

RISK-INFORMED INSERVICE TESTING (RI-IST)



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Approaches



Classical IST Approach

- **ASME Code Referenced in 10 CFR 50.55a**
- **Program Scope Includes ASME Safety-Related Class Pumps and Valves**
- **Like Components Subjected to Prescriptive Testing Requirements Regardless of Safety Significance**

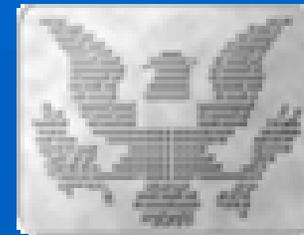
Approaches



Classical IST Approach

- **Changes in Test Interval or Test Methods, or Acceptance Criteria Reviewed and Approved by NRC staff [relief requests or authorized alternative]**
- **NRC-Endorsed ASME Code Cases Provide Clarification of, or Alternatives to, Code Requirements**

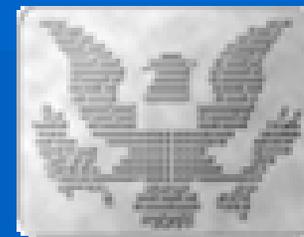
Approaches



Regulatory Guide 1.175 Approach

- **General Framework for Defining a Risk Informed Inservice Testing Program (RI-IST)**
- **Each Alternative RI-IST Program Needs to be Authorized by the NRC Pursuant to 10CFR 50.55a (a)(3)(i)**
- **Use is Voluntary and Does Not Preclude Other Approaches**

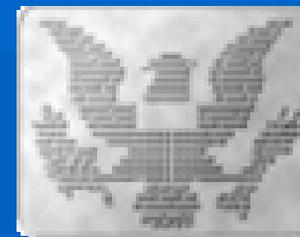
Approaches



Regulatory Guide 1.175 Approach

- **Start by Ensuring That the PRA Reflects the Design, Operation, and Other Activities at the Plant**
- **Establishes RI-IST Program Using Traditional, Engineering Evaluation, PRA Insights, and Integrated Decision Making**
- **Components Categorized as Either High or Low Safety Significant (HSSC or LSSC)**

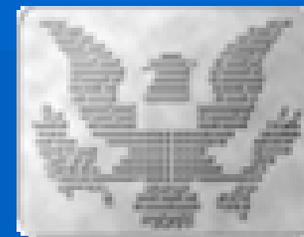
Approaches



Regulatory Guide 1.175 Approach

- **RI-IST Program Scope Should Include Non-code Components That are Categorized HSSC**
- **Test Strategy Relaxations and Possible Improvements Considered**
- **Overall Effect on Plant Risk Is Estimated and Compared to RG 1.174 Guidelines**
- **Allows Licensees to Focus Resources Commensurate with Safety Significance**

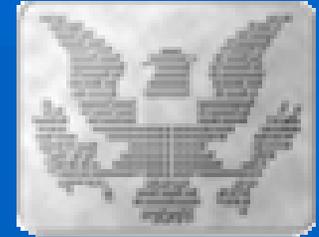
Approaches



Regulatory Guide 1.175 Approach

- **Step-wise Implementation Plan**
- **Component-level Performance Monitoring and Feedback Ensures Potential Problems Are Promptly Detected and Corrected (e.g., HSSC)**
- **Resource Savings From Reduction in Frequency of Testing LSSCs**

Approaches



Regulatory Guide 1.175 Approach

- **Plant Specific Project Status**
 - **Comanche Peak Full Scope RI-IST Program**
SER Issued 8/14/98
 - **South Texas Limited Scope RI Alternative**
Authorized 7/23/99
 - **San Onofre Full Scope RI-IST Program**
SER Issued 3/27/00

[Note: Palo Verde and South Texas withdrew their RI-IST programs. Sequoyah and Davis Besse withdrew their limited scope RI-IST submittal.]

ASME Code Cases and Component Specific Cases



- ASME Code Case OMN-3, Categorization Guidelines for Inservice Testing (e.g., HSSC)
- Component Specific Code Cases Define Test Strategies for HSSC and LSSC
 - OMN-1 and OMN-11, Motor Operated valves
 - OMN-4, Check Valves
 - OMN-7, Pumps
 - OMN-12, Pneumatically and Hydraulically Operated Valves

ASME Code Cases and Component Specific Cases



- Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability
- June 2003 Revision of RG 1.192 Incorporated by Reference Into 10 CFR 50.55a
- Licensee Can Implement R-I Code Cases as Endorsed Without Further NRC Review
- Industry Feedback Y Component Specific Code Cases Do Not Relax LSSC Testing Requirements Enough

10 CFR 50.69, Special Treatment Requirements



- Risk Informs the Scope of Special Treatment Requirements
- No Change to Design Basis or Technical Functional Requirements
- NRC Staff Reviews/Approves Categorization Process (NEI 00-04 and Regulatory Guide 1.201 Provide Guidance)
- Requires a License Amendment

10 CFR 50.69, Special Treatment Requirements



- High-level Treatment Requirements For Safety Related Components Categorized as Having Low Safety Significance (RISC-3 SSCs) – Ensure Reasonable Confidence of Functionality

10 CFR 50.69, Special Treatment Requirements



- RISC-3 SSCs Removed From the Scope of Licensee's IST Program as well as from:
 - Reporting
 - Environmental and Seismic Qualification
 - Inservice Inspection
 - Repair/Replacement
 - Quality Assurance
 - Maintenance Rule, and
 - Appendix J Containment Leak Rate

10 CFR 50.69, Special Treatment Requirements



- To date, No Licensee Has Submitted a Request to Implement 10 CFR 50.69 (rule effective date 12/22/04)