

Buried Piping Integrity Initiative Implementation Status

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History

- Buried piping leaks have occurred and continue to happen
- Industry had recognized the importance
 - INPO focus area
 - NEI Ground Water Protection Initiative
 - EPRI Balance of Plant Corrosion and BPIG
 - EPRI Buried Piping Program Guidelines

Perspective

- Leaks have not resulted in nuclear safety concerns or significant radiological consequences
- However, leaks from buried piping could have the potential to be nuclear safety, radiological, and environmental concerns
- Issue is experiencing public and political interest
- The public may not understand distinctions in system function
- **This is a public confidence issue**

Industry Response

- Buried Piping Integrity Initiative approved by industry Chief Nuclear Officers (CNO) on November 18, 2009
 - Scope: below grade piping that is in direct contact with the soil
- Implementation is proceeding as planned

Buried Piping Integrity Initiative

- Goal: Reasonable assurance of leakage and structural integrity with emphasis on piping containing radiological material
- Six implementation milestones
 1. Procedures and oversight by June 30, 2010 - COMPLETE
 2. Risk ranking of piping by December 31, 2010
 3. Inspection plan by June 30, 2011
 4. Begin inspections by June 30, 2012
 5. Condition assessment by June 30, 2013
 6. Asset management plan by December 31, 2013

Understanding an NSIAC Initiative

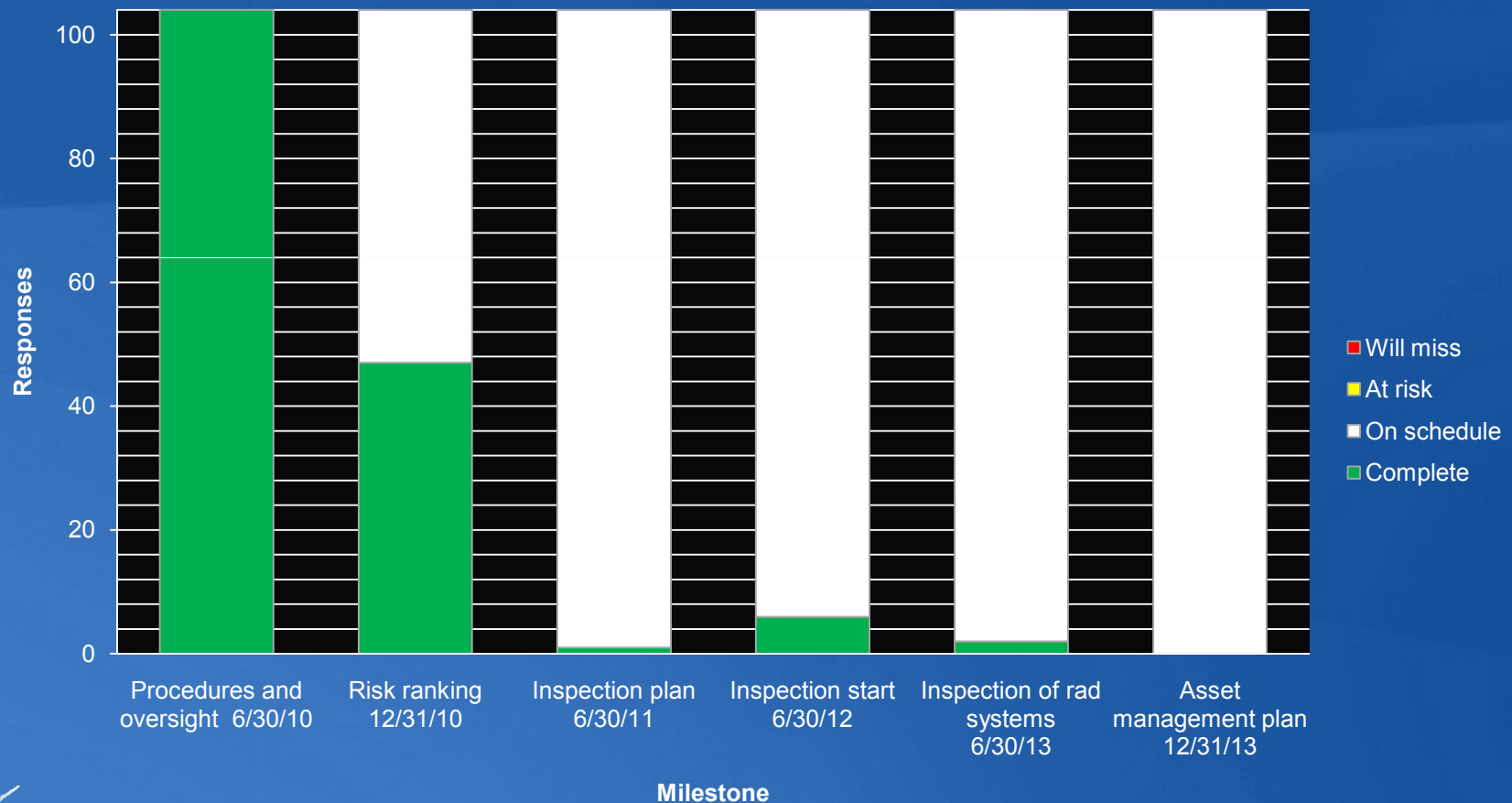
- NSIAC (Nuclear Strategic Issues Advisory Committee) is an NEI standing committee whose members include the CNO of every utility operating a nuclear power plant in the US
- Initiative is a formal commitment between CNOs to follow a defined policy or plan of action
 - Large regulatory credibility, but not a regulatory commitment
- Buried Piping Integrity Initiative was approved unanimously (100%) on November 18, 2009

Industry Activities

- Formed Buried Piping Integrity Working Group and Task Force
- Issued rev 0 of NEI Guideline (NEI 09-14)
- Ongoing interaction with NRC to explain Initiative and industry activities
- In response to OE, revised the Initiative to expand scope

Initiative Implementation: Milestone Status for 104 Plants

July 2010



Operating Experience

- Recent inspection OE
 - Example
 - Inspections performed per buried piping integrity program and in response to the Initiative
 - AFW line corrosion due to lack of coating
- Leakage events (INPO data)
 - See following slides for trends
 - Data for all leaks reported: includes significant leaks as well as insignificant leaks

EPIX Reporting

- NEI: report leak data to 1/2009 by 6/30/2010 to establish baseline for trends
- Reporting basis: NEI 09-014 Appendix A

Reporting

- Reporting of all leaks expected beginning in 2009
- Recent leakage trends
 - 2009 ~ 70
 - 2010 ~ 32 through August

Leakage Breakdown

- System breakdown
 - Safety related ~ 5%
 - Contains licensed radioactive material ~ 5%
 - Environmentally sensitive ~ 10%
 - Other systems ~ 80%

NDE Technology Development

- Currently available technology
 - Direct inspection (excavation)
 - Guided wave UT for screening
 - Internal inspection tools if accessible
 - Remote field eddy current
 - Large diameter robotic inspection vehicle
- Recent industry report summarizes available technologies from other industries
 - Evaluation for applicability in progress

Implementation Observations

- Plants are implementing the Initiative
 - All plants have met the first Initiative milestone: no deviations taken
- Positive impact on program and processes
- OE indicates that plants are implementing Initiative expectations
- Emphasizing development of new inspection technologies as alternatives to direct inspection by excavation