

# Underground Piping and Tank Integrity Initiative Update

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USNRC/Industry Public Meeting: Underground Piping and Tanks Initiative Update  
January 21, 2015 • Rockville, MD



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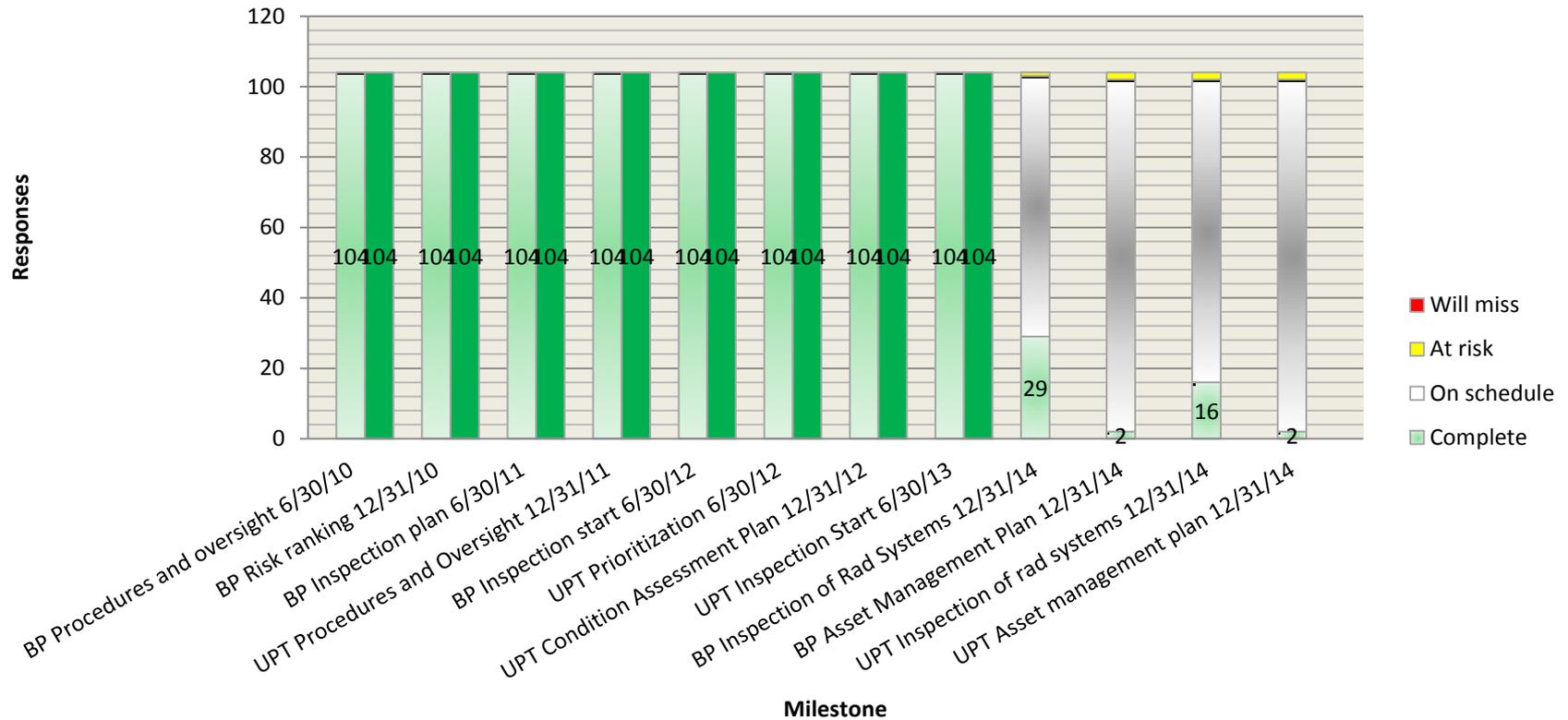
# Overview

- Initiative Implementation Status
- Updates from INPO, EPRI, and ASME
- Buried Pipe Integrity Task Force Update

# Implementation Status

Status as of June 2014

(left bar in each pair is status from 6 months ago)



# Implementation Status

- Plants have completed the first eight milestones.
- Positive trends are indicated on each of the remaining milestones for survey responses received to date.
  - A few plants have yet to respond to the survey (responses in progress.)
  - Five units permanently ceased operations for decommissioning.
  - Complete survey results expected by the February, 2015 BPIG meeting.

