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JOHNSON,A.R. Project Directorate I-3

SUBJECT: Forwards util update of status of Generic Ltr 89-10 MOV test program at station.

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May 27, 1994

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Allen R. Johnson
Project Directorate I-3
Washington, D.C. 20555

Subject: Response to Generic Letter 89-10, Supplement 6
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Johnson:

Rochester Gas and Electric (RG&E) provided the NRC with an update of the status of the Generic Letter (GL) 89-10 Motor Operated Valve (MOV) Test Program at Ginna Station in Reference (a). Subsequent to that submittal, the NRC conducted an on-site inspection of the MOV testing program (Reference (b)). Included within the inspection report transmittal letter to RG&E was a statement that Supplement 6 to GL 89-10 (Reference (c)) should be used as guidance for establishing justification for extending the schedule for completing MOV testing. This supplement also requested that the necessary justification be submitted to the NRC at least 60 days prior to the current licensee commitment date for MOV testing. Since the initial RG&E status update of the GL 89-10 program did not contain all the information requested in Supplement 6, and the current commitment date of June 28, 1994 was rapidly approaching, RG&E notified the NRC that the necessary information would not be submitted until the end of May (Reference (d)). Therefore, this letter supersedes Reference (a) and provides the requested justification for extending the current schedular commitment date for verifying the capability of MOVs within the scope of GL 89-10. An update of the status of the MOV program, the schedule for completing the initial testing, and revised periodic test frequencies are also provided. This letter is for information only and the commitment changes as documented within do not require prior NRC approval.

The following is the current status of the Ginna Station GL 89-10 program:

1. Total # of MOVs in program: 63

2. Total # of MOVs which have been statically tested: 62

A064
1/1

3. Total # of MOVs in program which are Δp test candidates: 50

The remaining 13 MOVs are excluded from testing as follows:

a) 4 MOVs cannot be dynamically tested without significant plant modifications and/or potential personnel hazard
b) 7 MOVs have no Δp testing requirements (i.e., 0 Δp)
c) 2 MOVs will not be dynamically tested due to significant margin and low Δp testing requirements (i.e., no meaningful data would be gained from Δp testing).

4. Total # of Δp test candidates which have been tested: 36

Attachment A contains a list of the 14 remaining MOVs that have not undergone Δp testing and the information as requested by Reference (c). Confirmation of the functionality of these MOVs and their risk significance is provided in Attachment B. Included within this attachment is the MOV which has not been statically tested (i.e., 4734).

The MOVs listed on Attachment A will either be dynamically tested, or appropriately grouped in accordance with the criteria delineated in Reference (c), by June 28, 1995. We will also complete static testing of MOV 4734 by June 28, 1995. This completion date is after the next scheduled refueling outage during which the majority of remaining testing will be performed. The need to extend the previous commitment date for completing MOV testing is based on many factors, including the significant evolutions with respect to testing practices. These changes have resulted in the need to retest many valves in order to reflect the findings obtained by industry and staff efforts with respect to MOV testing and design. As such, RG&E believes that Attachments A and B provide sufficient justification to extend the MOV testing completion date.

The only exception with respect to completion of the remaining dynamic testing is for MOVs which only have a safety function to open or close based on an operator mispositioning error from the control room. These MOVs will not be Δp tested unless the operator error is shown to be risk significant. This exception has been granted for BWRs by Supplement 4 to GL 89-10 (Reference (f)). The elimination of Δp testing for the two identified MOVs in Attachment B (i.e., 897 and 898) will enable RG&E to better focus on completion of testing for those valves considered risk significant, and avoid the performance of a test which could potentially degrade the SI pumps.

Consequently, based on the above discussion and Attachments A and B, the following is the status of the 14 MOVs which have not been initially Δp tested:

1. 6 MOVs are scheduled for Δp testing by June 28, 1995 (including static testing of 4734).

2. 6 MOVs can be grouped using the criteria of Supplement 6 to GL 89-10, and therefore, will not be initially Δp tested.

3: 2 MOVs will not be initially Δp tested since the only scenario requiring a dynamic test is related to a non-risk significant, very low probability operator mispositioning error from the control room for a specific accident condition only (i.e., a very small-break LOCA).

