November 3, 2000

MEMORANDUM TO: Stuart A. Richards, Director
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Jack Cushing, Project Manager, Section 2 ***/RA/***
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MEETING WITH JOINT OWNERS GROUP TO DISCUSS MOTOR-OPERATED VALVE (MOV) PERIODIC VERIFICATION PROGRAM (TAC NO. MA5035)

On October 11, 2000, the Nuclear Regulatory Commission (NRC) staff held a public meeting with representatives of the Joint Owners Group (JOG) to discuss the current status of the JOG Program on Motor-Operated Valve (MOV) Periodic Verification. The Boiling Water Reactor Owners Group (BWROG), B&W Owners Group (B&WOG), Combustion Engineering Owners Group (CEOG), and Westinghouse Owners Group (WOG) are conducting the JOG program as an industry-wide response to Generic Letter (GL) 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves." The JOG program consists of the following three phases: (1) an interim MOV static diagnostic test program, (2) a 5-year MOV dynamic diagnostic test program, and (3) a long-term MOV periodic diagnostic test program. The NRC staff prepared a safety evaluation (SE) dated October 30, 1997, accepting the JOG program with certain conditions and limitations. The NRC staff meets with JOG representatives twice a year to discuss the status of the JOG program. Attachment 1 is a list of the meeting participants. Attachment 2 is a copy of the meeting agenda. Attachment 3 is the status of the staff's review of GL 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves." The meeting handouts can be obtained on the NRC's website in ADAMS with accession number ML003759116.

At the outset of the October 11 meeting, the NRC staff discussed the status of its review of MOV programs established at nuclear plants in response to GL 96-05. The staff is relying to a significant extent on the commitment of individual licensees to the JOG program as part of the preparation of SEs closing the NRC review of GL 96-05 programs at nuclear plants. The staff is reviewing, on an individual basis, those GL 96-05 programs developed by licensees not committed to the JOG program. At the time of the meeting, the staff had completed its technical evaluation of the GL 96-05 programs at all but six nuclear plants. The staff is working to complete its review of the GL 96-05 programs in 2000. During the October 11 meeting, the staff noted that GL 96-05 SEs may have slightly different language than other evaluations because of the ongoing nature of the JOG program and the individual GL 96-05 programs. The staff and the JOG representatives did not report any licensee concerns with the language of the GL 96-05 SEs issued to date.

The JOG representatives presented a status of the JOG program and the test results to date. The JOG representatives reported that licensees of 98 reactor units are participating in the program. The JOG program currently includes 196 valves that are receiving 3 repetitive dynamic tests with at least a 1-year time interval between tests. The JOG program has reached about the half-way point in terms of the receipt of MOV dynamic test packages. The JOG representatives stated that the MOV test results obtained since the previous NRC/JOG meeting in April 2000, did not lead to the preparation of new feedback notices to program participants. The JOG is continuing to address the issues raised in previous feedback notices, including the increase in valve factor for an Aloyco split wedge gate valve; the potential for under-filled test matrix categories in the JOG program; and the temporary reduction in valve factor observed during the dynamic testing of gate valves that had been recently disassembled and reassembled. The JOG representatives described the ongoing evaluation of disk-to-seat friction and guide friction for gate valves; bearing friction coefficients for butterfly valves in treated and untreated water systems; and valve factors for balanced disk and unbalanced disk globe valves. The JOG representatives stated that particular test packages are being reviewed to determine whether the criteria for prompt attention by the JOG program has been met.

In letters dated May 25, June 30, August 4, and August 7, 2000, respectively, BWROG, WOG, B&WOG, and CEOG notified the NRC of a change in the completion date for the JOG 5-year MOV dynamic test program (Phase 2) to October 2002 from the original date of March 2002. The JOG schedule change results from an adjustment to the start date for the MOV dynamic test program to reflect the issuance date of October 30, 1997, for the NRC SEs accepting the JOG program. In a letter dated October 11, 2000, the NRC staff informed BWROG that the adjustment of the schedule for completion of the JOG program is acceptable in light of the ongoing progress being accomplished by JOG in performing the MOV test program, and the significant participation by individual licensees in supporting the JOG program. At the October 11 meeting, the staff indicated that the acceptance of the schedule change for the JOG program is applicable to each of the participating owners groups. In a letter dated October 19, 2000, the NRC staff informed CEOG of the acceptability of the JOG schedule adjustment.

