Current Air-Operated Valve Regulatory Activities

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Topics

- Current Regulations / Guidance

- NRC Reg Guide DG-1089
- NRC Reg Guide DG-1112

- Recent Events/Notices

- Risk Informed IST

- Status of Risk Informed AOV Program Reviews

- Other AOV related Regulatory Activities

Current Regulations / Guidance

- ASME OM Code of record: 10 CFR 50.55a(b)(2)
  - 1998 Edition through the 2000 Addenda
  - Scope defined in ISTA 1100
- Use of ASME Code defined in 10 CFR 50.55a(f)
  - ASME Code Class components or equivalent
- NUREG 1482 Guidelines for Inservice Testing
  - Revision 1 in draft, incorporates guidance to date and ASME 2000A Edition

NRC Reg Guide DG-1089

- ASME OM Code Cases, to be issued March 2003
- Conditions placed on certain Code Cases
- Licensees may use approved OM Code Cases provided all conditions listed in Code Case and Reg Guide are met
- Risk Informed IST Code Cases
  - Code Case OMN-3
  - Code Case OMN-12

OMN 3

Requirements for Safety Significance Categorization of Components using Risk Insights for Inservice Testing

- RI component Code Cases use OMN 3 to catagorize HSS and LSS components

- Four (4) conditions proposed on use of OMN 3
  - Condition 1: Program must include non-ASME components categorized as HSSC that may not be in current IST program

  - Condition 2: Decision Criteria must be consistent with Reg Guide 1.174

OMN 3

- - Condition 3: Defense in Depth and Safety Margin evaluations must be consistent with Reg Guide 1.175

- - Condition 4: Implementation of Inservice Testing Program and Performance Monitoring must be consistent with Reg Guide 1.175 and OMNs 1, 4, 7 and 12

OMN 12

Alternative Requirements for IST using Risk Insights for Pneumatically and Hydraulically Operated Valves

- New AOV/HOV test strategy coupled with risk-informed categorization
- Used in conjunction with Code Case OMN-3
- NRC conditions ensure technical philosophy consistent with Code Case OMN-1 (MOV Code Case)

OMN 12

Alternative Requirements for IST using Risk Insights for Pneumatically and Hydraulically Operated Valves

- Eight (8) NRC Conditions on use of OMN-12
  - (1) Include a mix of static and dynamic testing which may be altered when justified by evaluation of test data
  - (2) Evaluate adequacy of diagnostic test interval which shall not exceed 5 years or 3 RO
  - (3) Evaluate potential increase in CDF and risk of interval extension to ensure small and consistent with NRC Regulatory Guide 1.174 and 1.175 criteria
  - (4) Degradation rate and capability margin evaluated to ensure AOV/HOV capable of performing design basis functions until next test

OMN 12

Alternative Requirements for IST using Risk Insights for Pneumatically and Hydraulically Operated Valves

- (5) Capable of performing design basis function until next test
- (6) Setpoints based on direct dynamic test information, test based methodology, or grouping with dynamically tested valves
- (7) Initial and periodic diagnostic testing to verify setpoints
- (8) Evaluate operability of AOV/HOV if valve does not satisfy acceptance criteria

Reg Guide 1.175 Risk Informed IST

- Same as current IST Program Scope except: Must include Non-ASME Code AOVs / HOVs categorized as high safety significant (HSS)

- AOVs / HOVs that are not within the scope of the Code but AOV / HOV program identified

  - Non ASME Code low safety significant (LSS) AOVs / HOVs

  - Non-ASME Code LSS Dampers

- Consider comprehensive activities for related Non-ASME Code HSS Components (eg. Dampers)
  - March 27, 2000 SONGS SE (Adams ML003695622)

NRC Reg Guide DG-1112

- ASME Code Cases not approved for use by NRC, to be issued March 2003

Recent Events/Notices

- Information Notice 2002-29, Recent Design Problems in Safety Functions of Pneumatic Systems
  - Failure of a non-safety related pneumatic system may affect one or more safety related systems

Status of Risk Informed AOV Program Reviews

- No Proposed Alternative RI-IST AOV Program Reviews pending

- B&WOG RI-IST AOV Topical Report BAW-2359
  - Withdrawn November 11, 2002
  - May re-submit portions if needed

Other AOV related Regulatory Activities

- No recent AOV Design Basis capability inspections
- 2004 ASME/NRC Pump and Valve Symposium