



Ground Water Protection

“Oyster Creek Actions on Ground Water Contamination”

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April 2009 Tritium Leak

- ✓ **Two Carbon Steel Condensate Transfer System Lines**
 - Eight-inch Line Historically Thought To Be Stainless Steel
 - Ten-inch Line Under Vacuum During Power Operation
 - No Operational or Nuclear Safety Issues Associated With Leaks

Causes

- ✓ **Root Cause**
 - Anodic Dissolution In Conjunction With a Susceptible Material
 - Erroneous Assumptions In Program Basis
- ✓ **Contributing Cause**
 - Improperly Applied Coating
 - 100% Verification Of Piping Integrity Is Not Practical

August 2009 Tritium Leak

- ✓ **Six-inch aluminum Condensate Transfer line**
 - Leak Occurred Inside a Turbine Building Wall Penetration
 - Identified Through Turbine Building Sump Pump Down Rate
 - No Operational or Nuclear Safety Issues Associated With Leaks

Causes

- ✓ **Root Cause**
 - Galvanic Corrosion Resulting From a Coating Breach
- ✓ **Contributing Cause**
 - Piping Internal To Penetrations Not Included Buried Piping Program

April and August 2009 Tritium Leak

✓ Corrective Actions To Prevent Recurrence

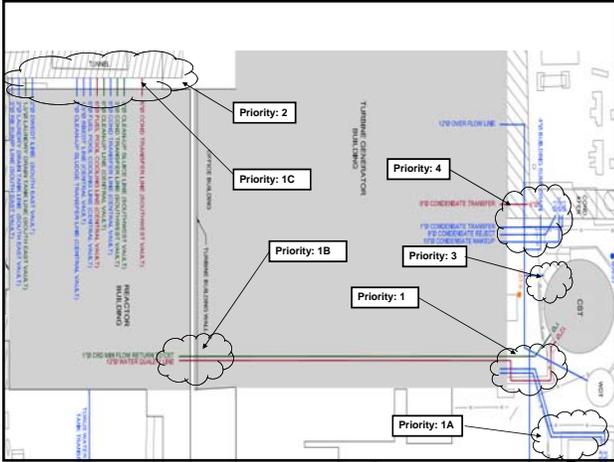
- Revise Risk-based Strategic Inspection Plans To Include Piping Penetrations
- Buried Piping Initiative To Move Piping Into Vaults or Above Ground
- Perform a Thorough Program Assessment and Revise/Update The Program Based On The Results

Exelon Buried Piping Program Approach

- ✓ The original approach for the Exelon Buried Piping Program was to categorize the high-risk piping, perform inspections, and repair/replace based on unacceptable inspection results and/or actual leakage.
- ✓ The approach has changed to add a proactive replacement or containment strategy to the Buried Piping Program as a Strategic Capital Project

Oyster Creek Buried Piping Initiative

- ✓ An aggressive, 16-month, \$13.3 million plan to move the pipes into monitored vaults or above ground.
 - Distinct Advantages
 - Corrosive Environment Essentially Eliminated
 - Contains any Leakage
 - Routes Leakage to a Collection Location
 - Pipes Accessible for Inspections
 - Monitored Vaults Allow Prompt Identification
- ✓ Solution Areas Identified
 - 750 Linear Feet of Pipe
 - 1700 Square Feet of Vaulting



Tritium Remediation

- ✓ Impacted Area – Approximately 9600 Square Feet
- ✓ New Well Installation
 - 24 New Monitoring Wells and 1 Pumping Well
- ✓ Extensive Ground Water Mapping
 - Subsurface Water Flow
 - Plume Characterization; Horizontal and Vertical
- ✓ Natural Attenuation to Active Pumping
 - Well Pump, Batch Tank, Composite Sampler, Integrator
 - Significant Reduction in Concentration

Stakeholder Interaction and Engagement

- ✓ Issues Management Team Established
- ✓ Extensive Communication With NRC
- ✓ Technical Team Coordination With NJ DEP
- ✓ State and Local Government Outreach
- ✓ Community Information Meetings
- ❖ Significant Effort in Managing Issue
