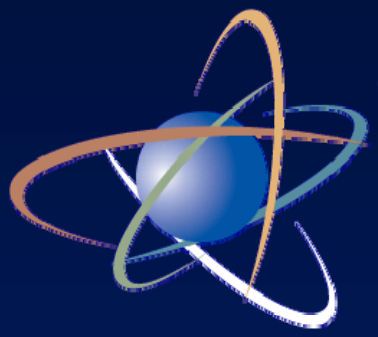

NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants," & Code Case OMN-20

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NUREG-1482, Revision 2

Introduction

- NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants"
  - Inservice Testing (IST) of Pumps and Valves
  - Inservice Examination and Testing of Snubbers
  - Issued on October 24, 2013
  - Available in Agencywide Documents Access and Management System (ADAMS) under ADAMS Accession No. ML13295A020
  - Previous Revisions of NUREG-1482, did not contain IST of snubbers

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NUREG-1482, Revision 2 (cont.)

Introduction (cont.)

- Replaces Revision 0 and Revision 1
- Guidelines and recommendations do not supersede the regulatory requirements specified in 10 CFR 50.55a
- Does not authorize the use of alternatives to, or grant relief from, the ASME OM Code requirements for IST

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2**
  - Incorporates ASME OM Code 2004 Edition with 2005 and 2006 Addenda, and the 2005 Addenda through 2008 Edition of ASME Section XI (rulemaking issued on June 21, 2011, Federal Register, Vol. 76, No. 119, page 36232-36279)
  - Based on public comments all sections of NUREG-1482, Revision 1 are maintained and all new topics are assigned new Sections/Subsections
  - NRC received more than 100 public comments. NRC staff evaluated all public comments and incorporated as appropriate. NRC staff evaluation of public comments is available under ADAMS Accession No. ML13161A382

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes IST of pumps, valves and snubbers related to New Reactors
  - Includes Regulatory Flow Diagrams for development of inservice testing programs (pumps, valves and snubbers)
  - Includes Guidelines for Inservice Examination and Testing of Snubbers in newly added Appendix A

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Deleted duplicate and incorrect information
  - Details from Standard Technical Specifications (STS) have been deleted, and instead STS Section numbers have been provided
  - Deleted previously attached NEI documents, and instead NEI document numbers have been provided
  - References have been numbered and made available in NRC public website www.nrc.gov and ADAMS

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections Added under Section 2.1, “Compliance Consideration”
    - 2.1.2 Conditions to the ASME OM Code

      Contains the reasoning for the 5 Conditions applied to the use of ASME OM Code.

    - 2.1.3 Voluntary Use of Later Edition and Addenda to the ASME Code

      Outlines expectations of licensees when requesting use of later editions of the ASME Code.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections Added under Section 2.1, Compliance Consideration
    - 2.1.4 Identification of Noncompliance

      This Section includes guidance on resolving degraded and nonconforming conditions, and references RIS 2005-20, Revision 1, "Revision to NRC Inspection Manual Part 9900, Technical Guidance, Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Condition Adverse to Quality or Safety."

    - 2.1.5 ASME OM Code Interpretations

      Cautions licensees when applying interoperations. NRC may not accept interpretations.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections Added under Section 2.5, Request and Proposed Alternative
    - 2.5.4 Revising NRC-Authorized Relief or Alternative

      10 CFR 50.59 may not be used to revise NRC-authorized relief or alternative.
    - 2.5.5 NRC Temporary Verbal Authorization of an Alternative

      Provides conditions when a temporary verbal authorization may be use..
  - :

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections Added under Section 2.5, Request and Proposed Alternative
    - 2.5.6 NRC Approval of Proposed Alternatives Similar to Prior NRC Approved Alternatives

      Provides guidance to licensees when submitting alternative requests for subsequent 10-year IST intervals. Recommends reviewing new applicable Code and Code Cases.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes some of the new IST issues observed since NUREG-1482, Revision 1
    - Online Check Valve Sample Disassembly and Inspection (Section 4.2.11)

      While submitting relief request for online check valve group sample disassembly and inspection, the licensee should fully describe how it plans to comply with the requirements in ISTC-5224. The plan description also should include information on management of examination and testing of all group valves should a scheduled valve inspection be declared inoperable.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes some of the new IST issues observed since NUREG-1482, Revision 1 (cont.)
    - Waterleg Pumps (Section 5.11)

      Provides guidance to licensees when requesting alternatives for BWR Group A waterleg pump tests. Requests should explain how the pump discharge pressure is monitored, the main emergency core cooling system (ECCS) header is verified to be full of water, what is the pump vibration monitoring frequency, and any other maintenance or testing activity performed to ensure the pump will continue to meet its intended function.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes some of the new IST issues observed since NUREG-1482, Revision 1 (cont.)
    - Smooth-Running Pumps (Section 5.12)

