Supplement 6, "Information on Scheduling and Grouping, and Staff Responses to Additional Public Comments"
3) Letter (No. NLS8900469) to U.S. NRC Document Control Desk from L. G. Kuncl (Nebraska Public Power District) dated December 28, 1989; Subject: Response to Generic Letter 89-10

Gentlemen:

The Nebraska Public Power District (District) hereby submits its justification to extend the completion of the initial testing portion of the Generic Letter (GL) 89-10 Motor Operated Valve (MOV) program at Cooper Nuclear Station (CNS). The proposed schedule would extend the original completion date for the initial testing portion of the program from January 1, 1995, to 120 days following completion of the next refueling outage, currently scheduled to commence October 1995. Completion within 120 days after the refueling outage will allow a sufficient period of time for the finalization of the GL 89-10 supporting documents without a significant impact on health and safety. In order to support startup from the current outage, the District requests prompt NRC review of this request.

As discussed in Reference 1, the District is submitting this extension request in accordance with the information requirements of Generic Letter (GL) 89-10, Supplement 6 (Reference 2). The District is requesting this extension as a result of several events which have resulted in a shift in the schedule for the next refueling outage (RE-16). In Reference 3, the District originally projected the completion of the CNS GL 89-10 MOV program to coincide with

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the end to refueling outage number 16 (RE-16), planned on or about January 1, 1995. Since the original schedule was developed, CNS experienced a longer than expected 1993 refueling outage (RE-15). On May 25, 1994, CNS entered an unplanned shutdown which did not involve offload of the reactor fuel. This outage has involved a significant amount of unplanned high priority work.

The attachments to this letter provide the information needed to evaluate the District's justification for extending the GL 89-10 testing schedule. The attached information follows the format recommended in Supplement 6 to GL 89-10. The information is presented in three attachments.

Attachment I provides the status of GL 89-10 MOV testing as of January 1, 1995. Significant additional work will be completed prior to startup from the current outage. Therefore, the information presented in Attachment II, in response to Supplement 6, Section 2, will only pertain to valves not dynamically tested as of January 1, 1995. Attachment III provides a brief overview of the PSA ranking process. The NRC staff should note that the information provided in the submittal supersedes the information provided by the District in response to GL89-10, Supplement 3.

During initial program planning, GL 89-10 MOVs at CNS were divided into three groups in order to implement the testing during three outages. Testing during the first two outages, RE-14 and RE-15, focused on valves in high pressure or high flow systems. The systems scheduled for RE-16 include several MOVs that are operated at or near design basis conditions and in generally less severe conditions during normal plant operations.

As of January 1, 1995, the work remaining in response to Generic Letter 89-10 represents a small portion of the total MOV activities undertaken at CNS. Modification work is planned to be completed prior to startup from the current outage, as delineated in Table 1 of the attachments. At the time of startup, all of the valves within the CNS GL 89-10 testing program will be reviewed against current industry information (e.g. vendor notices, Customer Service Bulletins, NRC information Notices and Part 21 Notices), set up with the best available plant data, and retested if necessary.

Based on the best available information, which is summarized in this letter and its attachments, the District has reasonable assurance that all MOVs, including those not dynamically tested by the conclusion of the current outage, will function under design basis conditions. The information provided in this submittal supports the requested schedule extension.

If you have any questions or require additional information, please contact me.

Sincerely,

G. R. Horn
Vice President - Nuclear

GRH/dnm
Attachments

cc: Regional Administrator
USNRC Region IV

NRC Resident Inspector
Cooper Nuclear Station

NPG Distribution

STATE OF NEBRASKA)
)ss
PLATTE COUNTY)

G. R. Horn, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this request on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

G. R. Horn

Subscribed in my presence and sworn to before me this

8th day of January, 1995.

GENERAL NOTARY-State of Nebraska
CAROLYN M. LANGAN
My Comm. Exp. Aug. 21, 1995

NOTARY PUBLIC

Generic Letter 89-10 Supplement 6
Justification for Schedule Extension

Supplement 6, Section 1 Information; Completion Status of GL 89-10 Program at CNS

Program Overview

As of January 1, 1995 the status of actions regarding GL 89-10 at the Cooper Nuclear Station is presented in the following section and Table 1. This information is presented in accordance with Supplement 6 to Generic Letter 89-10.

By applying specific selection and exclusion criteria, as identified in GL 89-10 and its supplements, the population determined by the District to be within the GL 89-10 program consists of 82 motor-operated valves.

An overview of the current status of the GL 89-10 program at CNS is presented below:

-	Total MOVs in the program		82
-	Design review completed		82
-	Static testing	Total Required	82
	Completed as of 01/01/95		52
	Total completed by plant startup		82
-	Dynamic Testing	Total Required	52
	Completed as of 01/01/95		33
	Total to be completed by plant startup		35
	Completed by the end of RE-16		52

As the above summary indicates, the current CNS MOV GL89-10 Program calls for dynamic testing (DP testing) of 52 valves out of the 82 total GL 89-10 MOVs. To date 33 MOVs have been DP tested, with 19 initial DP tests remaining to be performed (Four previously performed DP tests will require retests). All of the 82 MOVs have been ranked according to the relative risk significance in accordance with the methodology described in Table 3. Of these 23 remaining tests, four involve MOVs having a "High" PSA ranking and four have a "Medium" ranking. Two of the "High" PSA ranked MOVs will be DP tested prior to restart from the current outage. The two remaining "High" ranked MOVs are globe valves which are required to open and are flow assisted in the open direction. These two "High" ranking MOVs and the four MOVs with "Medium" rankings are judged to have sufficient margin to provide confidence regarding their operability.

The approach used in the Probabilistic Safety Assessment (PSA) risk ranking is described in Table 3.

Calculational Methodology Overview

Detailed procedures addressing calculational methodologies used in the design-basis calculations, as well as in MOV capability/switch setting calculations, are contained in approved procedures.

Wedge type gate valves are set up using an industry accepted valve factor of 0.5, unless dynamic testing results on a specific valve justifies use of a lower valve factor. Globe valves are set up using an industry accepted valve factor of 1.1. Where applicable, these valve factors are verified during analysis of differential pressure (DP) testing.

The CNS calculational methodology addresses known uncertainties using the best information available, and include:

- Rate of loading effects . . . . 5 - 10%
- Stem lubricant degradation 5%
- Torque switch repeatability . . . . 5 - 20%
- Springpack relaxation (where applicable) . . . . 4% (Typ)
- Appropriate test equipment errors . . . . 9 - 18% (Typ)

Comprehensive information for each of the program MOVs is presented in Table 1, Cooper Nuclear Station GL 89-10 MOV Information. Those valves for which static testing is incomplete at this time will be statically tested by plant startup.

