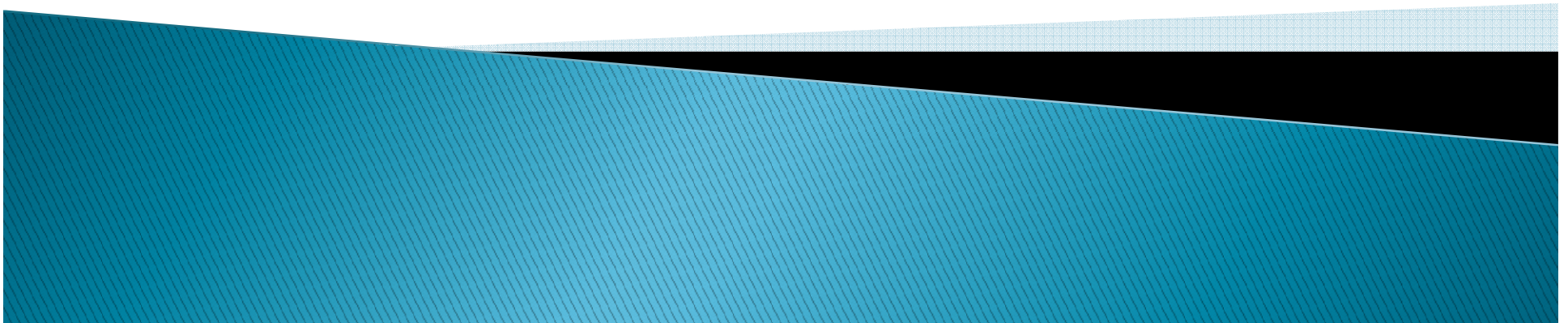


Buried Pipe Integrity NSIAC Initiative Guideline
Thursday, February 24, 2010
Nuclear Regulatory Commission (NRC), Buried Pipe
Update

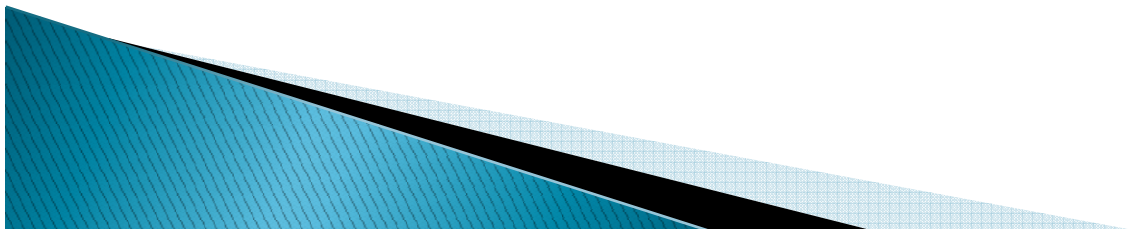
Buried Pipe Initiative and Guideline Comparison

Chris Burton, -FENOC
David Smith, -Duke



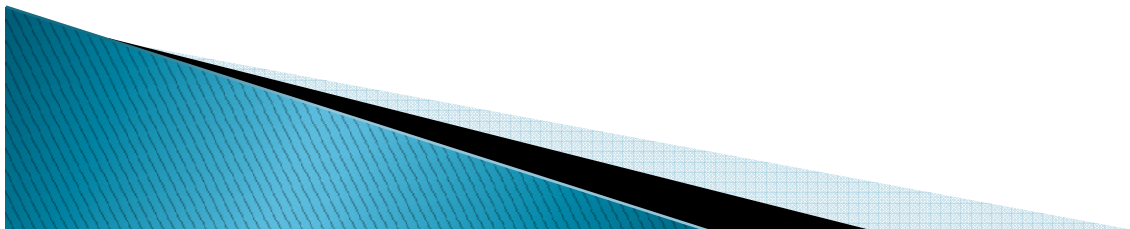
Objectives

- ▶ *Provide an overview of the NSIAC Initiative details:*
 - *Initiative Goal*
 - *Purpose of the NEI Guideline Document : NEI 09-14*
 - *Initiative Essential Program Elements and Implementation Dates*