RG&E is also revising the previous commitments for performing periodic diagnostic testing (Reference (e)) based on the results of the Ginna Station Probabilistic Risk Assessment (PRA) and other design basis considerations. Periodic testing of MOVs will consist of static tests designed to ensure that MOV degradation, including potential age-related effects, are addressed. Dynamic testing will only be performed if maintenance activities invalidate previous static baseline testing, or if warranted by MOV performance history or marginal static test results.

RG&E has concluded that 28 of the 63 safety-related MOVs in the GL 89-10 program have a high risk significance. This group, and the remaining lower risk significant MOVs have been assigned revised periodic test frequencies as follows:

High Risk Significant MOVs - 5 years
Low Risk Significant MOVs - 10 years

This approach for periodic diagnostic testing was discussed during a meeting with the NRC on May 5, 1994 (Reference (g)) and is consistent with implementation of the Maintenance Rule. The above frequencies will be used unless corrective maintenance activities, or MOV performance history, warrants a retest prior to the next scheduled test. Details concerning periodic testing will be maintained within the MOV program in accordance with GL 89-10.

Very truly yours,

Robert C. Mecredy

MDF\614

Attachments

References:

(a) Letter from R. C. Mecredy, RG&E, to A. R. Johnson, NRC, Subject: "Update to GL 89-10 Response, Safety-Related Motor-Operated Valve Testing and Surveillance," dated February 3, 1994.

(b) NRC Inspection Report No. 50-244/94-03, dated April 22, 1994.

(c) Generic Letter 89-10, Supplement 6, "Information on Schedule and Grouping, and Staff Responses to Additional Public Questions", dated March 8, 1994.

(d) Letter from R. C. Mecredy, RG&E, to A. R. Johnson, NRC, Subject: "Response to Generic Letter 89-10, Supplement 6," dated April 26, 1994.

(e) Letter from R. C. Mecredy, RG&E, to A. R. Johnson, NRC, Subject: "Change to IEB 85-03 Program," dated March 22, 1990.

(f) Generic Letter 89-10, Supplement 4, "Mispositioning for BWRs", dated February 12, 1992.

(g) Meeting between NRC Staff and Cooperative Efforts Group, Subject: "Graded Approach to Implementating GL 89-10, Including Supplement 6", dated May 5, 1994.

xc: U.S. Nuclear Regulatory Commission
Mr. Allen R. Johnson (Mail Stop 14D1)
Project Directorate I-3
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
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475 Allendale Road
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USNRC Ginna Senior Resident Inspector

ATTACHMENT A

VALVE ID	SAFETY DIRECTION	NOUN NAME	VALVE			ANSI PRESS. CLASS	ACTUATOR TYPE/SIZE	DESIGN BASIS				ASSUMED VALVE FACTOR	GROUP VALVE FACTOR
			MANUF.	SIZE	TYPE			D/P OPEN	D/P CLOSE	FLOW	TEMP		
CVCS-313	C	RCP SEAL WATER RTN. ISOL.	ALYOCO	3"	DD GATE	150	SMB-000	N/A	150	125	300	0.3	N/A
CCW-749B	C	RCP B CCW INLET	CRANE	3"	FW GATE	150	SMB-000	N/A	100	LINE BREAK	100	0.3	0.2
CCW-759B	C	CCW FROM RCS LOOP B	CRANE	3"	FW GATE	150	SMB-000	N/A	140	32	556	0.3	0.2
CS-860B	O/C	CS PUMP A DISCHARGE	ANCH. DAR.	6"	DD GATE	300	SMB-00	283	98	SMALL	277	0.2	0.19
SI-897	C/RE-O	SI PUMP RECIRC. TO RWST	VELAN	2"	GLOBE	1500	SMB-00	1509	0	--	--	1.1	N/A
SI-898	C/RE-O	SI PUMP RECIRC. TO RWST	VELAN	2"	GLOBE	1500	SMB-00	1509	0	--	--	1.1	N/A
AFW-4000B	O/C	MTR-DRIVEN AFW PUMP XOVER	ROCKWELL	3"	GLOBE	1500	SMB-00	1495	1495	200	100	1.1	N/A
SW-4609	C	SCREEN HOUSE SW ISOL. 1A1	XOMOX	8"	BUTTERFLY	150	SMB-00	N/A	95	NORMAL	80	N/A	N/A
SW-4613	C	TURB. BLDG. SW ISOL. 1B2	XOMOX	10"	BUTTERFLY	150	SMB-000	N/A	95	NORMAL	80	N/A	N/A
SW-4615	O/C	AUX. BLDG. SW ISOL. 1B1	CRANE	20"	FW GATE	150	SMB-2	95	95	NORMAL	80	0.3	0.4
SW-4670	C	TURB. BLDG. SW ISOL. 1B1	CRANE	10"	FW GATE	150	SMB-0	N/A	95	NORMAL	80	0.3	0.32
SW-4733	C	CHILLER SW. ISOL. 1A2	ENERTECH	6"	BUTTERFLY	150	SMB-000	N/A	95	NORMAL	80	N/A	N/A
SW-4734	O/C	AUX. BLDG. SW ISOL. 1B2	ENERTECH	14"	BUTTERFLY	150	SMB-000	95	95	NORMAL	80	N/A	N/A
SW-4780	C	SCREEN HOUSE SW ISOL. 1A2	XOMOX	8"	BUTTERFLY	150	SMB-00	N/A	95	NORMAL	80	N/A	N/A