Table 1

CNS GL 89-10 Supplement 6 Response

G.L. 89-10 Motor Operated Valve Status Information as of Jan. 1, 1995

CIC No.	Valve		Actuator		Type of Closure Control	MEDP		Stem Friction Factor	Valve Factor	Safety Direction	Testing Status (Static/DP)	% of MEDP Tested		Open Available Valve Factor		Close Available Valve Factor	
	Type	Size	Type	Size		Open	Closed					Open	Closed	Motor	Max CST	Motor	Max CST
CS-MO5A	Gate	3"	SMB	00-5	Torque	385	379	0.2	0.5	Both	2-Both	88.2	89.6	1.33	1.31	1.55	1.18
CS-MO5B	Gate	3"	SMB	00-5	Torque	385	379	0.2	0.5	Both	Both	97.3	98.8	1.33	1.31	1.55	1.18
CS-MO7A	Gate	14"	SB	0-25	Torque	6	38	0.2	0.5	Close	Δ Both	1,680.0	265.26	11.02	10.59	2.17	1.65
CS-MO7B	Gate	14"	SB	0-25	Torque	6	38	0.2	0.5	Close	Δ Both	1,300.0	205.26	10.96	10.59	2.15	1.65
CS-MO12A	Gate	10"	SB	2-40	Torque	454	350	0.2	0.5	Both	Δ Both	105.7	--	0.59	0.54	0.82	0.82
CS-MO12B	Gate	10"	SB	2-40	Torque	454	350	0.2	0.5	Both	Static	--	--	0.55	0.55	0.86	0.86
HPCI-MO14	Gate	10"	SB	1-60	Torque	1091	0	0.15	0.43	Open	3-Both	84.78	--	0.50	0.50	--	--
HPCI-MO15	Gate	10"	SMB	1-25	Torque	1091	161	0.2	0.43	Close	Static	--	--	0.64	0.53	4.86	3.21
HPCI-MO15 (H)	Gate	10"	SMB	1-25	Torque	--	1091	0.2	0.5	Close	Static	--	--	--	--	0.78	0.78
HPCI-MO16	Gate	10"	SMB	1-40	Torque	1091	161	0.15	0.43	Close	3-Static	--	--	0.73	0.62	3.11	3.11
HPCI-MO16 (H)	Gate	10"	SMB	1-40	Torque	--	1091	0.15	0.5	Close	3-Static	--	--	--	--	0.61	0.61
HPCI-MO17	Gate	16"	SMB	00-15	Torque	15	9	0.2	0.5	Close	Δ Both	26.22	67.63	5.80	3.18	9.62	5.26
HPCI-MO19	Gate	14"	SB	3-150	Torque	1164	1164	0.2	0.5	Open	3-Static	--	--	0.57	0.57	0.59	0.52
HPCI-MO25	Globe	4"	SB	1-40	Torque	1300	1300	0.2	1.1	Both	3-Static	--	--	2.30	1.85	1.88	1.54
HPCI-MO58	Gate	16"	SMB	00-15	Torque	98	38	0.2	0.48	Open	4-Both	100.0	--	0.9	0.5	2.27	1.24
MS-MO74	Gate	3"	SMB	000-5	Torque	1107	1106	0.2	0.5	Close	3-Static	--	--	0.88	0.77	0.86	0.54
MS-MO77 (V)	Gate	3"	SMB	000-5	Torque	1107	1106	0.2	0.5	Close	5-Both	84.82	84.9	0.85	0.77	0.59	0.54
PC-230MV	Butterfly	24"	SMB	00-15	Limit	17	43.7	--	--	Close	1-None	--	--	*195.34%	*195.34%	*129.56%	*129.56%
PC-231MV	Butterly	24"	SMB	00-15	Limit	17	60.9	--	--	Close	1-None	--	--	*220.7%	*205.54%	*119.55%	*113.44%
PC-232MV	Butterly	24"	SMB	00-15	Limit	1.75	46.2	--	--	Close	1-None	--	--	*255.48%	*255.48%	*130.61%	*130.61%

Table 1

CNS GL 89-10 Supplement 6 Response

G.L. 89-10 Motor Operated Valve Status Information as of Jan. 1, 1995

	Valve		Actuator		Type of Closure Control	MEDP		Stem Friction Factor	Valve Factor	Safety Direction	Testing Status	% of MEDP Tested		Open Available Valve Factor		Close Available Valve Factor	
CIC No.	Type	Size	Type	Size		Open	Closed				(Static/DP)	Open	Closed	Motor	Max CST	Motor	Max CST
PC-233MV	Butterly	24"	SMB	00-15	Limit	62.7	29	--	--	Close	1-None	--	--	*107.04%	*107.04%	*163.45%	*163.45%
PC-305MV	Gate	2"	SMB	000-2	Torque	77.4	44	0.2	0.5	Close	Both	1.18	1.18	4.80	4.80	11.01	10.49
PC-306MV	Gate	2"	SMB	000-2	Torque	77.4	61	0.2	0.5	Close	Both	0.89	0.89	5.04	5.04	8.32	8.32
PC-1301MV	Gate	1"	SMB	000-2	Torque	1.75	29	0.2	0.5	Close	Δ Both	1,650.0	113.79	>20	>20	>20	>20
PC-1302MV	Gate	1"	SMB	000-2	Torque	1.75	29	0.2	0.5	Close	Δ Both	1550.0	106.9	>20	>20	>20	>20
PC-1303MV	Gate	1"	SMB	000-2	Torque	29	29	0.2	0.5	Close	1-None	--	--	>20	>20	>20	>20
PC-1304MV	Gate	1"	SMB	000-2	Torque	29	29	0.2	0.5	Close	1-None	--	--	>20	>20	>20	>20
PC-1305MV	Gate	1"	SMB	000-2	Torque	46.2	46.2	0.2	0.5	Close	1-None	--	--	>20	13.99	>20	13.51
PC-1306MV	Gate	1"	SMB	000-2	Torque	46.2	46.2	0.2	0.5	Close	1-None	--	--	>20	>20	>20	>20
PV-1308MV	Gate	1"	SMB	000-2	Torque	14.7	14.7	0.2	0.5	Close	1-None	--	--	>20	>20	>20	>20
PC-1310MV	Gate	1"	SMB	000-2	Torque	14.7	14.7	0.2	0.5	Close	1-None	--	--	>20	>20	>20	>20
PC-1311MV	Gate	1"	SMB	000-2	Torque	1.75	46	0.2	0.5	Close	Δ Both	2300.0	100.0	>20	>20	>20	14.72
PC-1312MV	Gate	1"	SMB	000-2	Torque	1.75	46	0.2	0.5	Close	Δ Both	2,325.0	101.09	>20	>20	>20	>20
RCIC-MO15	Gate	3"	SMB	000-5	Torque	1091	88	0.2	0.5	Close	3-Static	--	--	0.61	0.59	6.82	5.6
RCIC-MO15 (H)	Gate	3"	SMB	000-5	Torque	--	1091	0.2	0.5	Close	3-Static	--	--	--	--	0.51	0.51
RCIC-MO16	Gate	3"	SMB	000-5	Torque	1091	88	0.2	0.5	Close	3-Static	--	--	1.05	0.59	6.65	5.59
RCIC-MO16 (H)	Gate	3"	SMB	000-5	Torque	--	1091	0.2	0.5	Close	3-Static	--	--	--	--	0.76	0.76
RCIC-MO18	Gate	6"	SMB	000-5	Torque	30	9	0.2	0.5	Close	Δ Both	87.67	292.22	3.44	3.44	10.95	10.95
RCIC-MO21	Gate	4"	SMB	00-10	Torque	1170	1170	0.2	0.5	Open	3-Static	--	--	0.71	0.71	0.69	0.69
RCIC-MO27	Globe	2"	SMB	00-15	Torque	1256	1256	0.2	* 0.2	Both	3-Static	--	--	2.62	2.62	2.55	2.55
RCIC-MO41	Gate	6"	SMB	000-5	Torque	88	39	0.2	0.5	Open	3-Δ Both	100.0	--	1.62	1.62	3.44	3.44

