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INPO Perspectives

Groundwater Protection Meeting
June 2013

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Key Topics

- NEI/NSIAC
- INPO's role
- Industry Performance
  - Plant evaluations
  - Operating experience
    - ICES reporting
- Questions

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Tritium from Nuclear Power Plants

- Monitored pathway releases from operating reactor are expected and includes tritium.
- EPA safe drinking water standard is 20,000 pCi/l tritum (4 mrem/year,)
- NRC drinking water reporting level is 20,000 pCi/l
- NEI 07-07 reporting found in Objective 2.2 Voluntary Communication
- NEI 09-14 Underground Piping and Tank Integrity
  - Radioactive/safety-related/environmentally hazardous

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NSIAC

- Chief Nuclear Officers
- Approved NEI 07-07 and 09-14
- Routine reporting of progress with implementing
- Discuss Trends
- Discuss Gaps

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INPO's Role

- Groundwater Protection Initiative – NEI 07-07
  - Plant Evaluations/Peer Reviews
  - Review GW well data and self assessments
  - Effectiveness tool to evaluate NEI 09-14 actions
- Underground Piping and Tanks - NEI 09-14
  - Plant Evaluations/Peer Reviews
  - Piping and tank leaks
  - Meet Guidance
- Performance Indicators and Reporting OE

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NEI 09-14 INPO responsibilities

1. Review plant Buried Piping Programs, including piping that may not be safety related but is important to plant safety or contains potentially radiologically contaminated fluids.
2. Communicate operating experience relative to buried piping issues and other relevant information to the industry.
3. Assemble and report to NEI the information necessary to make periodic reports to NSIAC (Appendix A) on operating experience

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Plant Responsibilities ICES/NEI 09-14

Utilities will enter operating experience related to the items below into INPO's (EPIX now ICES) database when instances occur. Entries shall be made in a timeframe consistent with ICES timing requirements.

- Leaks from buried piping
- Significant leaks from buried piping: defined as those which meet either of the following criteria
  - Reportable under NRC, EPA, or state regulation or the Ground Water Protection Initiative, or
  - Result in the system or component being out of service
- Adverse inspection findings: defined as indications from inspections that require a major repair within one cycle