# Implementation Status

- Interim guidance for management of underground assets for future plants that enter the decommissioning transition process is complete.
- One deviation for inspection completion milestone. Conservative analysis supports closure by August 31, 2015.
- BPITF continues to meet with NRC staff.
- The Asset Management Plans capture future inspections and related activities.

# INPO Update



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# **INPO Perspectives**

**NRC Buried and Underground Piping Meeting  
January 21, 2015**

**Joe Sears**

**Manager, Nuclear Asset Protection**

# Key Topics

- INPO's NEI 09-14 role
- Industry Performance
  - Plant evaluations
  - Operating experience
    - ICES reporting
- Questions



# NEI 09-14 INPO's Role

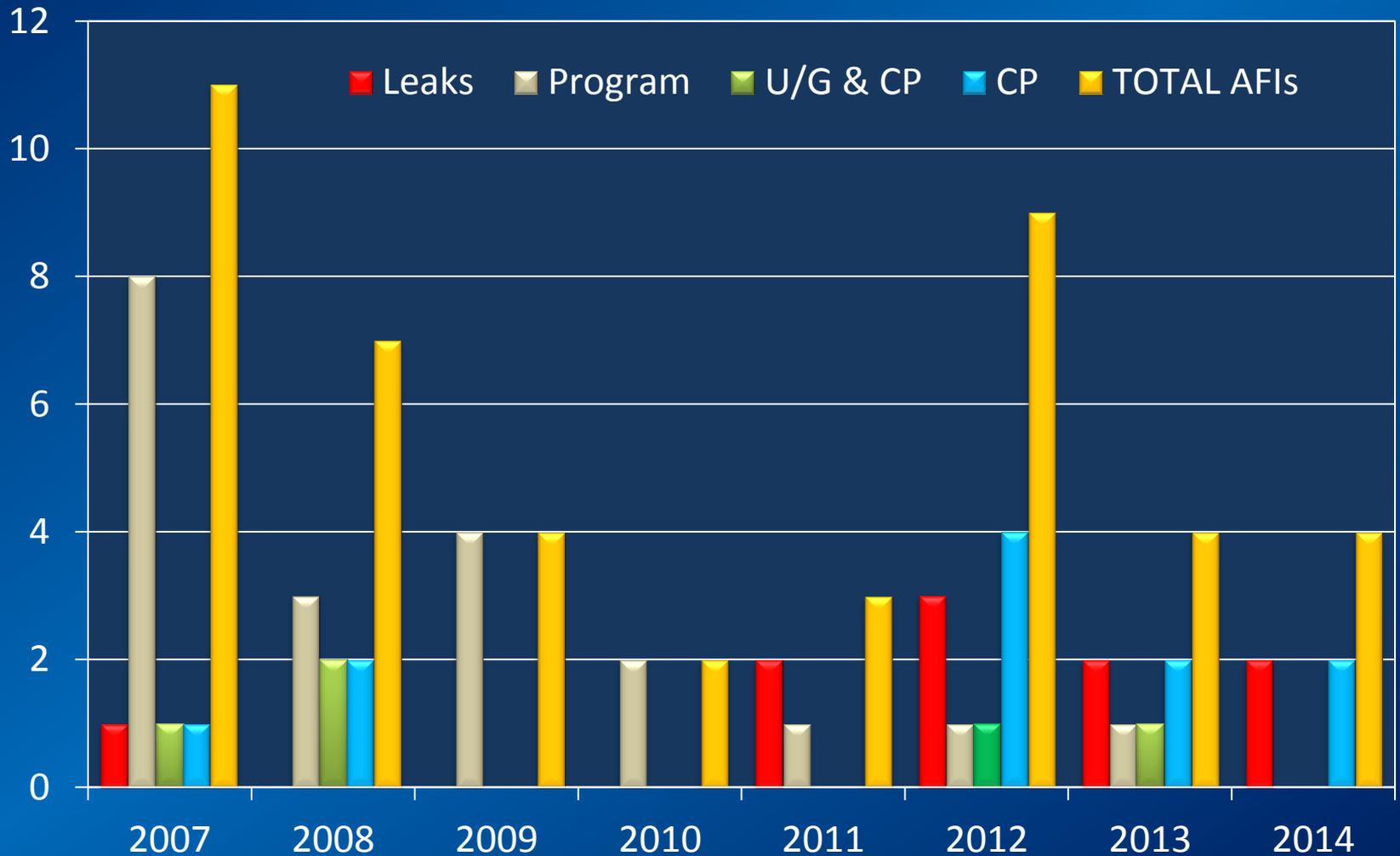
- Evaluate programs.
- Communicate issues to the industry.
- Compile and report operating experience.