Table 1

CNS GL 89-10 Supplement 6 Response

G.L. 89-10 Motor Operated Valve Status Information as of Jan. 1, 1995

CIC No.	Valve		Actuator		Type of Closure Control	MEDP		Stem Friction Factor	Valve Factor	Safety Direction	Testing Status (Static/DP)	% of MEDP Tested		Open Available Valve Factor		Close Available Valve Factor	
	Type	Size	Type	Size		Open	Closed					Open	Closed	Motor	Max CST	Motor	Max CST
RCIC-MO131	Globe	3"	SMB	00-10	Torque	1091	0	0.2	1.1	Open	Static	--	--	1.36	1.36	--	--
RCIC-MO132	Globe	2"	SMB	000-5	Torque	1260	36	0.2	0.2	Open	Static	--	--	3.29	2.44	>20	>20
REC-700MV	Gate	10"	SMB	00-10	Torque	65	86	0.2	0.5	Close	1-None	--	--	1.99	1.99	1.83	1.61
REC-702MV	Gate	8"	SMB	000-5	Torque	65	82	0.2	0.5	Close	1-None	--	--	1.67	1.14	1.61	0.86
REC-709MV	Gate	8"	SMB	000-5	Torque	65	82	0.2	0.5	Close	1-None	--	--	1.67	0.97	1.61	0.72
REC-711MV	Gate	6"	SMB	000-5	Torque	87	109	0.2	0.5	Open	1-None	--	--	1.26	1.26	1.23	1.16
REC-712MV (M/D)	Butterfly	12"	SMB	000-2	Limit	65	108	--	--	Close	1-None	--	--	*18.78%	*18.78%	*4.65%	*4.65%
REC-713MV (M/D)	Butterfly	12"	SMB	000-2	Limit	65	108	--	--	Close	1-None	--	--	*18.27%	*18.27%	*4.19%	*4.19%
REC-714MV	Gate	6"	SMB	000-5	Torque	87	109	0.2	0.5	Open	1-None	--	--	1.25	1.17	1.22	0.87
REC-1329MV	Gate	8"	SMB	00-15	Torque	65	83	0.2	0.5	Close	1-None	--	--	4.24	1.99	4.10	1.46
RHR-MO13A	Gate	20"	SMB	0-15	Torque	114	38	0.2	0.5	Open	Δ Both	87.19	261.58	0.86	0.60	3.13	1.76
RHR-MO13B	Gate	20"	SMB	0-15	Torque	114	38	0.2	0.5	Open	Δ Both	93.86	281.58	0.86	0.60	3.14	1.76
RHR-MO13C	Gate	20"	SMB	0-15	Torque	114	38	0.2	0.5	Open	Δ Both	88.95	266.84	0.85	0.60	3.10	1.76
RHR-MO13D	Gate	20"	SMB	0-15	Torque	114	38	0.2	0.5	Open	Δ Both	91.23	273.68	0.87	0.60	3.18	1.76
RHR-MO16A	Gate	4"	SMB	000-5	Torque	320	303	0.2	0.5	Both	Both	87.13	92.01	1.14	0.95	1.36	0.86
RHR-MO16B	Gate	4"	SMB	000-5	Torque	320	303	0.2	0.5	Both	3-Both	98.8	104.3	1.08	0.77	1.32	0.67
RHR-MO17	Gate	20"	SMB	2-60	Torque	99	100	0.2	0.5	Close	Static	--	--	0.88	0.88	0.79	0.79
RHR-MO18	Gate	20"	SMB	2-40	Torque	98	98	0.2	0.5	Close	Static	--	--	1.36	1.36	1.81	1.81
RHR-MO25A	Gate	24"	SB	3-80	Torque	164	75	0.2	0.5	Both	Both	104.88	229.33	0.63	0.63	1.07	1.07
RHR-MO25B	Gate	24"	SB	3-80	Torque	164	75	0.2	0.5	Both	4-Δ Both	103.6	--	0.64	0.64	1.08	1.08
RHR-MO27A	Globe	24"	SB	4-250	Torque	385	303	0.2	1.1	Both	3-Both	72.49	92.11	1.57	1.57	2.80	2.25

Table 1
CNS GL 89-10 Supplement 6 Response
G.L. 89-10 Motor Operated Valve Status Information as of Jan. 1, 1995

CIC No.	Valve		Actuator		Type of Closure Control	MEDP		Stem Friction Factor	Valve Factor	Safety Direction	Testing Status	% of MEDP Tested		Open Available Valve Factor		Close Available Valve Factor	
	Type	Size	Type	Size		Open	Closed				(Static/DP)	Open	Closed	Motor	Max CST	Motor	Max CST
RHR-MO27B	Globe	24"	SB	4-250	Torque	385	303	0.2	1.1	Both	4-Static	--	--	1.86	1.86	3.36	2.25
RHR-MO34A	Globe	18"	SMB	4-200	Torque	303	320	0.2	1.1	Both	Both	104.6	99.0	4.57	3.24	5.74	2.89
RHR-MO34B	Globe	18"	SMB	4-200	Torque	303	320	0.2	1.1	Both	Both	101.3	95.88	4.43	3.24	5.55	2.89
RHR-MO39A (D)	Gate	18"	SMB	1-25	Torque	303	303	0.2	0.48	Both	Both	106.2	106.2	0.65	0.53	0.88	0.50
RHR-MO39B (D)	Gate	18"	SMB	1-25	Torque	303	303	0.2	0.48	Both	Both	104.55	104.55	0.63	0.52	0.87	0.49
RHR-MO66A	Globe	20"	SMB	3-150	Torque	25	25	0.2	1.1	Both	Both	96.0	96.0	>20	12.14	>20	11.14
RHR-MO66B	Globe	20"	SMB	3-150	Torque	25	25	0.2	1.1	Both	Static	--	--	>20	12.14	>20	11.14
RHR-920MV	Gate	3"	SMB	00-10	Torque	1091	1091	0.2	0.5	Close	6-Both	59.76	59.76	1.02	1.02	1.01	1.01
RR-MO53A (M/D)	Gate	28"	SB	3-100	Torque	10	232	0.15	♦ 0.2	Close	1-None	--	--	5.68	5.68	0.22	0.22
RR-MO53B (M/D)	Gate	28"	SB	3-100	Torque	10	232	0.15	♦ 0.2	Close	1-None	--	--	5.52	5.52	0.21	0.21
RWCU-MO15	Gate	6"	SMB	00-15	Torque	1047	68	0.2	0.5	Close	Static	--	--	0.71	0.52	8.93	5.18
RWCU-MO15 (H)	Gate	6"	SMB	00-15	Torque	--	1047	0.2	0.5	Close	Static	--	--	--	--	0.69	0.69
RWCU-MO18	Gate	6"	SMB	00-15	Torque	1041	62	0.2	0.5	Close	[illegible]-Static	--	--	0.84	0.53	7.42	5.69
RWCU-MO18 (H)	Gate	6"	SMB	00-15	Torque	--	1041	0.2	0.5	Close	3-Static	--	--	--	--	0.63	0.63
SW-36MV	Butterfly	24"	SMB	00-10	Limit	78	78	--	--	Close	2-None	--	--	*84.93%	*54.80%	*80.63%	*54.80%
SW-37MV	Butterfly	24"	SMB	00-25	Limit	78	78	--	--	Close	2-None	--	--	*170.49%	*54.85%	*164.29%	*54.85%
SW-MO89A	Globe	18"	SMB	3-80	Torque	195	195	0.2	1.1	Both	Both	102.26	102.26	2.00	1.73	2.87	1.89
SW-MO89B	Globe	18"	SMB	3-80	Torque	195	195	0.2	1.1	Both	Both	102.23	102.23	1.97	1.97	2.83	2.14
SW-650MV	Butterfly	18"	SMB	000-5	Limit	68	68	--	--	Both	1-None	--	--	*78.03%	*74.37%	*73.24%	*73.24%
SW-651MV	Butterfly	18"	SMB	000-5	Limit	68	68	--	--	Both	1-None	--	--	*77.46%	*74.37%	*72.96%	*72.96%
SW-886MV	Gate	4"	SMB	000-5	Torque	69	69	0.2	0.5	Open	1-None	--	--	6.98	3.62	8.61	3.49