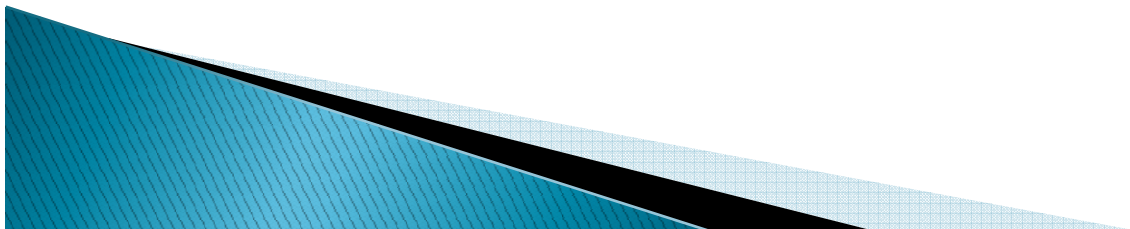
Initiative Goal

- ▶ The goal of the Buried Piping Integrity Initiative is to provide “reasonable assurance” of structural and leakage integrity of all buried piping with special emphasis on piping that contains radioactive materials.
- ▶ Building upon the existing Ground Water Protection Initiative (NEI 07–07) the Buried Piping Integrity Initiative will:
 - Drive proactive assessment and management of the condition of buried piping systems.
 - Ensure sharing of industry experience
 - Drive technology development to improve upon available techniques for inspecting and analyzing underground piping.



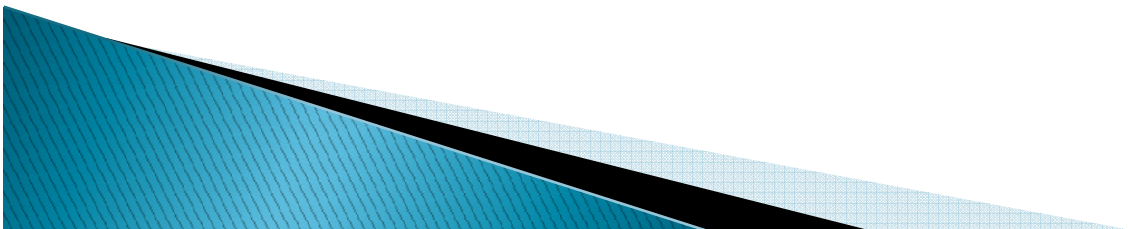
Initiative Goal

- ▶ Reasonable assurance within the context of the Buried Piping Integrity Initiative
- ▶ Attributes include
 - Best estimate
 - Graded approach
 - Engineering judgment based on experience and supported by facts
 - Systematic approach
 - Prevention
 - Not a guarantee



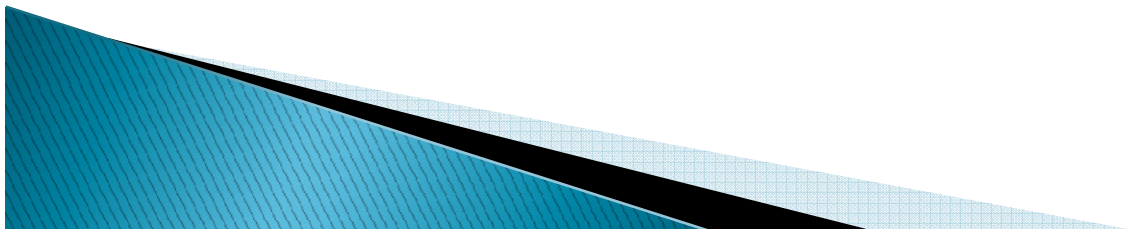
Initiative Key Program Elements

- ▶ “Every utility shall implement a Buried Piping Integrity Program that incorporates the elements and associated key attributes in this section”
 - Procedures and Oversight – By *June 30, 2010*
 - Risk Ranking – By *December 31, 2010*
 - Inspection Plan – By *June 30, 2011*
 - Plan Implementation – Inspection Plan shall start no later than *June 30, 2012* and the condition assessment of buried piping containing radioactive material shall be completed by *June 30, 2013*
 - Asset Management Plan – By *December 31, 2013*