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# Areas for Improvement



# 2014 Summary

	Areas for Improvement	Performance Deficiencies
Underground Piping and Tanks	2	1
Cathodic Protection	2	4

- Program implementation remains effective
- Improvement needed:
  - Cathodic protection not properly maintained
  - Cathodic protection equipment work prioritization and completion
  - Cathodic protection site knowledge weaknesses
  - Leaks occurring and the source is not determined

# Good Underground Piping Program Attributes

- Comprehensive asset management plan
- ICES reporting quality improvement
- Zero leak tolerance - especially in piping containing radioactive fluids
- Cathodic protection installed and maintained
- Failure causes identified
- Effective station and corporate oversight
- Effective use of corrective action program

# 2015 Evaluation Focus Area

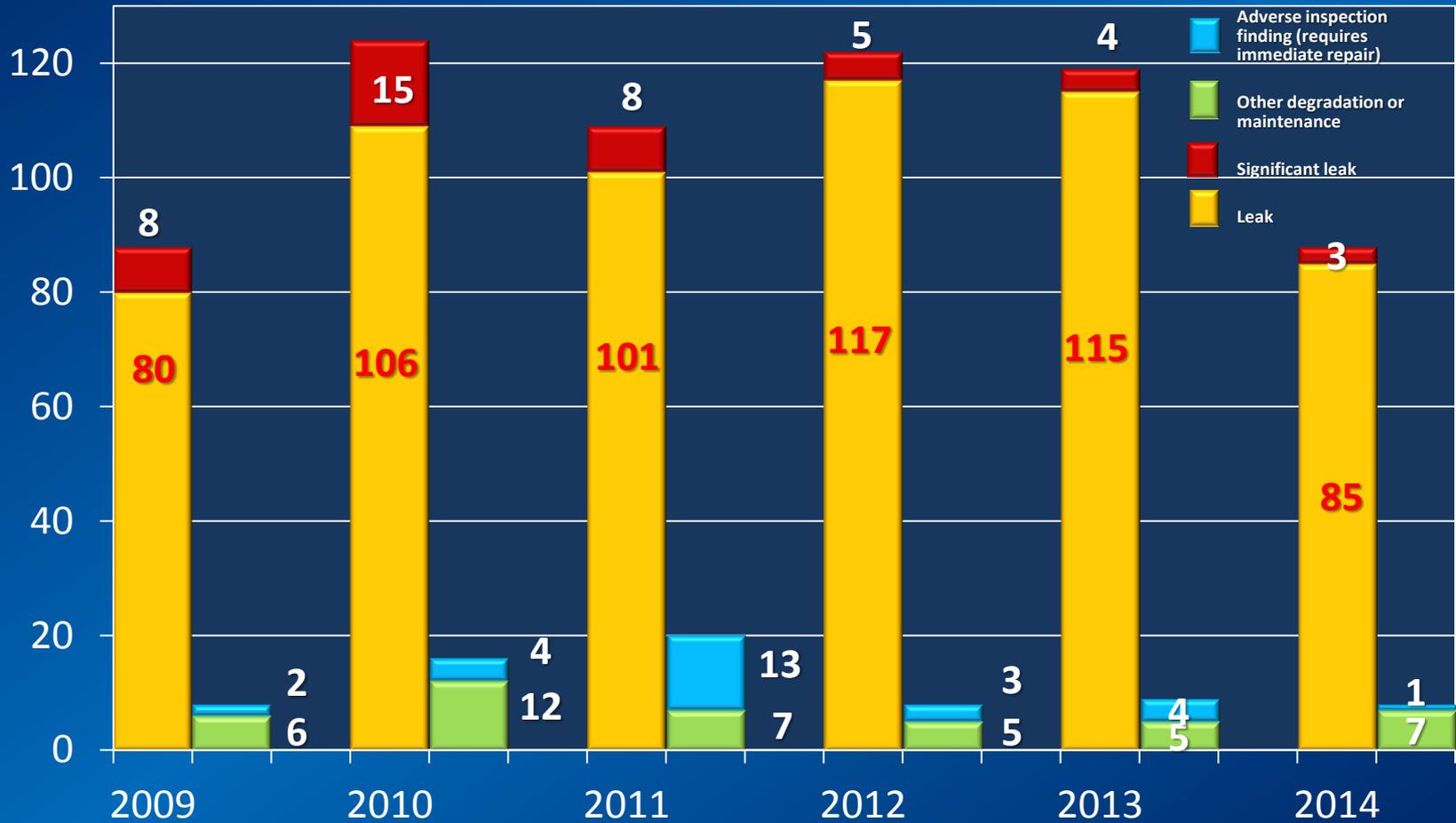
- **Asset Management Plan Review**
  - Does it meet the intent of NEI 09-14?
  - Does it meet the needs of the station?
  - Has it been reviewed by an appropriate level of management?
  - Is it maintained based on changing station priorities?

