



- October 25, 2012

**NUPIC Meeting**

**October 2012**

# **NRC Activity Overview and Update**

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# OUTLINE

- ✓ Part 21, CSFI and Software Dedication updates
- ✓ Vendor Identification & Selection
- ✓ NRC vendor inspections
- ✓ Inspection Results
- ✓ NRC NUPIC Audit Observation
- ✓ A plug for Safety Culture



# Part 21, CSFI, and Software

## Dedication Updates

- ✓ NRC to publish the Draft Regulatory Basis to clarify Part 21 - October 2012
- ✓ The Draft Regulatory Basis lays out the staff's proposals to clarify the approximately 25 areas for improvement in the following 3 areas, as described in Commission paper SECY-11-0135:
  - ✓ Evaluating and Reporting
  - ✓ Commercial Grade Dedication
  - ✓ Administrative Changes
- ✓ The Draft Regulatory Basis will allow the staff to solicit early stakeholder feedback, and get your opinion.
- ✓ Staff is planning a public meeting in early November to discuss the Draft Regulatory Basis and gather feedback. *The meeting is tentatively scheduled for November 8<sup>th</sup>.*
- ✓ Suggest subscribing to Part 21 via our subscription service to get the latest updates.

# Part 21, CSFI, and Software

## Dedication Updates

**SECY-11-0154**

***Project status (since May 10, 2012)***



1. Completed actions:.....**No change**

2. Actions in development:

- Training IN ready to present to CFSI Steering Committee....**(Aug 2012)**
- Expand OpE/ConE program ..... **(2013)**
- Coordinate NRC CFSI Response Plan..... **(Dec 2012)**
- Need for pilot program for licensee inspections ..... **(2013)**
- Need for additional NRC inspection guidance..... **(2013)**
- Develop program effectiveness review ..... **(2013)**
- Industry's voluntary initiatives..... **(TBD)**
- 4. Recurring activities
- Outreach - Coordinate National IPR center visit ..... **(2013)**
- 5. Future activities
- Public meetings – Working sessions with industry ..... **(TBD)**
- Perform Program effectiveness review..... **(2013-2014)**
- Issue follow-up SECY to Commissioners..... **(2014)**

3



# Part 21, CSFI, and Software Dedication Updates

- ✓ NEI letter was 7/18/2012 (ML12213A609)
- ✓ Guideline review is in process and infrastructure being put into place
- ✓ Staff planning on issuing RAls by end of November 2012
- ✓ NEI requested endorsement by regulatory guide. We have that under consideration at this time



# Vendor Identification

## Current NRC Sources of Vendor Information

- ✓ Reporting systems Part 21, 50.72, 50.73
- ✓ Industry and standards organizations
- ✓ Communication with licensees, applicants, and engineering, procurement, and construction (EPC) contractors
- ✓ Allegations

## Initiatives

- ✓ RIS requesting voluntary identification
- ✓ NRC public web site
- ✓ NRC internal database



# Vendor Selection

## Consideration of....

- ✓ Prior NRC Inspection Experience
- ✓ NUPIC Results
- ✓ Scope of Supply
- ✓ Complexity of Product or Service
- ✓ Susceptibility to Counterfeiting or Cyber Security Issues
- ✓ Industry Experience with Product or Service
- ✓ New or Advanced Technology
- ✓ Oversight by Other Entities (ASME, Foreign Regulators)
- ✓ Significance to Pending Regulatory Actions



# Vendor Selection

## EXAMPLE

A VENDOR'S scope of supply include but not limited to design and manufacture of custom designed, environmentally and seismically qualified radiation monitoring equipment, energy storage capacitors, power systems and terminal automation products.

THE VENDOR was evaluated using the VPS outlined in the Vendor Inspection Program Plan, scoring **27 out of possible 41 points** with a potential for inspection based on Management discretion.