Table 1

CNS GL 89-10 Supplement 6 Response

G.L. 89-10 Motor Operated Valve Status Information as of Jan. 1, 1995

	Valve		Actuator		Type of Closure Control	MEDP		Stem Friction Factor	Valve Factor	Safety Direction	Testing Status	% of MEDP Tested		Open Available Valve Factor		Close Available Valve Factor	
CIC No.	Type	Size	Type	Size		Open	Closed				(Static/DP)	Open	Closed	Motor	Max CST	Motor	Max CST
SW-887MV	Gate	4"	SMB	000-5	Torque	69	69	0.2	0.5	Open	1-None	--	--	5.75	2.77	7.18	2.62
SW-888MV	Gate	4"	SMB	000-5	Torque	78	78	0.2	0.5	Open	1-None	--	--	6.19	3.21	7.62	3.08
SW-889MV	Gate	4"	SMB	000-5	Torque	78	78	0.2	0.5	Open	1-None	--	--	6.16	3.21	7.59	3.08
SW-2128MV	Globe	1.5"	SMB	000-2	Torque	79	79	0.2	1.1	Open	1-None	--	--	19.78	19.78	>20	>20
SW-2129MV	Globe	1.5"	SMB	000-2	Torque	79	79	0.2	1.1	Open	1-None	--	--	>20	>20	>20	>20

* Torque margin between motor torque and min required torque, and max allowable torque and min required torque.

(H) Indicates HELB Calculation values.

(M) Motor replacement scheduled prior to restart.

(V) Valve replacement scheduled prior to restart.

(D) Design change scheduled for RE16.

Δ Indicates auxiliary pressure source used.

‣ Crane methodology uses a disc-to-seat friction coefficient.

♦ Parallel disc gate valve.

Testing Status Notes: Initial valve DP testing for RE16 is noted in Table 2.

1. Static test scheduled prior to restart.
2. DP test scheduled prior to restart.
3. Static retest scheduled for RE16.
4. DP retest scheduled for RE16.
5. DP retest scheduled prior to restart.
6. Existing DP test not valid, DP retest scheduled.

Generic Letter 89-10 Supplement 6
Justification for Schedule Extension

Supplement 6, Section 2 Information

A numerical summary of MOVs not statically and/or DP tested as of January 1, 1995 is presented in Table 2. This table also presents MOV description and functional information as well as an indication (*) of those MOVs which remain to be DP tested.

Table 2 presents the specific information requested in Supplement 6, Section 2 for those valves that have not been dynamically tested. This table lists two (2) valves scheduled for DP testing prior to restart from the current outage, seventeen (17) valves which will have new DP tests to be performed during RE-16, and four (4) valves which will require a repeat of their DP tests (one prior to restart and three during RE-16). It also includes information for thirty (30) valves which are not scheduled for DP testing because testing is either impractical, would not yield meaningful results, or justification exists for exempting these valves from DP testing. This justification is contained in Table 3, "MOV Risk Considerations and Operability Justifications". Table 3 also presents risk considerations and operability considerations in support of the CNS GL89-10 schedule extension justification.

Table 2 presents descriptions and functional information. This table also indicates which valves are scheduled for dynamic testing.

The information which serves as the basis for confirming functionality of valves not dynamically tested (Section 2(b) of Supplement 6) is presented in the tables included in this submittal, including valve type, size, safety function, design-basis differential pressure and flow, and the available valve factor.

The general operability confirmation process involves, as a minimum, three steps:

- Determination of valve design basis.
- Determination of required MOV setpoints to reflect best available information.
- Setting of control switches via diagnostic testing.

These three steps will be completed on all 82 program MOVs prior to plant restart.

Table 2

CNS GL 89-10 Supplement 6 Response

Valves Not Dynamically Tested as of January 1, 1995

MOV	Description	Design Basis Functions	Valve Size/ Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Avail VF (Mtr)	Open Avail VF Max CST	Close Avail VF (Mtr)	Close Avail VF Max CST	PSA Rank
CS-MO128 (*)	Core Spray Loop B Inboard Injection (Throttle) Valve	Open for CS injection Close to terminate CS injection Close for containment isolation	10" Gate	454	350	6,000 GPM	6,000 GPM	0.55	0.55	0.86	0.86	Medium
HPCI-MO15	HPCI Steam Supply Inboard Isolation Valve	Open for HPCI standby Close for containment isolation	10" Gate	1,091	161	44.2 lbs/sec	30.4 lbs/sec	No Open Safety Function	No Open Safety Function	4.86	3.21	High
		Close for HELB isolation		N/A	1,091	N/A	3,311 lbs/sec	N/A	N/A	0.78	0.78	
HPCI-MO16	HPCI Steam Supply Outboard Isolation Valve	Open for HPCI standby Close for containment isolation	10" Gate	1,091	161	44.2 lbs/sec	30.4 lbs/sec	No Open Safety Function	No Open Safety Function	3.11	3.11	High
		Close for HELB isolation		N/A	1,091	N/A	3,311 lbs/sec	N/A	N/A	0.61	1.11	
HPCI-MO19	HPCI Injection Valve	Open for HPCI injection	14" Gate	1,164	1,164	4,250 GPM	4,250 GPM	0.57	0.57	No Close Safety function	No Close Safety function	Medium
HPCI-MO25	HPCI Pump Minimum Flow Recirculation Valve	Open for HPCI pump minflow Close to divert all flow to the injection line	4" Globe	1,300	1,300	450 GPM	450 GPM	2.30	1.85	1.88	1.54	Low
MS-MO74	Main Steam Lines Drain Inboard Isolation Valve	Remain open to drain condensate from main steam lines Close for containment isolation	3" Gate	1,107	1,106	50 GPM	50 GPM	No Open Safety Function	No Open Safety Function	0.86	0.54	Low
MS-MO77 (*)	Main Steam Lines Drain Outboard Isolation Valve	Remain open to drain condensate from main steam lines Close for containment isolation	3" Gate	1,107	1,106	50 GPM	50 GPM	No Open Safety Function	No Open Safety Function	0.59	0.54	Low
PC-305MV	PC-MOV-230MV Bypass Valve	Open for containment pressure maintenance Close for containment isolation Close for system isolation	2" Gate	77	44	1,780 CFM	1,780 CFM	No Open Safety Function	No Open Safety Function	11.01	10.49	Low
PC-306MV	PC-MOV-231MV Bypass Valve	Open for containment pressure maintenance Close for containment isolation Close for system isolation	2" Gate	77	61	1,780 CFM	1,780 CFM	No Open Safety Function	No Open Safety Function	8.32	8.32	Low
PC-1303MV	Torus Nitrogen Supply System A Outboard Isolation Valve	Open to place SBNI in service Close for containment isolation	1" Gate	29	29	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF > 20	Avail VF > 20	Low

Table 2
CNS GL 89-10 Supplement 6 Response
Valves Not Dynamically Tested as of January 1, 1995