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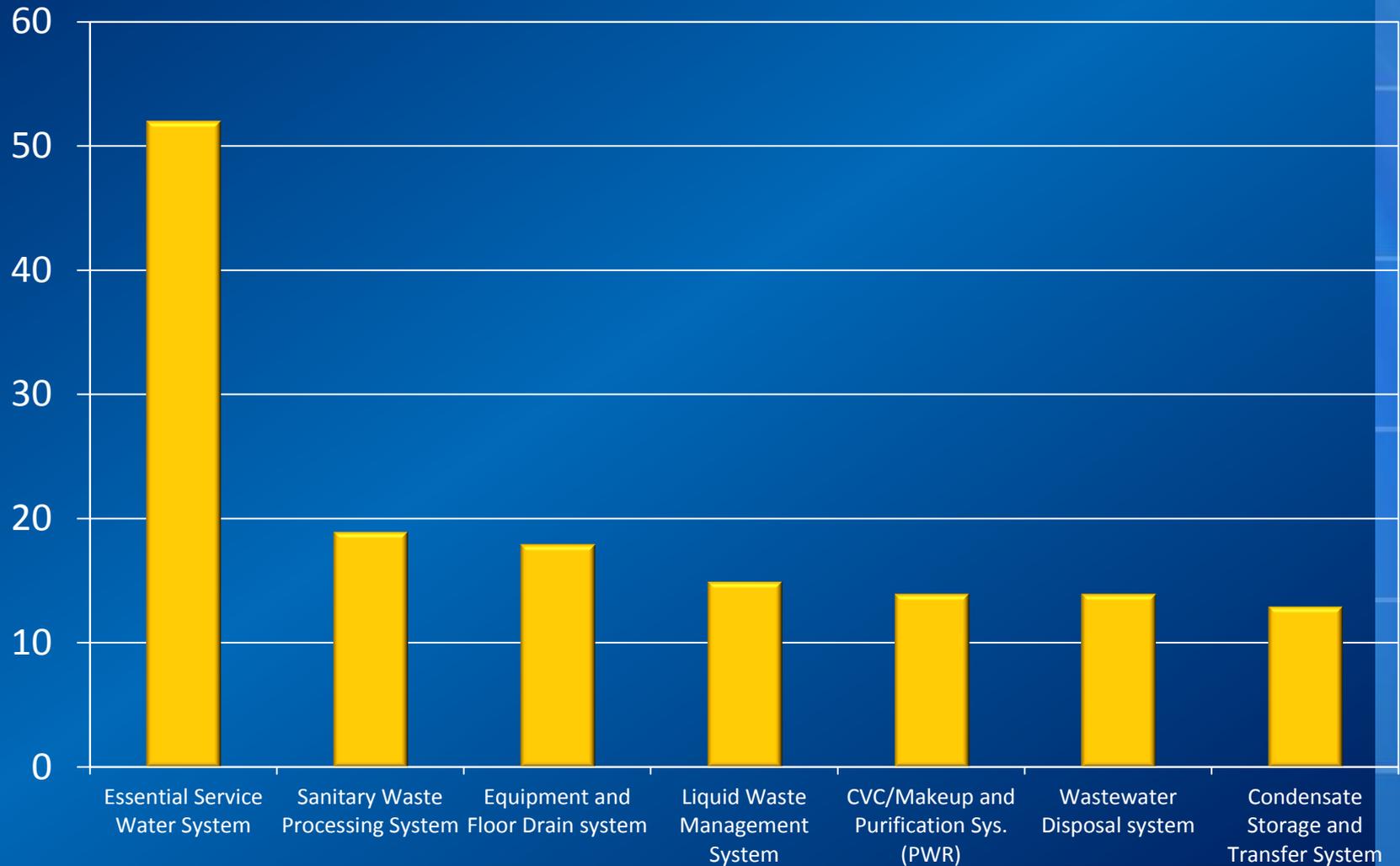
# 2014 Number of Reported Events by Year and Failure Mode



