

INPO

Institute of Nuclear Power Operations

Improving Parts Quality, Availability, & Supplier Performance

Kenny Christian

Manager, Equipment Reliability

Maureen Kunapareddy

Manager, Supplier Participant Program

INPO

Institute of Nuclear Power Operations

INPO 101

INPO

Institute of Nuclear Power Operations

Mission:

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

INPO

Institute of Nuclear Power Operations

Members:

All U.S. organizations that operate commercial nuclear power plants.

Nuclear operating organizations in other countries and nuclear steam supply system, architect/engineering and construction firms are INPO participants

INPO

Institute of Nuclear Power Operations

Improving Parts Quality & Availability

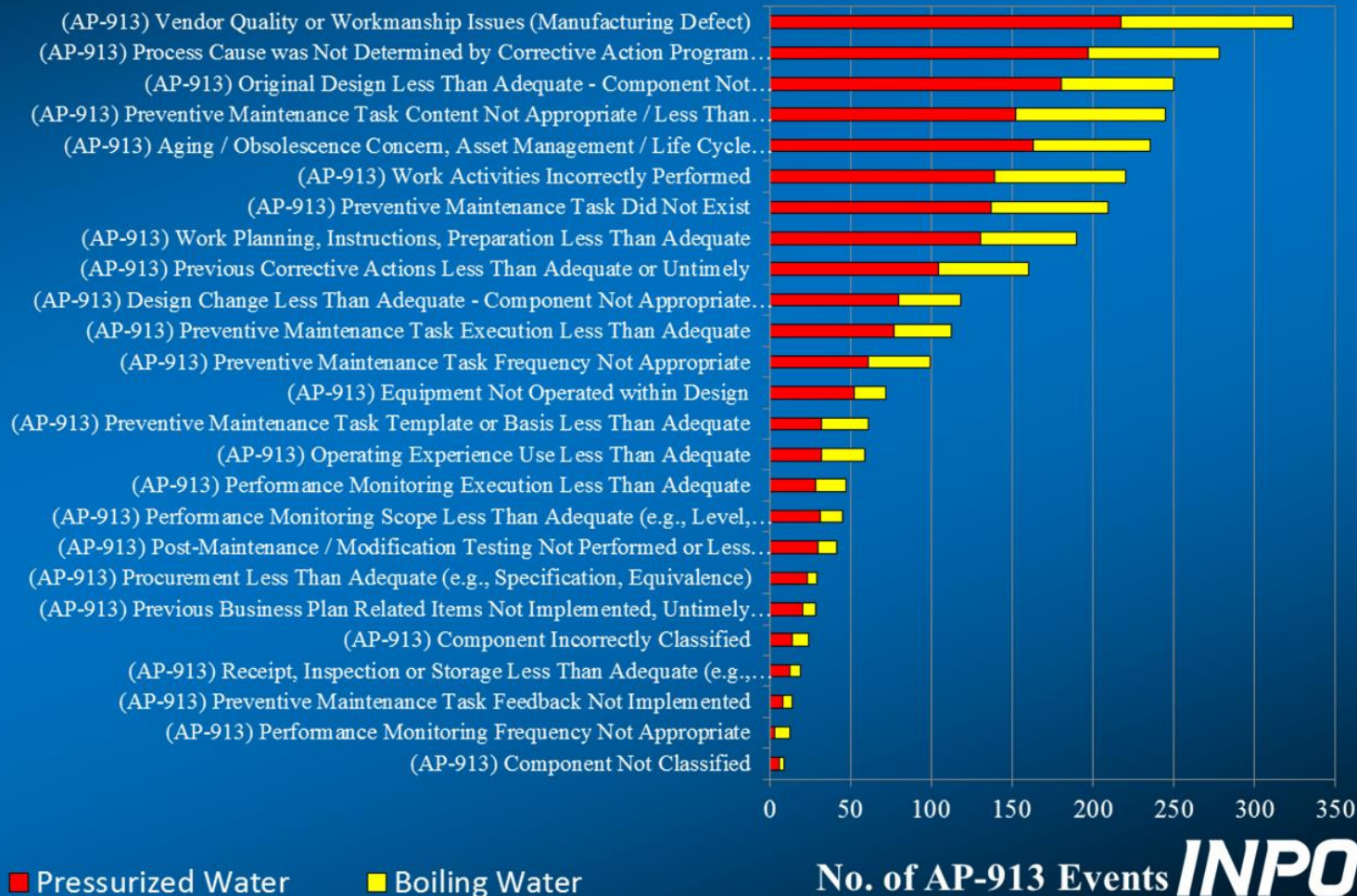
Criteria

- Maintain a critical spare inventory
- Ensure that inventoried parts are ready to install
- Monitor the supply chain to ensure part quality and availability
- Establish supply chain processes to procure acceptable parts
- Monitor supplier performance and feed back to supplier for corrective actions