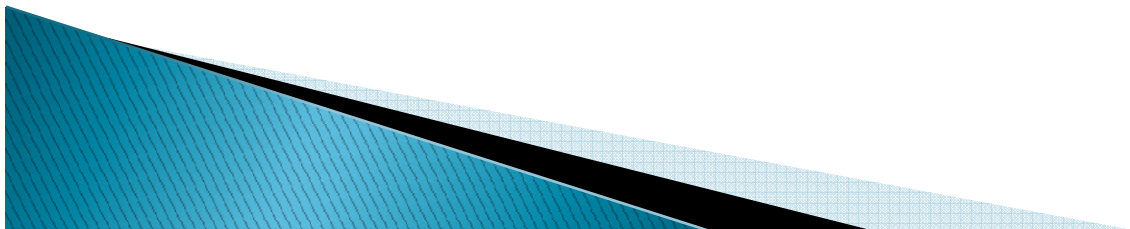
Purpose of NEI 09-14

- ▶ The Industry Guideline for the Management of Buried Piping Integrity describes the policy and practices that the industry commits to follow in managing buried piping.
- ▶ These guidelines support the Industry Initiative on Buried Piping Integrity adopted by the NEI Nuclear Strategic Issues Advisory Committee (NSIAC) on November 18, 2009.
- ▶ The guideline:
 - Documents the scope of the formal Industry Initiative on Buried Piping Integrity (the “Initiative”).
 - Sets the goals that drive the Initiative.
 - Defines the roles and responsibilities established to ensure implementation of the Initiative.
 - Defines the content and responsibilities for creating reports to NSIAC on Initiative implementation.



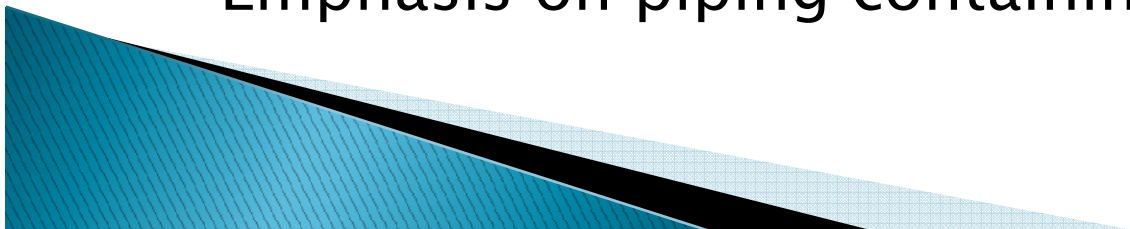
Procedures and Oversight (09-14)

- ▶ The necessary procedure and oversight responsibilities shall be in place by *June 30, 2010*.
 - Clear lines of responsibility
 - Buried Pipe Integrity Program Documents and Implementing Procedures
 - Report to NSIAC
 - Process for justifying and approving exceptions to the provisions of the Initiative



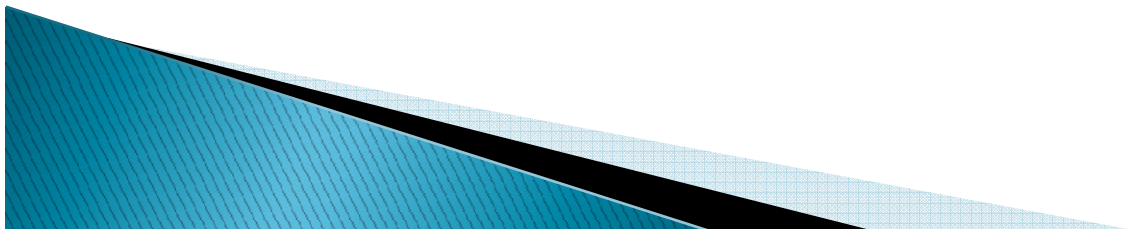
Risk Ranking (09-14)