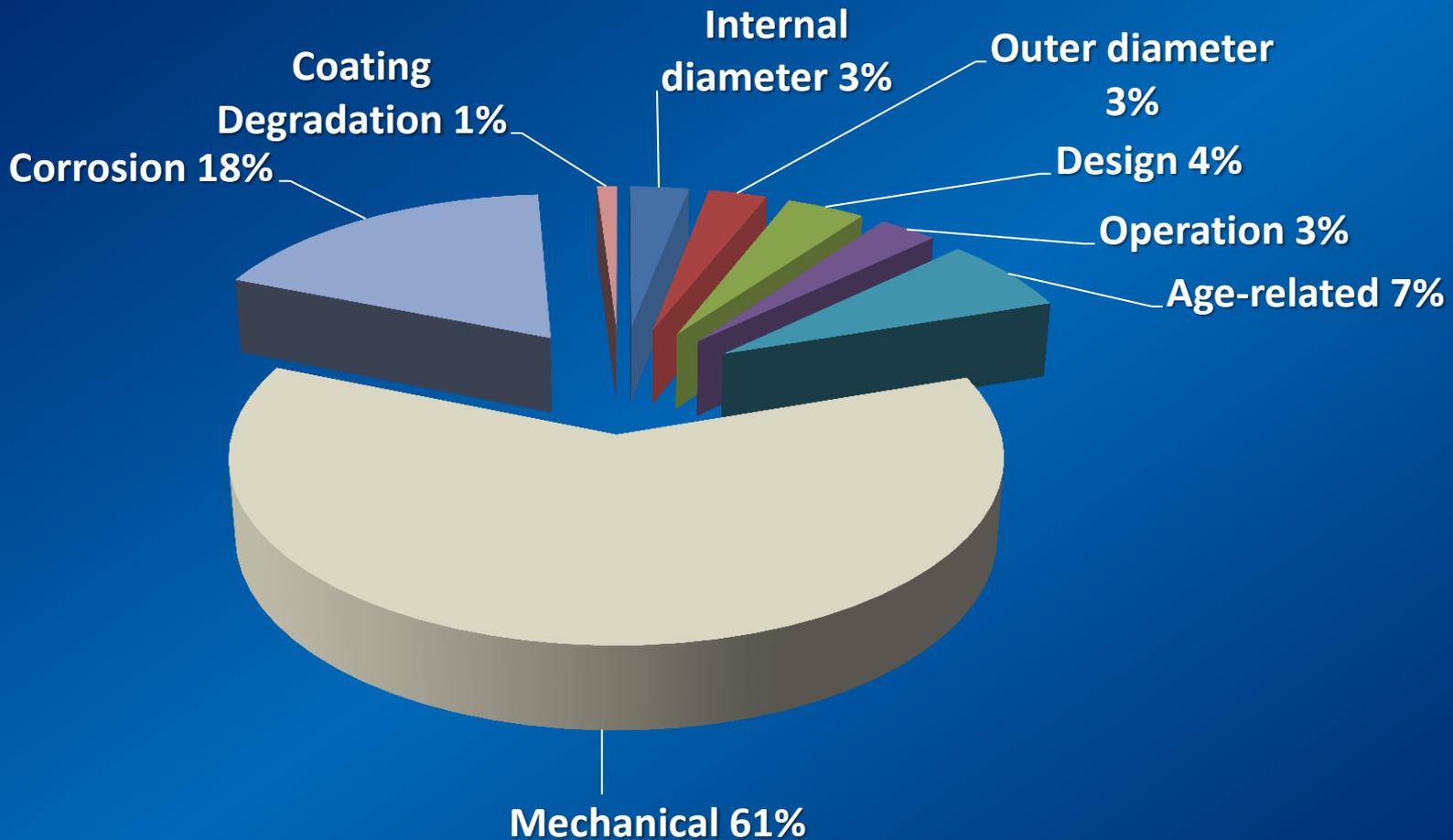
Source: ICES

# Most Commonly Affected Systems Relative to NEI 09-14

Source: ICES 2008 -2014

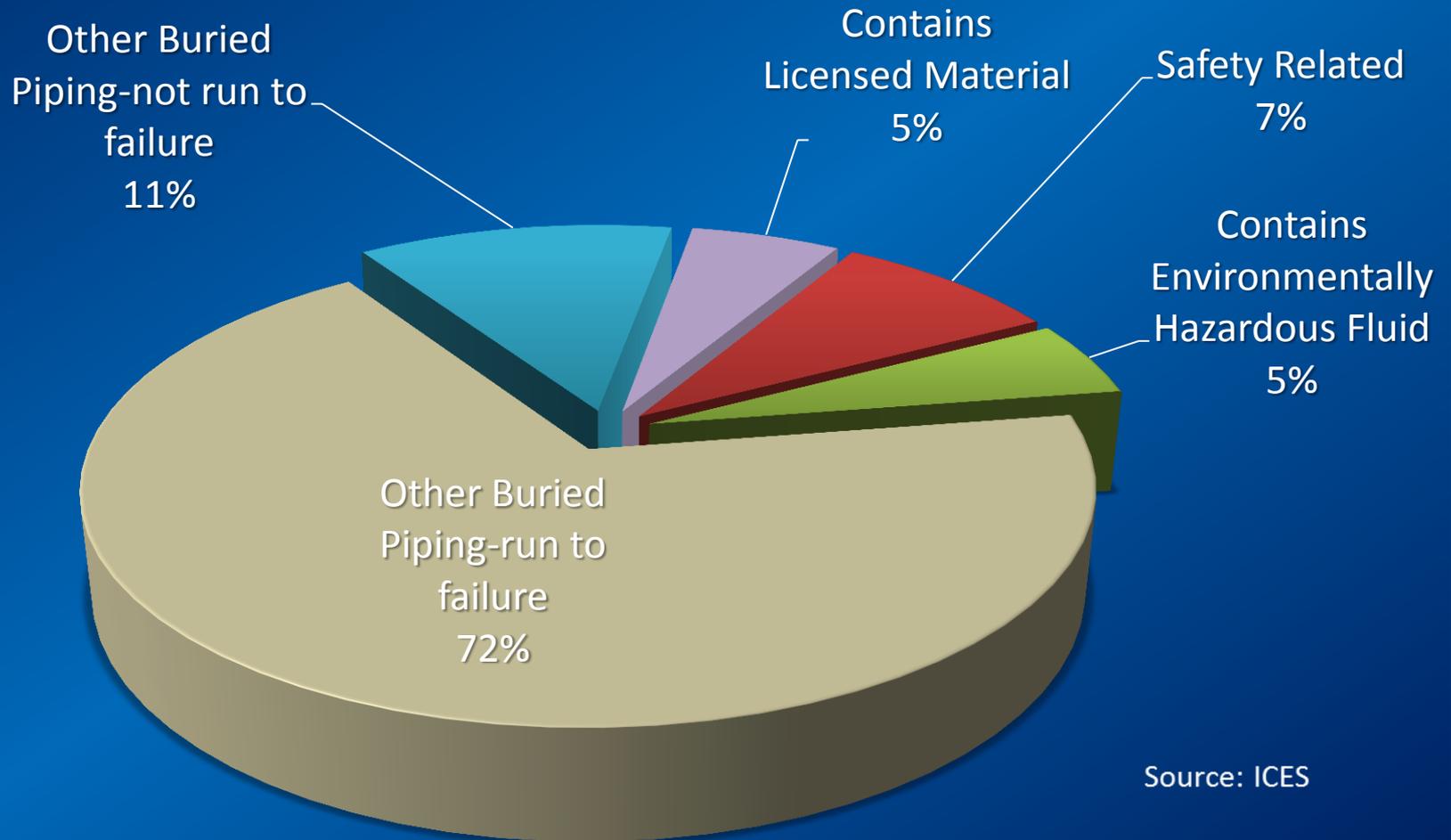


# Updated UPTI Failure Cause Codes



Source: 2014 ICES Data

# Buried Pipe Events Classification



Source: ICES

# ICES Reporting



# Buried Tanks Reporting Requirements

- NEI 09-14 Rev. 3, Appendix A, licensees will enter operating experience into INPO's ICES database when events occur. Entries shall be made in a timeframe consistent with ICES timing requirements.

# Buried Tanks Reporting Requirements

- The ICES database has been revised to facilitate entry of operating experience for underground tanks.
- Retroactive to January 1, 2012, the requirements of NEI 09-14, Revision 3 pertaining to the recording of operating experience of underground tanks shall be met.

# Buried Tanks Reporting

- Two reported leaks in ICES for the period 2012 - 2014.