The evaluation indicates that THE VENDOR has a higher probability to be considered for inspection compared to the vendor population evaluated, due to the fact it has been selected as a supplier for AP-1000 projects as a supplier of digital systems, and it has one part 21 report within last 3 years. Certain factors that were used to determine the score include but are not limited to:

- Audited by NUPIC audit within the last 3 years (last NUPIC audit 4/2011)
- No NRC inspection performed within last 3 years
- Highly susceptible (CGD)
- Supplier to more than 10 licensees (based on industry interaction and number of licensees providing input to NUPIC audit plan)
- Complexity of service
- One problem reported within the last 3 years (EN:
- Direct Regulatory Significance (AP 1000 vendor)



United States Nuclear Regulatory Commission

*Protecting People and the Environment*



# Recent NRC Vendor Inspections

- Kinetrics, Toronto, CA – 5/2012 \*
- Nuclear Logistics, Inc, Fort Worth, TX – 6 & 8/2012 \*
- Wyle Labs, Huntsville, AL – 7/2012 \*
- NTS – Action, MA – 6/12 \*
- Enertech/Utah State University, Brea, CA and Logan UT – 8 & 9/2012 \*
- Flowserve, Raleigh, NC – 9/2012
- Target Rock, Farmingdale, NY – 9/2012
- Flowserve Limatorque, Lynchburg, VA – 9/2012
- Westinghouse Electric Company, Cranberry Township, PA – 9/2012 \*
- Shaw Modular Solutions, Lake Charles, LA – 9/2012 \*
- Mitsubishi Heavy Industries, Kobe, Japan – 10/2012
- Mangiarotti, Monfalcone, Italy – 10/2012 \*

\* AP-1000 testing, design, or fabrication

## • RELEASED REPORTS



# Recent NRC Vendor Inspections

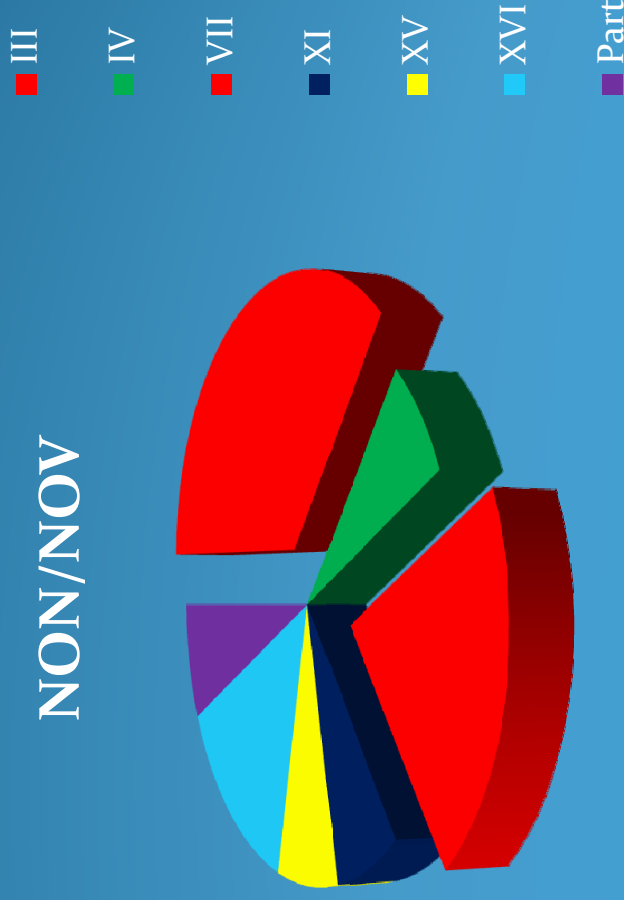
- ✓ Emphasis on inspection of design, fabrication, testing, and inspection activities in the field as these activities are being conducted on specific SSCs or product lines of interest.
- ✓ Likened to a more “Vertical-Slice” approach as opposed to a broad programmatic review
- ✓ Increased use of technical specialists in areas of mechanical, structural, electrical, digital I&C
- ✓ More emphasis on specific qualification and type testing and detailed design work associated with Targeted ITAAC SSCs
- ✓ Increase inspection activity (20 inspections 2012 verses a projected 30 inspections 2013)