MOV	RISK SIGNIFICANCE CONSIDERATION	OPERABILITY JUSTIFICATION
313	This MOV is required to close following a containment isolation signal. The failure of this valve to close is only a concern if the CVCS piping inside containment were to fail providing a direct path for containment atmosphere. The second containment barrier for this penetration is the Volume Control Tank which has a relief valve setpoint of 75 psig that is greater than containment pressure post-accident (i.e., 60 psig). Therefore, this MOV is not a high risk significant valve since two piping systems would have to fail in addition to the MOV before creating a leak path from containment.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 50% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded.
749B	This MOV is only required to close if CCW lines inside containment fail. Previous analyses have shown that the affected CCW lines are sufficiently protected to prevent failure as a result of a HELB. Random pipe breaks following an accident are remote (5.53E-07/hour versus 1.24E-05/hour for a pump failing to run). Alternate valves can also be used to manually isolate the penetration. Following a significant pipe break inside containment, the CCW system would rapidly drain and the pumps would trip. Since a random pipe rupture is only postulated 24 hours post-LOCA, containment pressure would be very low. Consequently, the alternate valves would not have to close against any significant pressure. Therefore, this is not a high risk significant MOV.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 390% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. Similar valves have been successfully Δp tested with a measured valve factor less than that assumed for 749B. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.

MOV	RISK SIGNIFICANCE CONSIDERATION	OPERABILITY JUSTIFICATION
759B	This MOV is only required to close if CCW lines inside containment fail. Previous analyses have shown that the affected CCW lines are sufficiently protected to prevent failure as a result of a HELB. Random pipe breaks following an accident are remote (5.53E-07/hour versus 1.24E-05/hour for a pump failing to run). Alternate valves can also be used to manually isolate the penetration. Following a significant pipe break inside containment, the CCW system would rapidly drain and the pumps would trip. Since a random pipe rupture is only postulated 24 hours post-LOCA, containment pressure would be very low. Consequently, the alternate valves would not have to close against any significant pressure. Therefore, this is not a risk significant MOV.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 326% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. Similar valves have been successfully Δp tested with a measured valve factor less than that assumed for 759B. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.
860B	This MOV serves two functions: (1) allow injection of Containment Spray (CS), and (2) provide containment isolation after CS is terminated. The CS function is not risk significant in the PRA due to the reliability and capability of the Containment Fan Coolers. The containment isolation function is also not risk significant due to check valve 862A which is located between the MOV and containment. This check valve is Appendix J tested each refueling outage. Therefore, this is not a high risk significant MOV.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 324% in the closed direction. In the open direction, the torque switch is bypassed with 4,000 lbs. of margin between the calculated thrust necessary to overcome Δp and the motor stall limit. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. Dynamic testing of its sister valves (860A/C/D) were all successful with measured valve factors that were consistent with those assumed for 860B. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.