Source: NEI 09-14 Appendix A

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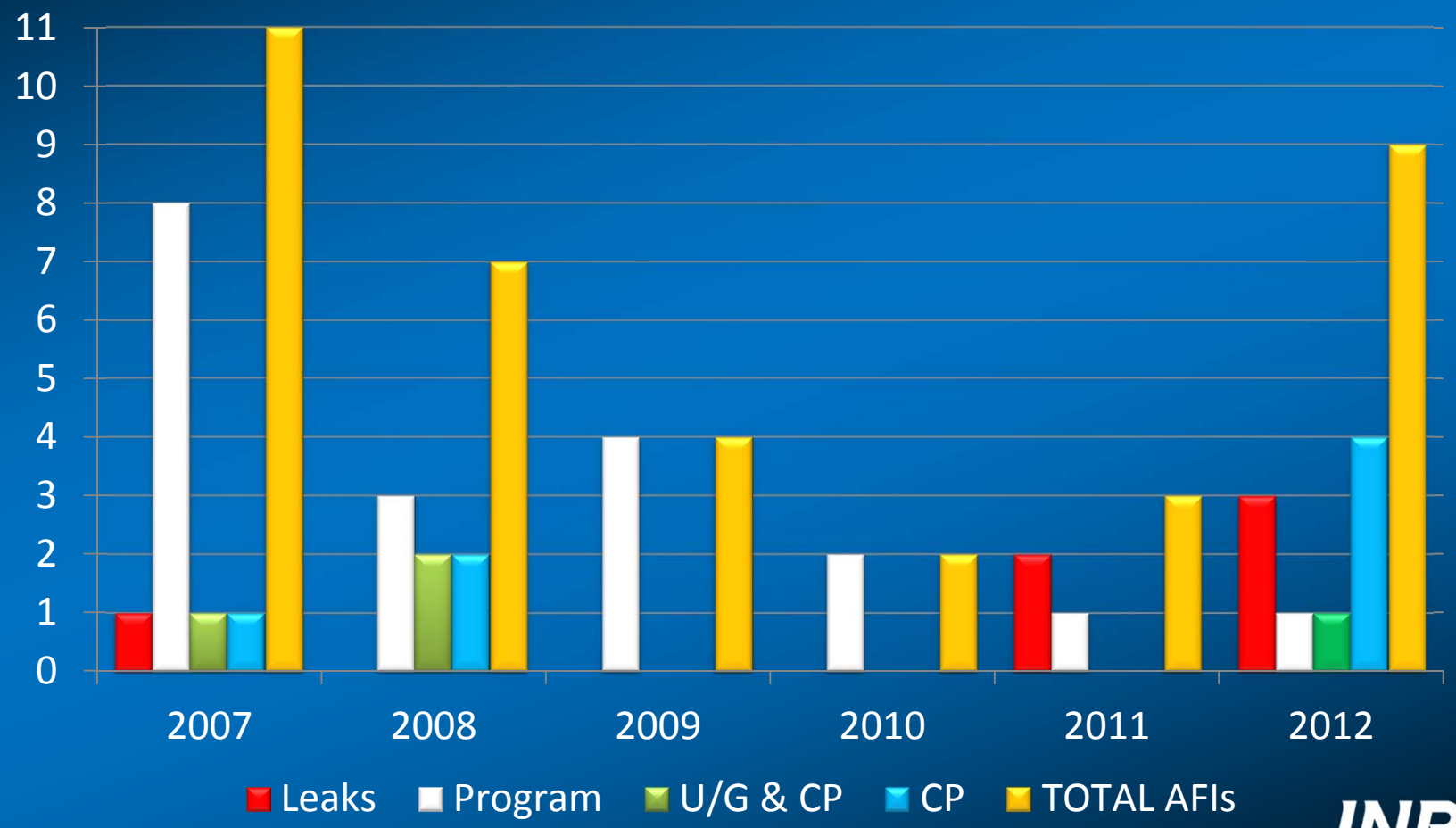
Areas For Improvement



Performance deficiencies not included

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2012 AFI Summary

- Nine AFIs; Four Performance Deficiencies
  - Five – underground piping
  - Four – cathodic protection
- Improvement needed
  - Leak extent of condition addressed
  - Risk ranking review thoroughness
  - Leaks occurring and the source is unknown
  - Input results in ICES (small number unacceptable)
  - Cathodic protection health or none installed

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Groundwater Protection Initiative Assessments

- Process is defined in NEI 07-07
  - Perform every 5 years
  - Uses 11 objectives and 43 acceptance criteria
  - Shortfalls expected to be resolved through site corrective action program