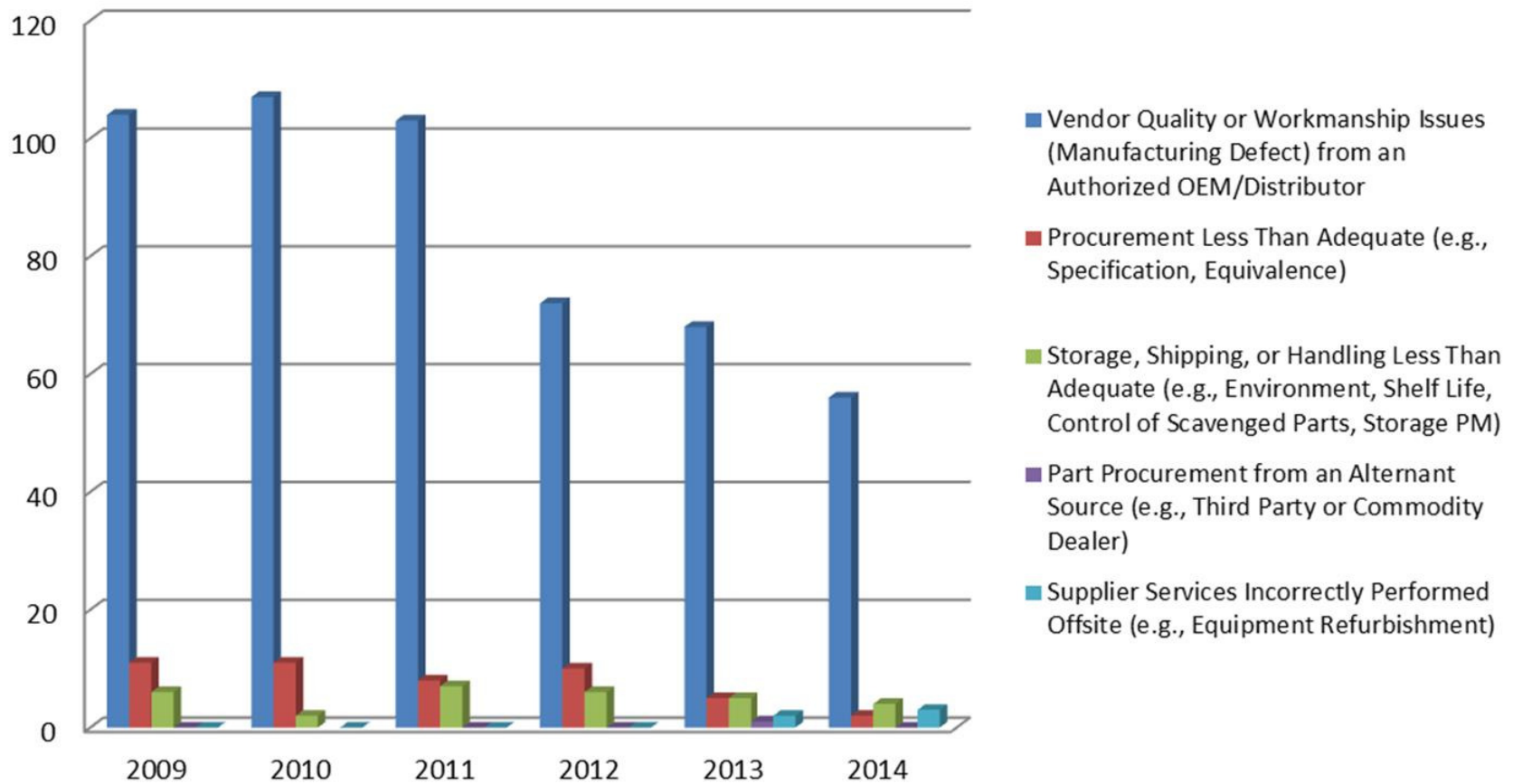


Contribution of Parts Issues to Critical Failures 2009-2012

C
A
U
S
E
S

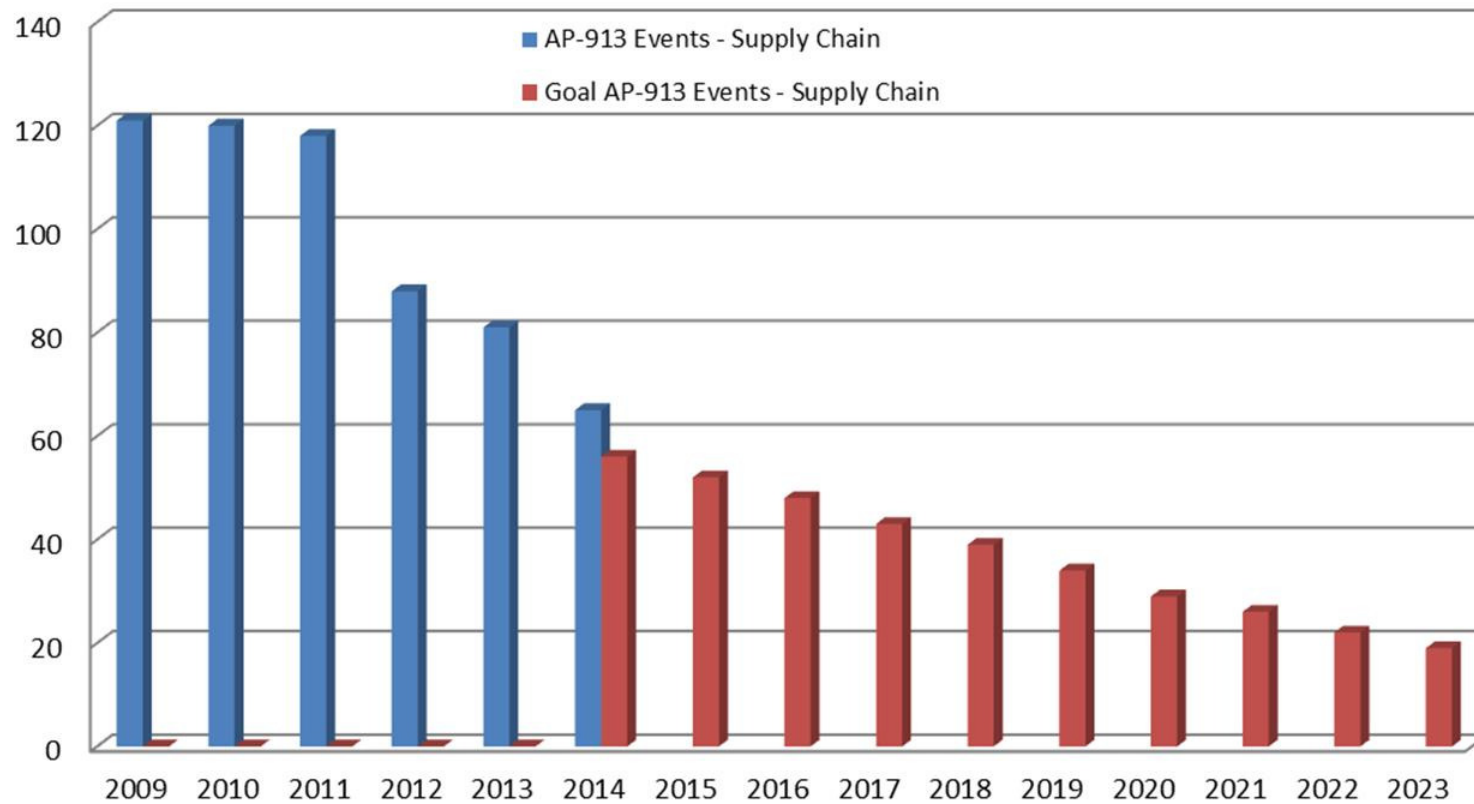


AP-913 Events Caused by Supply Chain Processes



Goal

Great Challenge 4 AP-913 Failure Reduction Goals



INPO

Areas for Improvement

- Vendor quality and manufacturing defects on nonsafety-related equipment have resulted in automatic scrams and plant transients.
- Oversight of procurement specifications and key manufacturing inspections did not identify defects or prevent the failures.
- Managers have not ensured that testing programs for critical items identify quality issues and many critical spares are below minimum stocking levels.



Areas for Improvement

- Some important components are not being stored and maintained in a manner to ensure reliability following installation in the plant.
- Engineering and supply chain managers have not identified and maintained adequate inventories of critical spare parts
- Engineering managers are not prioritizing the timely completion of critical spare parts system reviews.

- .



Questions/ Comments?



A photograph of a nuclear power plant at dusk. Two large cooling towers are visible on the left, emitting plumes of white steam that rise into a deep blue and purple twilight sky. The plant's buildings, including a large containment dome, are illuminated by warm yellow lights. The foreground is dark, showing silhouettes of trees and the ground.

INPO 14-005

Principles for Excellence in Nuclear Supplier Performance