      Provides guidance for requesting alternate acceptance criteria for smooth-running pumps. Requires inclusion of these pumps in a predictive maintenance (PdM) program.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes some of the new IST issues observed since NUREG-1482, Revision 1 (cont.)
    - Vibration-Measuring Transducers (Section 5.13)
      - Licensee requests to use this alternative are generally no longer authorized by the NRC.
      - Vibration-measuring transducers and their readout system can now be procured from various suppliers at a reasonably low cost due to technology advancement and research work performed in the field of instrumentation.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Includes some of the new IST issues observed since NUREG-1482, Revision 1 (cont.)
    - Motor Drivers for Pumps (Section 5.14 previously Section 5.11)

      Applicable Institute of Electrical and Electronic Engineers (IEEE) standards are referenced for testing of motor drives for pumps.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections related to New Reactors
    - 2.7 Developing IST Program for New Nuclear Power Plants

      Provides guidance on the design of plant systems for the development of an IST program minimizing the need for relief from the ASME OM Code provisions.
    - 4.1.11 Check Valves in New Reactors

      New design must provide the means for bi-directional testing of check valves within the scope of IST.
    - 4.2.12 Power-Operated Valves (POVs) in New Reactors

      Diagnostic testing of POVs is a part of IST program.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - New Sections related to New Reactors (cont.)
    - 4.4.8 Pyrotechnic-Actuated Valves in New Reactors

      The NRC may license conditions above and beyond the requirements of the ASME OM Code when issuing combined operating licenses.

    - 5.15 Pumps in New Reactors

      New power plants are to be designed to allow full flow testing of pumps in the IST program, when the plant is operating.

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Added New Figure 2.1, "Flow Chart –Development of IST Program for Pumps & Valves" This chart provides a quick guidance of the following:
    - Regulation 10 CFR 50.55a for development of the 10-year IST program for pumps and valves
    - Submittal of relief request/alternative during development of IST program
    - Submittal of IST program to regulatory authority (NRC)

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Added New Appendix A, "Guidelines for Inservice Examination and Testing Program for Dynamic Restraints (Snubbers) at Nuclear Power Plants" which includes:
    - Regulatory Basis – 10 CFR 50.55a
    - Regulatory History of Staff Guidance on IST of Snubbers
    - Compliance Consideration
    - Developing and Implementing inservice examination and IST of snubbers
    - Scope of Snubber IST program
      - Visual Inservice Examination
      - Inservice Testing
      - Service Life Monitoring

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Added New Appendix A, "Guidelines for Inservice Examination and Testing Program for Dynamic Restraints (Snubbers) at Nuclear Power Plants" which includes (cont.):
    - Snubber Program Documentation Requirements
    - Snubber Program Plan and its Update Documents
    - Relief Requests and Proposed Alternatives
    - Repair and Replacement of Snubbers
    - Developing Snubber Program for New Nuclear Power Plants

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - Added New Appendix A, "Guidelines for Inservice Examination and Testing Program for Dynamic Restraints (Snubbers) at Nuclear Power Plants" which includes (cont.):
    - Flow-Chart - Development of Preservive and Inservice and Testing Program for Snubbers provides the quick guidance of the following:
      - Regulation 10 CFR 50.55a for development of the 10-year snubber program for snubbers
      - Submittal of relief request/alternative during development of snubber program
      - Submittal of snubber program to regulatory authority (NRC)

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NUREG-1482, Revision 2 (cont.)

- **Highlights of NUREG-1482, Revision 2 (cont.)**
  - NRC is planning to present a detailed overview on NUREG-1482, Revision 2 during the twelfth ASME/NRC Symposium on Valves, Pumps, and Inservice Testing in June 2014

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ASME Code Case OMN-20

- On February 24, 2012, the NRC issued EGM 12-001, Dispositioning Noncompliance with Administrative Controls Technical Specification (TS) Programmatic Requirements that Extend Test Frequencies and Allow Performance of Missed Tests," to allow enforcement discretion and provide guidance to licensees prior to the issuance of a long term solution for addressing frequencies and frequency extensions for IST intervals.

- On August 23, 2012, the NRC issued RIS 2012-10, "NRC Staff Position on applying Surveillance Requirements 3.0.2 and 3.0.3 to Administrative Controls Program Tests," which reemphasized and clarified the information contained in EGM 12-001.

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ASME Code Case OMN-20 (cont.)

- For any component's IST frequency of 2 years or less, the licensee need not take action. Whereas for any component's IST frequency greater than 2 years, the licensee needs to submit a relief request.

- Code Case OMN-20, "Inservice Testing Frequency," which addressed inservice testing frequency and allowable test grace period for the ASME OM Code IST requirements was published in the 2012 Edition of the ASME OM.

- To expedite the use of Code Case OMN-20, NRC plans to add a condition in the latest rulemaking to endorse the usage of Code Case OMN-20 without requiring NRC approval.

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Questions?