MOV	Description	Design Basis Functions	Valve Size/ Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Avail VF (Mtr)	Open Avail VF Max CST	Close Avail VF (Mtr)	Close Avail VF Max CST	PSA Rank
PC-1304MV	Torus Nitrogen Supply System A Inboard Isolation Valve	Open to place SBNI in service Close for containment isolation	1" Gate	29	29	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF>20	Avail VF>20	Low
PC-1305MV	Drywell Nitrogen Supply System A Outboard Isolation Valve	Open to place SBNI in service Close for containment isolation	1" Gate	46	46	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF>20	13.51	Low
PC-1306MV	Drywell Nitrogen Supply System A Inboard Isolation Valve	Open to place SBNI in service Close for containment isolation	1" Gate	46	46	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF>20	Avail VF>20	Low
PC-1308MV	Torus Vent Isolation Valve	Open for torus venting Close for containment isolation	1" Gate	15	15	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF>20	Avail VF>20	Low
PC-1310MV	Drywell Vent Isolation Valve	Open for drywell venting Close for containment isolation	1" Gate	15	15	0 CFM	0 CFM	No Open Safety Function	No Open Safety Function	Avail VF>20	Avail VF>20	Low
RCIC-MO15	RCIC Steam Supply Inboard Isolation Valve	Open for RCIC standby Close for containment isolation	3" Gate	1,091	88	4.56 lbs/sec	1.67 lbs/sec	No Open Safety Function	No Open Safety Function	6.82	5.80	High
		Close for HELB isolation		N/A	1,091	N/A	78.9 lbs/sec	N/A	N/A	0.51	0.51	
RCIC-MO16	RCIC Steam Supply Outboard Isolation Valve	Open for RCIC standby Close for containment isolation	3" Gate	1,091	88	4.56 lbs/sec	1.67 lbs/sec	No Open Safety Function	No Open Safety Function	6.65	5.59	High
		Close for HELB isolation		N/A	1,091	N/A	78.9 lbs/sec	N/A	N/A	0.76	0.76	
RCIC-MO21	RCIC Injection Valve	Open for RCIC injection	4" Gate	1,170	1,170	400 GPM	400 GPM	0.71	0.71	No Close Safety function	No Close Safety function	High
RCIC-MO27	RCIC Pump Minimum Flow Recirculation Valve	Open for RCIC pump minflow Close to divert all flow to the injection line	2" Globe	1,256	1,256	40 GPM	80 GPM	2.62	2.62	2.55	2.55	Low
RCIC-MO131 (*)	RCIC Turbine Steam Admission Valve	Open for RCIC Close for RCIC turbine isolation	3" Globe	1,091	0	4.56 lbs/sec	0 lbs/sec	1.36	1.36	No Close Safety function	No Close Safety function	High

Table 2

CNS GL 89-10 Supplement 6 Response

Valves Not Dynamically Tested as of January 1, 1995

MOV	Description	Design Basis Functions	Valve Size/ Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Avail VF (Mtr)	Open Avail VF Max CST	Close Avail VF (Mtr)	Close Avail VF Max CST	PSA Rank
RCIC-MO132 (*)	RCIC Turbine Auxiliary Cooling Water Supply Valve	Open for RCIC turbine cooling Close to isolate the RCIC turbine from turbine oil cooling water	2" Globe	1,260	36	16 GPM	[illegible]	3.29	2.44	Avail VF > 20	Avail VF > 20	High
REC-700MV (*)	REC Non-Critical Services Supply Valve	Remain open for REC service to non-critical loop Close for REC line break	10" Gate	65	86	2,876 GPM	2,876 GPM	No Open Safety Function	No Open Safety Function	1.83	[illegible]91	Low
REC-702MV (*)	REC Drywell Supply Isolation Valve	Remain open for REC service to drywell Close for REC line break	8" Gate	65	82	1,005 GPM	2,700 GPM	No Open Safety Function	No Open Safety Function	1.61	0.86	Low
REC-709MV (*)	REC Drywell Return Isolation Valve	Remain open for REC service to drywell Close for REC line break	8" Gate	65	82	1,005 GPM	1,005 GPM	No Open Safety Function	No Open Safety Function	1.61	0.72	Low
REC-711MV (*)	REC North Critical Loop Supply Valve	Open for REC critical loop cooling Close for SW backup to REC	6" Gate	87	109	2,700 GPM	3,800 GPM	1.26	1.26	1.23	1.16	Medium
REC-714MV (*)	REC South Critical Loop Supply Valve	Open for REC critical loop cooling Close for SW backup to REC	6" Gate	87	109	2,700 GPM	3,800 GPM	1.25	1.17	1.22	0.87	Medium
REC-1329MV (*)	REC Augmented Radwaste Supply Valve	Close to isolate the REC from Augmented Radwaste	8" Gate	65	83	1,000 GPM	2,700 GPM	No Open Safety Function	No Open Safety Function	4.10	1.46	Low
RHR-MO17	RHR Shutdown Cooling Supply Outboard Isolation Valve	Open for SDC Close for reactor isolation	20" Gate	99	100	15,400 GPM	50 GPM	No Open Safety Function	No Open Safety Function	0.79	0.79	Low
RHR-MO18	RHR Shutdown Cooling Supply Inboard Isolation Valve	Open for SDC Close for reactor isolation	20" Gate	98	98	15,400 GPM	50 GPM	No Open Safety Function	No Open Safety Function	1.81	1.81	Low
RHR-MO27B (*)	LPCI Loop B Injection Outboard Isolation Valve	Remain open for LPCI Throttle to regulate LPCI flow Close to terminate LPCI	24" Globe	385	303	8,000 GPM	15,400 GPM	1.87	1.87	3.37	2.25	Med
RHR-MO66B (*)	RHR Heat Exchanger B Bypass Throttle Valve	Remain open for LPCI Close for RHR heat exchanger operation Throttle to vary flow through RHR heat exchanger	20" Globe	25	25	15,000 GPM	15,400 GPM	Avail VF > 20	12.14	Avail VF > 20	11.14	Med

Table 2

CNS GL 89-10 Supplement 6 Response

Valves Not Dynamically Tested as of January 1, 1995

MOV	Description	Design Basis Functions	Valve Size/ Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Avail VF (Mtr)	Open Avail VF Max CST	Close Avail VF (Mtr)	Close Avail VF Max CST	PSA Rank
RHR-920MV (*)	Main Steam to Augmented Off-Gas System Upstream Shutoff Valve	Open to align MS to AOG Close when AOG is not required	3" Gate	1,091	1,091	3.63 lbs/sec	3.63 lbs/sec	No Open Safety Function	No Open Safety Function	1.01	1.01	Low
RR-MO53A (* *)	Reactor Recirculation Pump A Discharge Valve	Close to isolate recirculation line break	28" Gate	10	232	9,944 GPM	19,000 GPM	No Open Safety Function	No Open Safety Function	0.22	0.22	Low
RR-MO53B (* *)	Reactor Recirculation Pump B Discharge Valve	Close to isolate recirculation line break	28" Gate	10	232	9,944 GPM	19,000 GPM	No Open Safety Function	No Open Safety Function	0.21	0.21	Low
RWCU-MO15	Reactor Water Cleanup Supply Inboard Isolation Valve	Open for RWCU lineup Close for containment isolation	6" Gate	1,047	68	0 lbs/sec	23 lbs/sec	No Open Safety Function	No Open Safety Function	8.93	5.18	High
		Close for HELB isolation		N/A	1,047	N/A	1,448 lbs/sec	N/A	N/A	0.69	0.69	
RWCU-MO18	Reactor Water Cleanup Supply Outboard Isolation Valve	Open for RWCU lineup Close for containment isolation	6" Gate	1,041	62	0 lbs/sec	23 lbs/sec	No Open Safety Function	No Open Safety Function	7.42	5.69	High
		Close for HELB isolation		N/A	1,041	N/A	1,448 lbs/sec	N/A	N/A	0.63	0.63	
SW-886MV (*)	SW Supply Valve to REC Critical Loop	Open to crosstie SW to REC	4" Gate	69	69	335 GPM	335 GPM	6.98	3.62	No Close Safety function	No Close Safety function	Low
SW-887MV (*)	SW Supply Valve to REC Critical Loop	Open to crosstie SW to REC	4" Gate	69	69	335 GPM	335 GPM	5.75	2.77	No Close Safety function	No Close Safety function	Low
SW-888MV (*)	SW Return Valve from REC Critical Loop	Open to crosstie SW to REC	4" Gate	78	78	335 GPM	335 GPM	6.19	3.21	No Close Safety function	No Close Safety function	Low
SW-889MV (*)	SW Return Valve from REC Critical Loop	Open to crosstie SW to REC	4" Gate	78	78	335 GPM	335 GPM	6.16	3.21	No Close Safety function	No Close Safety function	Low