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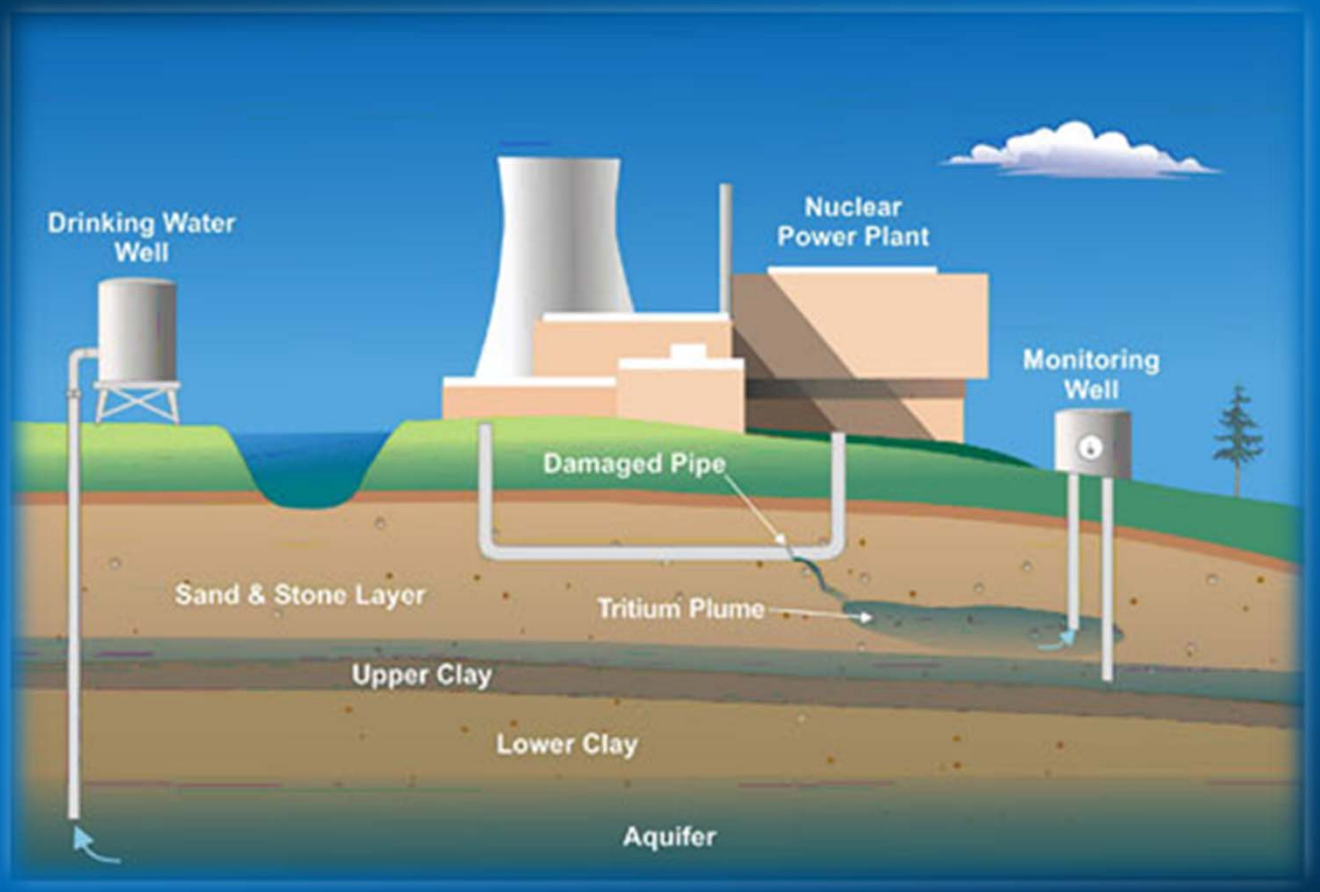
Groundwater Monitoring



NRC File Image

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Groundwater Monitoring

- Ongoing part of underground piping review
- Improvement needed in
  - Timely source identification
  - Mitigation bias for action

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Expectations

- Zero tolerance: nuclear plants should not leak radioactive fluids
- Source identified and remediated
- NEI 07-07 requirements adhered to
  - Ex. self-assessments; risk ranking performed
- Document leaks in CAP
- Collaboration between stakeholders
- Effective oversight
  - Department manager
  - Nuclear oversight
  - Corporate

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Tritium in Groundwater Wells

- Data Element Manual
- Consolidated Data Entry
- Validating Correct Data
- Data Entry Required January 2013

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Groundwater CDE Reporting

- Member Web Page is reporting data from 1st Quarter 2013
- Data was incorrectly reported with Top and Bottom Quartile
- Data will have Median Values for Comparison
- This is NOT a performance indicator

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Groundwater CDE Reporting

- Link to Site:
  - Safety & Performance
  - Plant Performance Indicators
  - Performance Data U.S.
  - Additional PI – Results 2013 1st Quarter
  - Tritium

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Groundwater CDE Reporting

Common Errors

- Entering “0” for tritium
  - This should be your detection limit
- Do not need to enter for multiple Units
  - Enter the data in one unit
  - Data is a site indicator not unit
- Someone knowledgeable validating data

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- **<u>Expected outcome</u>**: Improved analytical capabilities result in an accurate and reliable picture of plant and industry performance and emerging trends
- Merges EPIX, Plant Events Database, LERs and NPRDS event reports into an integrated system
- Improves user access
  - INPO members and authorized participants
  - rapid access to information
  - eliminates current manual processing needed before data is usable
- **Each station has an OE coordinator who is trained to enter your data**

