



**REGULATORY ISSUE SUMMARY – FOLLOW UP TO RESPONSE
FOR GENERIC LETTER 96-05 GUIDANCE FOR THE EVALUATION
OF CLASS D VALVES IN THE JOINT OWNERS GROUP MOTOR-
OPERATED VALVE PERIODIC VERIFICATION PROGRAM**

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Generic Letters (GL)

- GL 89-10 requested licensees to verify design basis capability of safety-related motor-operated valves (MOVs)
- GL 95-07 requested licensees to address potential pressure locking and thermal binding of power-operated gate valves
- GL 96-05 requested licensees to develop programs to periodically verify MOV design basis capability



GL 96-05 Periodic Verification of Motor-Operated Valves (MOV's)

- GL 96-05 requested plants to establish a program to periodically verify that safety related MOV's continue to be capable of performing their safety function
- Industry banded together (98 out of 103 plants) and formed Joint Owners Group (JOG) to address GL 96-05
- An interim test plan was initiated and approved by NRC
- The final program plan was submitted to NRC 2/2004. NRC staff issued a safety evaluation on 9/25/2006 approving the final plan with conditions



Joint Owners Group (JOG) Program on MOV Periodic Verification (PV)

- Risk-informed program to share test information on valve performance for GL 96-05
- Interim phase specified static diagnostic testing at frequency based on risk and margin
- 5-year dynamic testing of sample MOVs for each plant
- Safety Evaluation (SE) (10/97) issued on initial JOG Topical Report (7/97)
- Long term guidelines based on dynamic test results provided in JOG Topical Report (2/04)



JOG Program Basics

- JOG program tested over 150 different valves in various applications (treated water, untreated water, hot, cold, steam, etc.)
- Test results concluded that valves perform the same if they share the same attributes such as: valve type, fluid application, disk-to-seat material, disk-to-body material, bearing material, etc.



JOG Program Basics

- JOG program determined that all valves can be classified based on their attributes and performance
- Class A – Valves are not susceptible to degradation (based on test results)
- Class B – Similar to Class A valves, not susceptible to degradation (based on test results, extended analysis and engineering judgment)
- Class C – Valves are susceptible to degradation (based on test results)
- Class D – Valves were not tested by the JOG program



JOG Program Basics

- JOG participants will have 6 years from issuance of NRC Safety Evaluation to implement final program
- Licensees need to obtain all valve attribute information
- Determine the classification of the valve
- Determine periodic verification (PV) approach
- PV approach is based on valve class, risk, and margin
- For Class D valves, licensees are responsible for determining PV approach. Plants are expected to notify NRC of its plans for PV of Class D valves
- Licensees are expected to notify NRC of deviations from the JOG program, including the implementation schedule



MOV Regulatory Requirements

- 10 CFR 50.55a – Codes and Standards
- Incorporates by reference ASME OM Code 2004 Edition to 2006 Addenda with conditions established in 10 CFR 50.55a(b)(3)(ii)
- 10 CFR 50.55a(b)(3)(ii) has two elements:
 1. Licensees must meet the ASME OM Code IST requirements for MOVs
 2. Licensees must establish a program that ensures the capability of MOVs to perform their design-basis safety function



MOV Regulatory Requirements

- In response to conditions set forth in 10 CFR 50.55a(b)(3)(ii) – ASME developed Code Case OMN-1 “Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants OM Code-1995, Subsection ISTC”
- Regulatory Guide (RG) 1.192 Revision 0 endorses OMN-1 (ASME OM Code 1999 Addenda with conditions) as an acceptable alternative for testing Motor-Operated Valves
- RG-1.192 is currently being revised and updated to latest ASME OM Code



MOV Regulatory Requirements

- Code Case OMN-1 has been updated and incorporated into the ASME OM Code 2009 Edition as Mandatory Appendix III
- All plants will eventually be required to implement Mandatory Appendix III
- NRC staff is currently reviewing ASME OM Code 2009 Edition Mandatory Appendix III for incorporation into 10 CFR 50.55a. Projected completion of the review is end of 2012 – first quarter of 2013



ASME Code Case OMN-1

OMN-1 has the basic elements for testing unknown valves.

1. Design Basis Verification test
2. Mix of static and dynamic testing
3. Interval and test type to be determined based on engineering analysis of sufficient data
4. Test interval shall be conducted every 2 refueling cycles or 3 years (whichever is longer) until sufficient data exists
5. Data from other valves may be used if justified by engineering evaluation



Summary of Issue

- NRC staff endorses OMN-1 with conditions as an acceptable program for addressing Class D valves
- Applicants or licensees that have determined that their nuclear power plants do not have any Class D valves, do not have to notify the NRC staff of their findings
- Applicants or licensees that have implemented OMN-1, as accepted in RG 1.192, do not have to notify the NRC staff of their findings on Class D valves



Summary of Issue

- Applicants or licensees that have identified JOG Class D valves at their plants and have chosen not to implement ASME OM Code Case OMN-1 (as accepted in RG 1.192) will need to establish and justify a separate program for the periodic verification of the design basis capability
- NRC staff considers Section 7 of MPR-2524-A a good starting point
- Applicants or licensees need to consider applicable commitments
- Changes to commitments and new periodic verification test program strategies must follow 10 CFR 50.59 process



Summary of Issue

- Applicants and licensees that will implement the 2009 Edition of the ASME OM Code, the NRC staff considers the application of Mandatory Appendix III with any specified conditions when incorporated by reference in 10 CFR 50.55a an acceptable approach for the periodic verification of the design basis capability of MOVs



QUESTIONS?

Future Questions

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