At the October 11 meeting, the JOG representatives reported that only small changes in valve factor had been observed during the tests of unbalanced disk globe valves conducted to date. The JOG representatives stated that the need to continue tests of unbalanced disk globe valves in water conditions as part of the JOG dynamic test program will be evaluated based on the absence of an identified degradation mechanism for these valves, and the minimal changes in valve factor observed in the repeat dynamic tests for these valves. The staff does not object to the re-evaluation of the JOG test plans. The staff suggested that the JOG address the range of valve types, sizes, and classes, and fluid conditions of the tested valves as part of its decision regarding further testing of unbalanced disk globe valves. The JOG will report on its test plans for unbalanced disk globe valves at the next NRC/JOG meeting following the review of additional test data.

On August 30, 2000, the NRC staff held a public meeting with BWROG to discuss a methodology developed by the owners group to provide an improved prediction of the performance of dc-powered MOVs. The BWROG developed the methodology in response to concerns identified by dc-powered motor actuator tests at the Idaho National Engineering and Environmental Laboratory sponsored by the NRC Office of Nuclear Regulatory Research, and reported in NUREG/CR-6620, "Testing of dc-Powered Actuators for Motor-Operated Valves."

The NRC staff issued NRC Information Notice 96-48, "Motor-Operated Valve Performance Issues," and its Supplement 1 (July 24, 1998) to alert licensees to updated guidance for predicting ac-powered MOV actuator output and to identify efforts to evaluate dc-powered MOV output. On June 23, 2000, the BWROG forwarded Topical Report NEDC-32958 (Revision 0, dated March 2000), "BWR Owners' Group DC Motor Performance Methodology - Predicting Capability and Stroke Time in DC Motor-Operated Valves," to the NRC staff for information. The BWROG did not request the preparation of an NRC SE on its dc-motor performance methodology. During the August 30 meeting, the BWROG indicated that Limitorque Corporation is planning to issue a technical update regarding its dc-motor performance methodology. On October 2, 2000, the BWROG forwarded its recommended BWR utility schedule for implementing the BWROG dc-motor methodology to the NRC. In particular, the BWROG recommended that its utilities evaluate their GL 96-05 dc-powered MOVs that have been assigned a static test frequency of two cycles or less by the JOG program within 12 months or the first refueling outage, and the remaining GL 96-05 dc-powered MOVs within two refueling outages, following NRC acknowledgment of the BWROG methodology. At the October 11 meeting with the JOG, the NRC staff stated that it is considering preparation of a Regulatory Issue Summary (RIS) to acknowledge the BWROG dc-motor methodology in responding to the issue of dc-powered MOV motor actuator output.

The NRC staff and the JOG representatives discussed the performance of Contromatics butterfly valves tested as part of the JOG program to date. The JOG has not observed any abnormal bearing friction traces during its tests to date for these valves. The JOG representatives noted that seating torque for butterfly valves is not being addressed by the JOG program because it can be observed during static diagnostic tests. The JOG topical report indicates that individual licensees are responsible for monitoring changes in seating torque for their butterfly valves.

Action items from the October 11 meeting for the NRC staff included: (1) providing a response to the applicable owners groups regarding the JOG schedule change; and (2) considering the issuance of an RIS on the dc-powered MOV motor output issue. Action items for JOG included: (1) evaluating the need to continue dynamic testing of unbalanced disk globe valves in water conditions; and (2) contacting the licensee of the Davis Besse nuclear plant to verify the submittal of its JOG commitment.

The NRC staff and JOG representatives set a tentative date of May 9, 2001, for the next public meeting to discuss the status of the JOG program.

Attachments:
1. Meeting Participants
2. Meeting Agenda
3. Status of Generic Letter 96-05 Review