Table 2

CNS GL 89-10 Supplement 6 Response

Valves Not Dynamically Tested as of January 1, 1995

MOV	Description	Design Basis Functions	Valve Size/ Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Avail VF (Mtr)	Open Avail VF Max CST	Close Avail VF (Mtr)	Close Avail VF Max CST	PSA Rank
SW-2128MV	SW Gland Seal Water Backup Valve from SW Pumps A/C	Open for backup seal water supply to SW pumps	1.5" Globe	79	79	160 GPM	160 GPM	Avail VF>20	Avail VF>20	No Close Safety function	No Close Safety function	Medium
SW-2129MV	SW Gland Seal Water Backup Valve from SW Pumps B/D	Open for backup seal water supply to SW pumps	1.5" Globe	79	79	160 GPM	160 GPM	Avail VF>20	Avail VF>20	No Close Safety function	No Close Safety function	Medium

Table 2

CNS GL 89-10 Supplement 6 Response

Valves Not Dynamically Tested as of January 1, 1995

CIC No	Description	Design Basis Function	Valve Size/Type	Open MEDP	Close MEDP	Open Flow	Close Flow	Open Max CST Margin	Close Max CST Margin	Open Mtr Trq Margin	Close Mtr Trq Margin	PSA Rank
PC-MOV-230MV	Torus Exhaust Inboard Isolation Valve	Open for torus purging Close for containment isolation Close for system isolation	24" Bfly	17	44	0 CFM	6,000 CFM	195%	129%	195%	129%	Low
PC-MOV-231MV	Drywell Exhaust Inboard Isolation Valve	Open for drywell purging Close for containmont isolation Close for system isolation	24" Bfly	17	61	0 CFM	7,000 CFM	206%	113%	221%	120%	Low
PC-MOV-232MV	Drywell Inlet Inboard Isolation Valve	Close for containment isolation Close for system isolation	24" Bfly	2	48	0 CFM	7,000 CFM	255%	131%	255%	131%	Low
PC-MOV-233MV	Torus Inlet Inboard Isolation Valve	Open for torus hard pipe venting (beyond design basis - basis for PSA rank) Close for containment isolation Close for system isolation	24" Bfly	63	29	0 CFM	6,000 CFM	107%	163%	107%	163%	High
REC-MOV-712MV (* *)	REC Heat Exchanger A Outlet Valve	Close to isolate non-critical header	12" Bfly	65	108	2,700 GPM	4,050 GPM	19%	5%	19%	5%	Low
REC-MOV-713MV (* *)	REC Heat Exchanger B Outlet Valve	Close to isolate non-critical header	12" Bfly	65	108	2,700 GPM	4,050 GPM	18%	4%	18%	4%	Low
SW-MOV-36MV (*)	SW Pumps Crosstie Valve	Close for train separation	24" Bfly	78	78	400 GPM	18,000 GPM	55%	55%	85%	81%	High
SW-MOV-37MV (*)	SW Pumps Crosstie Valve	Close for train separation Close to prevent control room basement flooding	24" Bfly	78	78	400 GPM	18,000 GPM	55%	55%	170%	164%	High
SW-MOV-650MV (*)	REC Heat Exchanger A Service Water Outlet Valve	Open for REC heat exchanger service	18" Bfly	68	68	6,590 GPM	6,590 GPM	74%	73%	78%	73%	Low
SW-MOV-651MV (*)	REC Heat Exchanger B Service Water Outlet Valve	Open for REC heat exchanger service	18" Bfly	68	68	6,590 GPM	6,590 GPM	74%	73%	77%	73%	Low

(*) Valves scheduled for DP Testing

(* *) "Modifications scheduled prior to restart from current outage"

Overview of PSA Ranking Process

All MOVs in the dynamic test scope have been prioritized based on safety significance. The prioritization process included:

- A deterministic review approach.
- A probabilistic review approach.

The deterministic approach involved identifying the design and licensing bases for each essential classified MOV, including listing the safety functions the valve is to perform.

The risk approach involved identification of the risk significance of each candidate MOV based on results of the CNS Probabilistic Safety Assessment (PSA). A review of the Level 1 and Level 2 models was performed to identify how each essential classified MOV was modeled.

For those MOVs not specifically modeled in the PSA, an assessment was made using deterministic methods to identify the effect of valve failure on core damage sequences.

The result of this review resulted in the classification of MOVs into the following risk groups:

High — Those valves associated with relatively high frequency sequences in which valve failure(s) in combination with a single operator error or active system failure results in core damage. Failure of the MOVs severely limits the paths available for achieving safe shutdown. Criteria: > 1% Core Damage Frequency (CDF) Fussell-Vesely (F-V) or > 2 Risk Achievement Worth (RAW)

Medium — Valves that contribute less significantly to core damage, but still appear above the insignificant range in importance ranking. These valves typically perform a risk significant function, but the importance of these valves is reduced by factors such as the availability of other systems which perform the same function, availability of time for recovery, or low frequency of the initiating events. Criteria: 0.1% CDF $\leq$ F-V $\leq$ 1% CDF or 1.1 $\leq$ RAW $\leq$ 2

Low — Valves that have a low contribution to core damage. Failure of these valves does not significantly change the progression of any accident sequence. Factors, similar to the medium priority valves, are present to the extent that failure of the valve(s) does not significantly impact station risk. Criteria: < 0.1% CDF (F-V) or < 1.1 RAW