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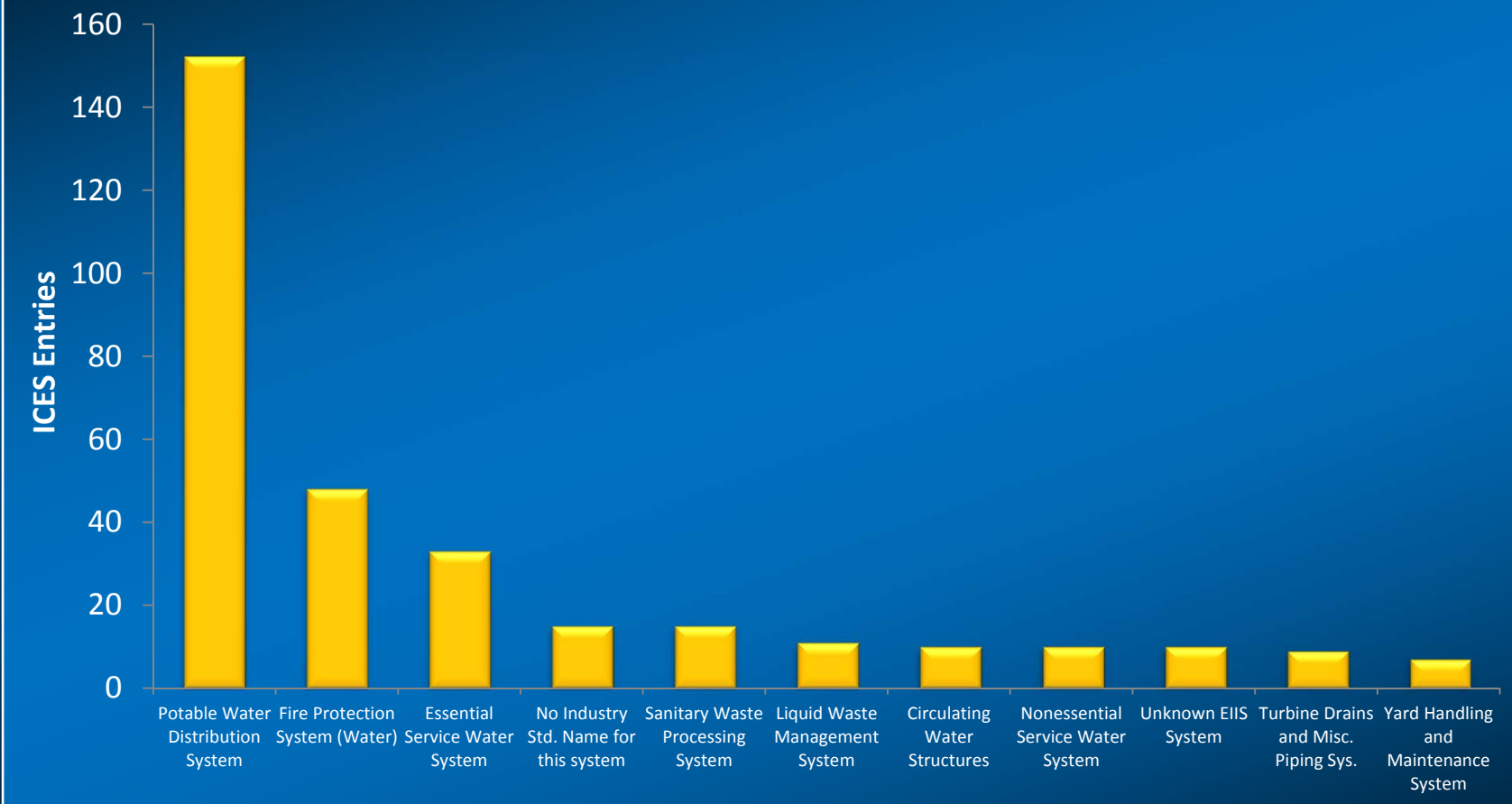
Most Commonly Affected Systems



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Questions?

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To promote the highest levels of safety and reliability – to promote excellence - in the operation of commercial nuclear power plants.

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