cc w/atts: See next page

Environmental Laboratory sponsored by the NRC Office of Nuclear Regulatory Research, and reported in NUREG/CR-6620, "Testing of dc-Powered Actuators for Motor-Operated Valves." The NRC staff issued NRC Information Notice 96-48, "Motor-Operated Valve Performance Issues," and its Supplement 1 (July 24, 1998) to alert licensees to updated guidance for predicting ac-powered MOV actuator output and to identify efforts to evaluate dc-powered MOV output. On June 23, 2000, the BWROG forwarded Topical Report NEDC-32958 (Revision 0, dated March 2000), "BWR Owners' Group DC Motor Performance Methodology - Predicting Capability and Stroke Time in DC Motor-Operated Valves," to the NRC staff for information. The BWROG did not request the preparation of an NRC SE on its dc-motor performance methodology. During the August 30 meeting, the BWROG indicated that Limitorque Corporation is planning to issue a technical update regarding its dc-motor performance methodology. On October 2, 2000, the BWROG forwarded its recommended BWR utility schedule for implementing the BWROG dc-motor methodology to the NRC. In particular, the BWROG recommended that its utilities evaluate their GL 96-05 dc-powered MOVs that have been assigned a static test frequency of two cycles or less by the JOG program within 12 months or the first refueling outage, and the remaining GL 96-05 dc-powered MOVs within two refueling outages, following NRC acknowledgment of the BWROG methodology. At the October 11 meeting with the JOG, the NRC staff stated that it is considering preparation of a Regulatory Issue Summary (RIS) to acknowledge the BWROG dc-motor methodology in responding to the issue of dc-powered MOV motor actuator output.

The NRC staff and the JOG representatives discussed the performance of Contromatics butterfly valves tested as part of the JOG program to date. The JOG has not observed any abnormal bearing friction traces during its tests to date for these valves. The JOG representatives noted that seating torque for butterfly valves is not being addressed by the JOG program because it can be observed during static diagnostic tests. The JOG topical report indicates that individual licensees are responsible for monitoring changes in seating torque for their butterfly valves.

Action items from the October 11 meeting for the NRC staff included: (1) providing a response to the applicable owners groups regarding the JOG schedule change; and (2) considering the issuance of an RIS on the dc-powered MOV motor output issue. Action items for JOG included: (1) evaluating the need to continue dynamic testing of unbalanced disk globe valves in water conditions; and (2) contacting the licensee of the Davis Besse nuclear plant to verify the submittal of its JOG commitment.

The NRC staff and JOG representatives set a tentative date of May 9, 2001, for the next public meeting to discuss the status of the JOG program.

Attachments: 1. Meeting Participants
2. Meeting Agenda
3. Status of Generic Letter 96-05 Review

cc w/atts: See next page

DISTRIBUTION: See attached list

ACCESSION NO: ML003766635 Package No: ML003766791 Incoming: ML003751765

OFFICE	PDIV-2/PM	PDIV-2/LA	EMCB/BC	PDIV-2/SC
NAME	JCushing:am	EPeyton	DTerao for: EImbro	SDembek
DATE	10/30/00	10/30/00	11/03/00	11/3/00

OFFICIAL RECORD COPY

cc:

Mr. Charles B. Brinkman, Director
Washington Operations
Combustion Engineering Nuclear
12300 Twinbrook Parkway, Suite 330
Rockville, MD 20852

Mr. Gordon C. Bischoff, Project Director
CE Owners Group
Combustion Engineering Nuclear Power
M.S. 9615-1932
2000 Day Hill Road
Post Office Box 500
Windsor, CT 06095

Mr. Richard Bernier, Chairman
CE Owners Group
Mail Stop 7868
Arizona Public Service Company
Palo Verde Nuclear Generating Station
P.O. Box 52034
Phoenix, Arizona 85072-2034

Randy Hutchinson, Chairman
B&WOG Executive Committee
Vice President Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

Mr. W. W. Foster, Chairman
B&WOG Steering Committee
Director of Safety Assurance
Duke Power Company
Oconee Nuclear Station
P.O. Box 1439
Seneca, SC 29679

Mr. J. J. Kelly, Manager
B&W Owners Group Services
Framatome Technologies, Inc.
P.O. Box 10935
Lynchburg, VA 24506-0935

Mr. Andrew Drake, Project Manager
Westinghouse Owners Group
Westinghouse Electric Corporation
Mail Stop ECE 5-16
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. Jack Bastin, Director
Regulatory Affairs
Westinghouse Electric Corporation
11921 Rockville Pike
Suite 107
Rockville, MD 20852

Mr. Hank Sepp, Manager
Regulatory and Licensing Engineering
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. W. Glenn Warren
BWR Owners' Group Chairman
Southern Nuclear Company
42 Inverness Parkway
P.O. Box 1295
Birmingham, AL 35201

Mr. Thomas G. Hurst
GE Nuclear Energy
M/C 182
175 Curtner Avenue
San Jose, CA 95125