- ▶ Identifies site vulnerabilities
- ▶ Prioritizes the selection of inspection locations.
- ▶ Performed by determining
 - The likelihood of failure of each segment and
 - The consequences of failure of that segment.
- ▶ Incorporates other attributes
 - Pipe function
 - Pipe locations and layout
 - Pipe materials and design
 - Health of cathodic protection system (if applicable)
- ▶ Considers the following as a minimum:
 - Emphasis on piping containing radioactive fluids.



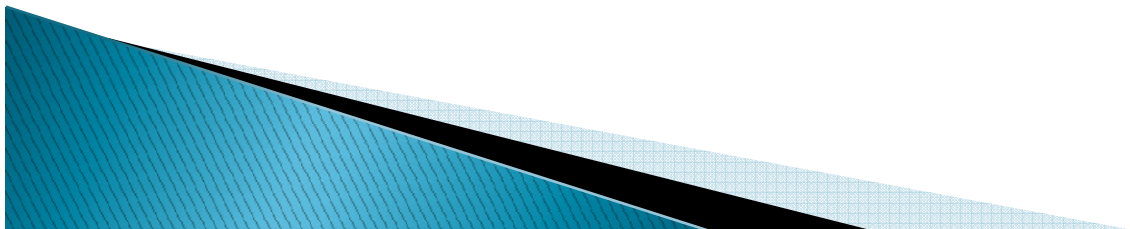
Inspection Plan (09-14)

- ▶ Includes the following key attributes:
 - Identification of piping segments to be inspected
 - Potential inspection techniques
 - Inspection schedule for buried piping segments based on risk ranking
 - Assessment of cathodic protection, if applicable
- ▶ Sampling techniques and engineering evaluations based on known conditions of piping are an acceptable means of achieving reasonable assurance



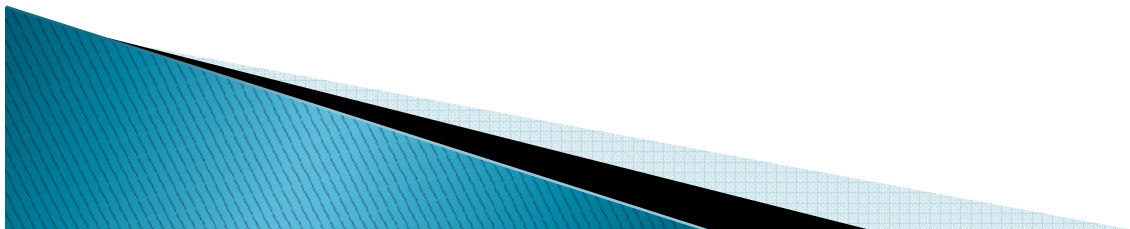
Plan Implementation (09–14)

- ▶ Start no later than **June 30, 2012**.
- ▶ Complete buried piping containing radioactive material by **June 30, 2013**.
- ▶ Condition assessment
 - Based on both inspection results and engineering evaluations.
 - Locations prioritized based on risk
 - Provides “Reasonable assurance” that the piping segment will maintain structural and leakage integrity until the next planned inspection.



Asset Management Plan (09-14)

- ▶ Long range plan for managing the structural and leakage integrity of buried piping.
- ▶ Key elements include:
 - Inspection plans,
 - Planned maintenance activities,
 - Plans for repair, and
 - Anticipated replacement.
 - The asset management plan for buried piping may be part of the overall site or fleet asset management plan.
- ▶ Living document that will be periodically reviewed as more plant data becomes available through physical assessments and other means and as industry knowledge and technology evolve
- ▶ Revisions reviewed by an appropriate high level organization within the utility



Questions

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