The risk importance ranking is identified for the valves listed in Table 2.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
CS-MOV-MO12B	The Core Spray Inboard Injection Valve opens automatically in the presence of a CS initiation signal when the reactor pressure decreases to less than 450 psig, to provide reactor inventory makeup. The valve is closed to terminate system injection and to provide reactor and containment isolation. The PSA risk ranking of this valve is medium because failure to open results in failure of Core Spray B loop and impacts low pressure makeup.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. Calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically tested in RE-16.
HPCI-MOV-MO15 HPCI-MOV-MO16	The High Pressure Coolant Injection Pump Steam Supply Inboard and Outboard Isolation Valves have no auto-open interlocks. The valves are only opened remote manually by the control room operator, provided that no HPCI isolation signal or low steam pressure signal is present. The valves close automatically upon an HPCI isolation signal or when the reactor pressure is less than 100 psig. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve are: "high based on engineering judgement for a containment bypass condition and Level 2 concerns."	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. Calculated available valve factor indicates that these valves have sufficient margin.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
HPCI-MOV-MO19	This High Pressure Coolant Injection Isolation Valve opens automatically on either high drywell pressure or low reactor water level in order for the HPCI System to provide reactor inventory makeup. Failure to open upon demand would preclude High Pressure Coolant Injection into the reactor. The capability to close is only required to satisfy a CNS operating procedure during manual shutdown of the HPCI pump. The PSA risk ranking of this valve is medium because failure to open results in failure of HPCI and impacts high pressure makeup.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. Calculated available valve factor indicates that this valve has sufficient margin.
HPCI-MOV-MO25	The HPCI minimum flow bypass line isolation valve opens automatically on HPCI pump low flow and when either 1) HPCI pump discharge pressure is greater than 125 psig, or 2) a HPCI initiation signal is present, provided that there is no HPCI turbine trip signal present. This isolation valve opens to provide minimum flow pump protection. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve is low because HPCI will not be started without a flow path to the vessel or ECST.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. Calculated available valve factor indicates that this valve has sufficient margin.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
MS-MOV-MO74 MS-MOV-MO77	These MOVs are normally open during power operation and have a function to close automatically on a main steam line isolation event to provide containment isolation. These valves have a non-safety related function to remain open during power operation to keep the main steam lines free of condensate. Closure of the MSIVs does not isolate these valves from the reactor. Failure of these valves would not isolate the reactor for a downstream steam line break. Flow through these valves passes through a downstream restricting orifice. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. Calculated available valve factor indicates that these valves have sufficient margin. MS-MOV-MO77 will be dynamically retested prior to startup from the current outage. MS-MOV-MO74 will not be dynamically tested due to plant and system configuration.
PC-MOV-230MV PC-MOV-231MV PC-MOV-232MV	These valves are normally closed and have a safety function to close for containment isolation. These valves have no safety related function in the opening direction. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low.	Full flow/differential pressure testing of these valves is not possible due to plant system configuration. Therefore, dynamic testing will not be performed. Static testing will be performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated torque margin indicates that these valves have sufficient capability. These valves are normally in their safety position (closed). There is also an air operated valve downstream which is normally closed and is also a containment isolation valve.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
PC-MOV-233MV	This valve is normally closed and its safety function is to close for containment isolation. This valve has a beyond design basis function to open to provide containment heat removal when suppression pool cooling, torus sprays and drywell sprays have failed. For this reason, the PSA risk ranking of this valve is high.	Full flow/differential pressure testing of this valve is not possible due to plant system configuration. Therefore, dynamic testing will not be performed. Static testing will be performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated torque margin indicates that this valve has sufficient capability. This valve is normally in its safety position (closed). There is also an air operated valve downstream which is normally closed and fails closed and is also a containment isolation valve.
PC-MOV-305MV PC-MOV-306MV	These valves are normally closed and have a safety function to close for containment isolation. They have a normal function to close for system isolation or open to maintain primary containment at preset pressure and oxygen concentration. These valves have no safety related function in the opening direction. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that these valves have sufficient margin. These valves are normally in their safety position (closed). There is also an air operated valve downstream which is normally closed and fails closed and is also a containment isolation valve.
PC-MOV-1303MV PC-MOV-1304MV PC-MOV-1305MV PC-MOV-1306MV	These valves are normally closed and have a safety function to close for containment isolation. They have a normal function to close for system isolation or open to place Standby Nitrogen Injection system in service. These valves have no safety related function in the opening direction. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low.	Full flow/differential pressure testing of these valves is not possible due to plant system configuration. Therefore, dynamic testing will not be performed. Static testing will be performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that these valves have sufficient margin. These valves are normally in their safety position (closed).