DISTRIBUTION FOR MEETING SUMMARY WITH JOINT OWNERS GROUP ON OCTOBER 11, 2000

Dated: November 3, 2000

Hard Copy
PUBLIC
PDIV-2 R/F
J Cushing

E-Mail
JZwolinski/SBlack (RidsNrrDlpm)
SRichards (RidsNrrDlpmLpdiv)
RidsOgcMailCenter
RidsAcrsAcnwMailCenter
GTracy
EPeyton
SDembek
TScarbrough
STingen
DTerrao
DWessman
DDempsey
EImbro
JColaccino

JOG/NRC PUBLIC MEETING

October 11, 2000

MEETING PARTICIPANTS

Name	Organization
David Terao	NRC/NRR/EMEB
Tom Scarbrough	NRC/NRR/EMEB
Stephen Tingen	NRC/NRR/EMEB
Joe Colaccino	NRC/NRR/EMEB
Jack Cushing	NRC/NRR/RGEB
Glenn Warren	SNC/BWROG
Wendell Fiock	BWROG-GE
Ike Ezekoye	WOG-Westinghouse
Frank Ferraraccio	CEOG-Westinghouse
Chad Smith	Duke Power
Bob Doyle	APS/CEOG
Tim Chan	TVA
Paul Damerell	MPR
Dean Raleigh	SERCH, Bechtel

Attachment 1

AGENDA

NRC/JOG PUBLIC MEETING

MOTOR-OPERATED VALVE PROGRAM ON PERIODIC VERIFICATION

October 11, 2000

OWFN O-6B4

8:30 a.m.	Introductions (NRC and JOG)
8:35 a.m.	GL 96-05 Review Issues and Status (NRC)
9:00 a.m.	Status of Utility Testing and Data Submittals (JOG)
9:20 a.m.	JOG Test Program Results Since Previous Meeting (JOG)
10:15 a.m.	BREAK
10:30 a.m.	Continue: JOG Test Program Results (JOG)
11:00 a.m.	Status of Utility Feedback Notices (JOG)
11:15 a.m.	Items of Interest (NRC) - BWROG dc motor performance methodology - Contromatics butterfly valve performance - JOG program schedule
11:45 a.m.	Action Items and Schedule for Next Meeting (NRC and JOG)
Noon	Closing (NRC)

Attachment 2

STATUS OF GENERIC LETTER 96-05 REVIEW
(October 11, 2000)

96 REACTOR UNITS COMMITTED TO IMPLEMENT JOG PROGRAM IN GL 96-05 RESPONSE.

GL 96-05 SAFETY EVALUATION ISSUED FOR 72 UNITS:

ANO 1/2	Ginna	Prairie Island 1/2
Beaver Valley 1/2	Harris	Quad Cities 1/2
Braidwood 1/2	Hatch 1/2	River Bend
Browns Ferry 2/3	Hope Creek	Robinson
Brunswick 1/2	Indian Point 3	Salem 1/2
Byron 1/2	Kewaunee	Seabrook
Calvert Cliffs 1/2	LaSalle 1/2	Sequoyah 1/2
Catawba 1/2	McGuire 1/2	South Texas 1/2
Clinton	Millstone 2	Summer
Comanche Peak 1/2	Monticello	TMI-1
Cooper	Oconee 1/2/3	Waterford
Diablo Canyon 1/2	Palisades	Watts Bar
Dresden 2/3	Palo Verde 1/2/3	WNP-2
Duane Arnold	Perry	Wolf Creek
Fermi 2	Pilgrim	Vogtle 1/2
FitzPatrick	Point Beach 1/2	

GL 96-05 TECHNICAL REVIEW COMPLETE AND SAFETY EVALUATION IN PREPARATION FOR 23 UNITS:

Grand Gulf	North Anna 1/2	Susquehanna 1/2
Indian Point 2	Oyster Creek	Surry 1/2
Limerick 1/2	Peach Bottom 2/3	Turkey Point 3/4
Millstone 3	San Onofre 2/3	Vermont Yankee
Nine Mile Point 1/2	St. Lucie 1/2	

7 NON-JOG UNITS ADDRESSED SEPARATELY:

Callaway (inspection and followup information under review)
Crystal River (to submit JOG commitment)
Davis Besse (to submit JOG commitment)
Fort Calhoun (Request for additional information to be issued)
Palisades (inspection and SE issued)
San Onofre 2/3 (inspection and SE issued)

STAFF PLANS TO COMPLETE GL 96-05 REVIEWS IN 2000 (EXCEPT DC COOK UNDERGOING GL 89-10 REVIEW).