  - One condensate storage tank bottom 2014
  - One outdoor radwaste sample tank 2012
  - Has a record search to identify all historical tank leaks within scope been performed and reported in ICES?

# Buried Tanks Reporting

Component Performance

Role: Enter Device Role

Performance Description

Discovered During: Clear Filters

Buried Tank Program - Adverse Inspection Finding (Requires Major Repair)	Accumulators, tanks, air receivers
Buried Tank Program - Leak	Accumulators, tanks, air receivers
Buried Tank Program - Other Degradation or Maintenance	Accumulators, tanks, air receivers
Buried Tank Program - Significant Leak	Accumulators, tanks, air receivers
Corrective Maintenance Prior to Failure	Accumulators, tanks, air receivers
Design Change to Improve Reliability / Efficiency	Accumulators, tanks, air receivers
External Leakage	Accumulators, tanks, air receivers
Found Unavailable During Non-demand Observation	Accumulators, tanks, air receivers
Inadequately Dampens Pulsation	Accumulators, tanks, air receivers

MSPI

Process/Cause/Corrective Action

Fire

Complicated/Repeating Events

Associated Files (Root/Apparent)

Source: ICES

# Questions

# EPRI Update



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# ASME Update



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# BPITF Status

- BPITF mission success:
  - Plant underground pipe and tank integrity programs are established.
  - Asset Management Plan drives ongoing program activities.
- Continue to provide oversight and guidance to the plants through 2015 as part of the transition from a milestone based initiative to programmatic management of underground assets.

# BPITF 2015 Actions

- Complete final revision of NEI 09-14 to capture interim guidance, future responsibilities, and other changes.
- Prepare a white paper documenting accomplishments and leak performance for the NSIAC.