MOV	RISK SIGNIFICANCE CONSIDERATION	OPERABILITY JUSTIFICATION
897 898	These MOVs are normally open and provide isolation for the SI pump mini-recirculation lines to the RWST. The MOVs are interlocked with the isolation valves from the RWST to the suction of the SI pumps. One valve from each group (i.e., mini-recirculation and RWST suction lines) must close in order to go to high head recirculation. This action is performed with all pumps stopped. The open direction requirement is the result of an operator error which closes the MOV during the first few minutes of a small-break LOCA when RCS pressure is not below the SI pump shut-off head. These MOVs are high risk significant in the closed direction only.	Static testing has been performed which satisfies the closed direction testing requirements (i.e., 0 Δp). For the open direction, the torque switch is bypassed with 5000 lbs. of margin between the calculated thrust necessary to overcome Δp and the motor stall limit. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. No Δp test will be performed for these valves since the open direction requirement is due to an operator misposition error only.
4000B	This MOV is only used to cross-connect the AFW system when one motor-driven pump train fails and the opposite S/G is faulted. This scenario is not risk significant in the PRA due to the availability of the Standby AFW System.	Static testing has been performed. Dynamic testing of its sister valve (i.e., 4000A) indicates that the thrust necessary to overcome projected Δp is significantly less than that which was calculated due to a conservative valve factor assumption. In the open direction, the torque switch is bypassed with 9,000 lbs. of margin between the calculated thrust necessary to overcome Δp and the motor stall limit. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.
4609	This SW isolation valve is required to close and isolate flow to the travelling screens following an accident with SI and UV conditions. In addition, all but one of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, this MOV is not a high risk significant valve.	Static testing has been performed. Measured torque available to overcome projected Δp exceeds the estimated value by 193% in the closed direction. The valve/actuator structural limits and degraded motor capability are not exceeded. This MOV opens and closes on limit switch actuation.

MOV	RISK SIGNIFICANCE CONSIDERATION	OPERABILITY JUSTIFICATION
4613	This SW isolation valve is required to close and isolate flow to the instrument air compressors following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, this MOV is not a high risk significant valve.	Static testing has been performed. Measured torque available to overcome projected Δp exceeds the estimated value by 96% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. This MOV opens and closes on limit switch actuation. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.
4615	This SW isolation valve is required to close and isolate flow to CCW Heat Exchanger B and Standby AFW Pump B following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Due to the risk significance of the Standby AFW pump, this MOV is a high risk significant valve.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 51% in the closed direction. In the open direction, the torque switch is bypassed with 12,000 lbs. of margin between the calculated necessary thrust to overcome Δp and the motor stall limit. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. Dynamic testing on its sister valve (i.e., 4616) was successful with a measured valve factor consistent with that assumed for 4615.
4670	This SW isolation valve is required to close and isolate flow to the instrument air compressors following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, this MOV is not a high risk significant valve.	Static testing has been performed. Measured thrust available to overcome projected Δp exceeds the calculated value by 70% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. Dynamic testing on a similar valve (i.e., 4664) was successful with a measured valve factor consistent with that assumed for 4670.

MOV	RISK SIGNIFICANCE CONSIDERATION	OPERABILITY JUSTIFICATION
4733	This SW isolation valve is required to close and isolate flow to non-essential water chillers following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, this MOV is not a high risk significant valve.	Static testing has been performed. Measured torque available to overcome projected Δp exceeds the estimated value by 58% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. This MOV opens and closes on limit switch actuation.
4734	This SW isolation valve is required to close and isolate flow to CCW Heat Exchanger B following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, and the valve is manually reopened by operators during the recirculation phase of an accident, this MOV is not a high risk significant valve.	Static testing was deferred until 1995 outage when the valve will be completely refurbished. The spring pack curves have been used to estimate HBC output torque based on the as-found torque switch settings. Based on Δp data from other butterfly valves in the SW system, torque output exceeds calculated torque to overcome Δp by 259% in the closed direction, and 377% in the open direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. This MOV opens and closes on limit switch actuation.
4780	This SW isolation valve is required to close and isolate flow to the travelling screens following an accident with SI and UV conditions. At least three of the four installed SW pumps must fail before the failure to isolate the non-essential loads presents a concern. Since each SW isolation point contains two redundant valves, this MOV is not a high risk significant valve.	Static test has been performed. Measured torque available to overcome projected Δp exceeds the calculated value by 118% in the closed direction. The valve/actuator structural limits and degraded voltage motor capability are not exceeded. The MOV opens and closes on limit switch actuation. This MOV meets the grouping criteria of GL 89-10, Supplement 6 such that no initial Δp testing is required.