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
PC-MOV-1308MV	This valve is normally closed and its safety function is to close for containment isolation. It has a normal function to close for system isolation or open to vent the torus (suppression chamber). This valve has no safety related function in the opening direction. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve is low.	Full flow/differential pressure testing of this valve is not possible due to plant system configuration. Therefore, dynamic testing will not be performed. Static testing will be performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This valve is normally in its safety position (closed).
PC-MOV-1310MV	This valve is normally closed and its safety function is to close for containment isolation. It has a normal function to close for system isolation or open to vent the drywell. This valve has no safety related function in the opening direction. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve is low.	Full flow/differential pressure testing of this valve is not possible due to plant system configuration. Therefore, dynamic testing will not be performed. Static testing will be performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This valve is normally in its safety position (closed).
RCIC-MOV-MO15 RCIC-MOV-MO16	These valves are normally open to provide a steam supply to the RCIC pump turbine. These valves are required to close on an RCIC isolation signal. The opening direction function is not safety-related. The GL 89-10 failure mode was not modeled in the PSA. These normally open valves are not required to stroke for RCIC operation. However, HELBs on this steam line would result in containment bypass if valve failed to close. The PSA risk ranking of these valves is: "high based on engineering judgement for a containment bypass condition and Level 2 concerns."	Full flow/differential pressure testing of these valves is not possible due to plant system configuration and potential damage to plant components. Therefore, dynamic testing will not be performed. However, static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that these valves have sufficient margin. The valves have been set up using the best available data.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
RCIC-MOV-MO21	This valve is normally closed while the RCIC system is in standby. The valve has a safety function to open to allow RCIC flow into the reactor in the event that the reactor becomes isolated. The closing direction function is not safety-related. The PSA risk ranking of this valve is high.	Full flow/differential pressure testing of this valve is not possible due to plant system configuration and potential damage to plant components. Therefore, dynamic testing will not be performed. However, static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. The valve has been set up using the best available data.
RCIC-MOV-MO27	This valve is normally closed while the RCIC system is in the standby mode. The valve must open to provide a minimum recirculation flow path when RCIC pump flow drops below 40 gpm. This valve must also close to ensure maximum flow to the reactor during system operation. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve is low.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin.
RCIC-MOV-MO131	This valve is normally closed while the RCIC system is in the standby mode. This valve has a safety function to open to start up the RCIC pump upon RCIC system initiation. The closing direction function is not safety related. The PSA risk ranking of this valve is high.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically tested in RE-16.
RCIC-MOV-MO132	This valve is normally closed while the RCIC system is in the standby mode. The valve must open to provide cooling water flow for the RCIC pump turbine auxiliary systems. The closing direction function is not safety related. The PSA risk ranking of this valve is high.	Static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically tested in RE-16.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
REC-MOV-700MV	This MOV is normally open and its function is to close automatically on a loss of REC system pressure resulting from a REC system line break. This MOV can be opened or closed manually. The PSA risk ranking of this valve is low.	Static testing will be performed on this valve and the valve switch settings verified prior to restart. The calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically tested in RE-16.
REC-MOV-702MV REC-MOV-709MV	These MOVs are normally open and have a close function to provide manual isolation of the Class IS system piping in the event of a line break in the Class IIS system piping. These MOVs can be opened or closed manually. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low.	Static testing will be performed on these valves to verify switch settings prior to restart. The calculated available valve factor indicates that these valves have sufficient margin. These MOVs will be dynamically tested in RE-16.
REC-MOV-711MV REC-MOV-714MV	These MOVs normal position is dependent upon plant conditions. They function to open to provide flow to the loads in the critical loop during emergency and shutdown situations. These MOVs can be opened or closed manually, and also close when the SW to REC system crosstie switch is placed to open. These MOVs are required to open during accident sequences. The PSA risk ranking of these valves is medium because of a common mode failure.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. The calculated available valve factor indicates that these valves have sufficient margin. The torque switch is bypassed on opening and will allow the full motor capability to be applied to the valve during opening. These MOVs will be dynamically tested in RE-16.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
REC-MOV-712MV REC-MOV-713MV	These MOVs are normally open and provide isolation of the non-critical header assuring REC cooling to safety related equipment. The MOVs may be opened and closed manually from the control room and close if pressure switch senses low system pressure. These MOVs have no safety function to open. The only required safety function of these MOVs is to close to isolate a postulated line break in the non-critical loop piping in order to provide sufficient flow to the critical components. The PSA risk ranking of these valves is low.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. The torque switch settings on the butterfly valves are bypassed which will allow full motor capability to position the valve. The calculated torque margin indicates that these valves have sufficient but marginal capability. A design change will be implemented prior to plant restart to increase margin.
REC-MOV-1329MV	This MOV is normally open and its function is to close on low REC system pressure to isolate the REC service to the Augmented Radwaste system. This MOV can be opened or closed manually. The PSA risk ranking of this valve is low.	Static testing will be performed on this valve and the valve switch settings verified prior to restart. The calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically tested in RE-16.
RHR-MOV-MO17	This MOV is normally closed and must open to allow RHR Pump(s) to take suction from a Reactor Recirculation Line to initiate shutdown cooling. This valve is required to close to terminate shutdown cooling. It also automatically closes to isolate the reactor to prevent loss of inventory and to prevent overpressurization of the low design pressure piping in the RHR system. The open direction requirement is not safety related. The PSA risk ranking of this valve is low.	Static testing has been performed to verify the acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
RHR-MOV-MO18	This MOV is normally closed and must open to allow RHR Pump(s) to take suction from a Reactor Recirculation Line to initiate shutdown cooling. This valve is required to close to terminate shutdown cooling. It also automatically closes to isolate the reactor to prevent loss of inventory and to prevent overpressurization of the low design pressure piping in the RHR system. The open direction requirement is not safety related. The PSA risk ranking of this valve is low.	Static testing has been performed to verify the acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin.
RHR-MOV-MO27B	This MOV is normally open and is used to throttle open or to close to regulate or terminate LPCI injection. The MOV is not required to change position during accident conditions. Failure of this injection valve will fail one loop of LPCI injection. The PSA risk ranking of this valve is medium risk because of the redundancy and diversity of the Low Pressure Injection system.	Static testing has been performed to verify the acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. The torque switch is bypassed on opening, thus the full motor capability is available in the opening stroke. This is a globe valve and the opening stroke will be assisted by the opening differential pressure. The sister valve to this valve has been dynamically tested and found acceptable. This MOV will be dynamically tested during RE16.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
RHR-MOV-MO66B	This MOV is normally open and its function is to remain open in order for LPCI injection to bypass the heat exchangers; close to maximize the RHR systems heat removal function; or throttle to vary flow through the heat exchangers. If the valve fails to close in heat removal modes of operation, the loop of heat removal will be degraded. The PSA risk ranking of this valve is medium.	Static testing has been performed to verify the acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This is a globe valve and the opening stroke will be assisted by the opening differential pressure. The sister valve to this valve has been dynamically tested and found acceptable. This MOV will be dynamically tested in RE-16.
RHR-MOV-920MV	This MOV is normally open and its function is to open to align Main Steam to the AOG system operation and to close when AOG operation is not required. The safety function of this valve is to close to isolate Main Steam from the AOG system during HPCI operation, thus ensuring full steam flow to the HPCI turbine. There is no safety related function for this valve to open. Inadvertent closure with subsequent failure to reopen would not cause a degradation of any safety related function. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of this valve is low.	Static testing has been performed to verify the acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that this valve has sufficient margin. This MOV will be dynamically retested in RE-16.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
RR-MOV-MO53A RR-MOV-MO53B	These MOVs are normally closed when the RR system is not in operation and normally open during power operation. They function to close automatically to direct the LPCI makeup water to the reactor rather than out of a possible recirculation line break. However, Core Spray remains redundant to LPCI. The non-safety related functions are to remain open during power operation and to close for recirculation pump isolation during maintenance. The GL 89-10 failure mode was not modeled in the PSA. The PSA risk ranking of these valves is low because frequency of occurrence of a large break recirculation piping event is low.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. Calculated available valve factor indicates that these MOVs have sufficient but marginal capability. A design change will be implemented prior to plant restart to increase margin.
RWCU-MOV-MO15 RWCU-MOV-MO18	These MOVs are normally open and have a function to close to isolate flow from the reactor in the event of a line break in the RWCU system (HELB concern) and to close for containment isolation. There is no safety related function for these valves to open. The PSA risk ranking of these valves is: "high based on engineering judgement for containment bypass condition and Level 2 concerns".	Full flow/differential pressure testing of these valves is not possible due to plant system configuration and potential damage to plant components. Therefore, dynamic testing will not be performed. However, static testing has been performed to verify acceptability of the valve switch settings in their "as-left" condition. The calculated available valve factor indicates that these valves have sufficient margin. These valves have been setup using the best available data.
SW-MOV-36MV	This MOV is normally open and its function is to close to provide for train separation in the event of low SW pressure. Failure to close inhibits the ability to isolate the loops of SW resulting in low header pressure. This would cause vital service water headers to have insufficient flow during accident conditions. The PSA risk ranking of this valve is: "high based on common mode failure analysis."	The calculated torque margin indicates that this valve has sufficient margin. Dynamic testing will be performed on this valve prior to restart.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
SW-MOV-37MV	This MOV is normally open and its function is to close to provide for train separation in the event of low SW pressure and to close to reduce the rate of flooding in the control room basement in the event of a pipe break. The PSA risk ranking of this valve is high.	The calculated torque margin indicates that this valve has sufficient margin. Dynamic testing will be performed on this valve prior to restart.
SW-MOV-650MV SW-MOV-651MV	These MOVs are normally open if the associated heat exchanger is in service and have a function to move to the position required to allow service water to pass through the REC heat exchanger. Failure to open would fail the REC heat exchangers; however, there is adequate operator time to manually open the valve. The PSA risk ranking of these valves is low.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. The torque switch settings on the butterfly valves are bypassed which will allow full motor capability to position the valve. The calculated torque margin indicates that these valves have sufficient capability. These MOVs will be dynamically tested in RE-16.
SW-MOV-886MV SW-MOV-887MV SW-MOV-888MV SW-MOV-889MV	These MOVs are normally key-locked closed and have a function to open to allow service water to be supplied to the REC system in the event of a failure in that system. These MOVs are opened manually with a common key-lock switch which opens the four SW supply and return valves and closes the associated normally open REC valves. The PSA risk ranking of these valves is low.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. The calculated available valve factor indicates that these valves have sufficient margin. The torque switch is bypassed on opening and will allow the full motor capability to be applied to the valve during opening. These MOVs will be dynamically tested in RE-16.

TABLE 3
MOV RISK CONSIDERATIONS AND OPERABILITY JUSTIFICATIONS

VALVE NUMBER	RISK SIGNIFICANCE CONSIDERATIONS	OPERABILITY JUSTIFICATIONS
SW-MOV-2128MV SW-MOV-2129MV	These MOV are normally closed and have a function to open to provide gland seal injection from the SW pumps. These MOVs can be manually opened/closed from the Intake Structure. These MOVs can automatically open on low gland water system pressure. The PSA risk ranking of these valves is medium based on multiple backups.	Static testing will be performed on these valves and the valve switch settings verified prior to restart. The calculated available valve factor indicates that these valves have sufficient margin. The torque switch is bypassed on opening and will allow the full motor capability to be applied to the valve during opening. These MOVs are globe valves and are flow-assisted (flow from under the seat to assist lift) in moving to their safety position and will be excluded from dynamic testing.

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The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
Complete the initial testing portion of the GL 89-10 Program at CNS upon completion of Refueling Outage No. 16 (RE-16).	Conclusion of RE-16
Additional testing and modification work is planned to be completed prior to startup from the current outage, as delineated in Table 1 of the attachments to the letter.	Prior to startup from the current outage
At the time of startup, all of the valves within the CNS GL 89-10 testing program will be reviewed against current industry information, set up with the best available plant data, and retested if necessary.	Prior to startup from the current outage
Static testing will be completed on all 82 program MOVs by plant startup. (Includes static tests from RE-14, RE-15, and flow testing of SW 36 and SW 37)	Prior to startup from the current outage
Dynamic testing will be performed on 35 MOVs by plant startup. (33 as of Jan 1,1995, 2 scheduled for Jan 95)	Prior to startup from the current outage
Dynamic testing will be completed on 52 MOVs as of the end of RE-16.	By conclusion of RE-16
Complete documentation for closure of GL89-10 program and provide closure letter no later than 120 days following completion of the next refueling outage.	120 days following completion of RE-16.