Maureen Kunapareddy



Photo by BlatantWorld.com - Creative Commons Attribution License <https://www.flickr.com/photos/45150779@N04>

Created with Haiku Deck
Manager of Supplier Participant Program

Background on the initiative

- INPO established the Supplier Participant Program in December 1982
- Members of the program commit to:
 - Driving continuous improvement by achieving high nuclear standards, sharing construction and operating experience, and continuing to enhance nuclear safety and avoid risks to personnel
 - Being members of Supplier Participant Advisory Committee (SPAC)
 - Adhering to INPO 14-005, *Principles for Excellence in Nuclear Supplier Performance*
- Industry has committed to improving Supplier performance, by making this one of the INPO key strategies



Why was INPO 14-005 developed?

- There was little industry guidance and standards that spoke directly to nuclear suppliers.
- SPAC recognized this gap in 2012 and began work to outline key elements and behaviors necessary to achieve excellence in supplier performance.



How was INPO 14-005 developed?

- Developed by subgroup of SPAC and representatives from utilities.
- Key principles were selected based on a review of comparable principles INPO developed for nuclear power plants, with a desired slant toward supplier activities.
- Intentionally written at a high level.



What is INPO 14-005?

- The document describes essential principles and attributes that support achieving excellence in the service and products provided by nuclear suppliers and non-nuclear suppliers
- Nuclear suppliers include those contractors and subcontractors who provide materials, equipment, and or services
- INPO 14-005 is a “Open Distribution” document



The 7 Principles

1. Nuclear Safety culture
2. Materials, equipment, configuration control, and quality assurance
3. Human Performance
4. Training and qualifications
5. Continuous improvement
6. Operating experience and lessons learned
7. Procurement and contracting of materials and services



How will INPO 14-005 be used?

- Senior representative from domestic utilities and supplier participants have reviewed the document and agree to support its implementation
- Suppliers Participants
 - Self-Assessment to be performed by each SPAC member
 - Results will be rolled up into best practices and gaps
 - Used to develop new metrics



Continued:

- **Utilities**

- Work with suppliers and provide oversight to ensure they are meeting the principles

- **INPO**

- Identify strengths and performance issue caused by Supplier product or service
- Event Reporting OE/IER
- INPO will provide assistance to SPAC members based on gap analysis as necessary



Vision for 2023

- Supplemental and Non-Nuclear Workers errors reduced
- Supplied goods and services don't challenge safety or reliability
- High quality parts available when required and meet specifications
- Leaders ensure programs, processes, and infrastructure create continuous improvement



Questions



INPO