# Recent Inspection Results

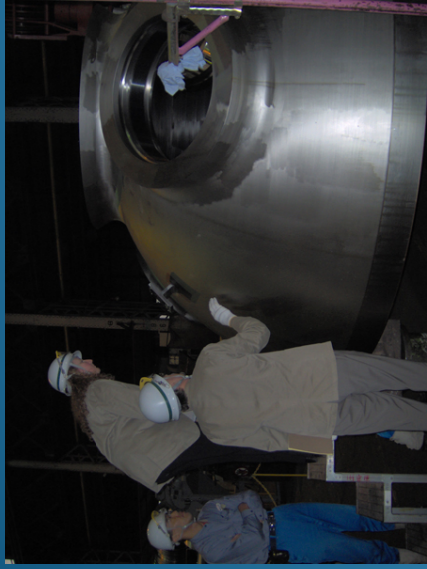


May 2012 – Present

Performed 11 inspections of Vendors  
7 related to AP-1000 design, testing, and  
fabrication



# Recent Inspection Results



## ✓ BIG Hitters – Design Control (Dedication) and Control of Purchased Material, Equipment, and Services (Supplier Control)

- ✓ Vendor relied on MTR from an un-surveyed supplier without known lot/batch control methods and performed partial material analysis with XFR unit to verify both chemical and physical CC's.
- ✓ Vendor did not conduct a technical evaluation to identify safety function, critical characteristics, and acceptance methods for a commercially procured software used for safety-related design analysis.
- ✓ Vendor failed to provide objective evidence of quality provided by the contractor through commercial grade surveys. Specifically, the surveys did not verify the identified critical characteristics for the items to be procured
- ✓ Vendor failed to test items or to survey supplier of commercial electrical products to ensure CC's were being controlled for regarding electrical requirements (e.g., interruption rating, voltage and current)

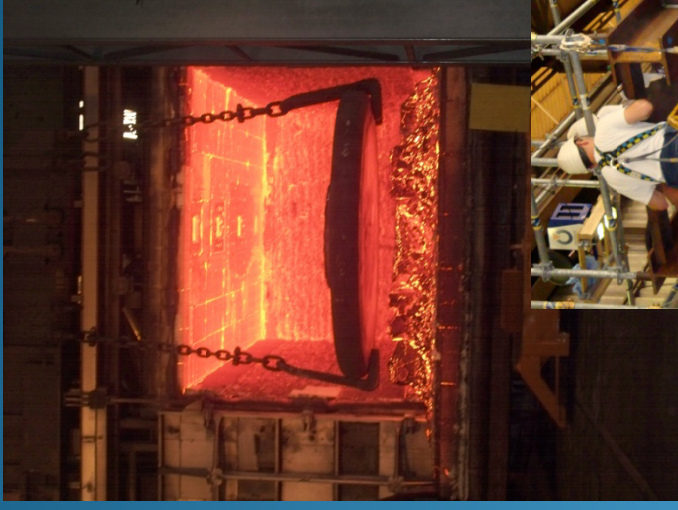
# Recent Inspection Results

## SUMMARY

### Observations

- ✓ Inadequate dedication of Commercial software programs
- ✓ Inadequate technical evaluations for identifying critical characteristics
- ✓ Inadequate or non-existent evaluation of sub-suppliers controls of critical characteristics

Lessons Learned – Dedication is pervasive in the industry. Not all suppliers exhibit even a basic understanding of, or are implementing sound dedication practices including sub-supplier qualification and evaluation.



# NRC NUPIC Audit Observation

## SUMMARY

### Observations

- ✓ April 10-16, 2011/Toronto, ON, Canada
- ✓ June 10-15, 2012 Curtis-Wright EMD, Cheswick, PA

While audit objectives were met, NRC observers noted opportunities for potential enhancements.

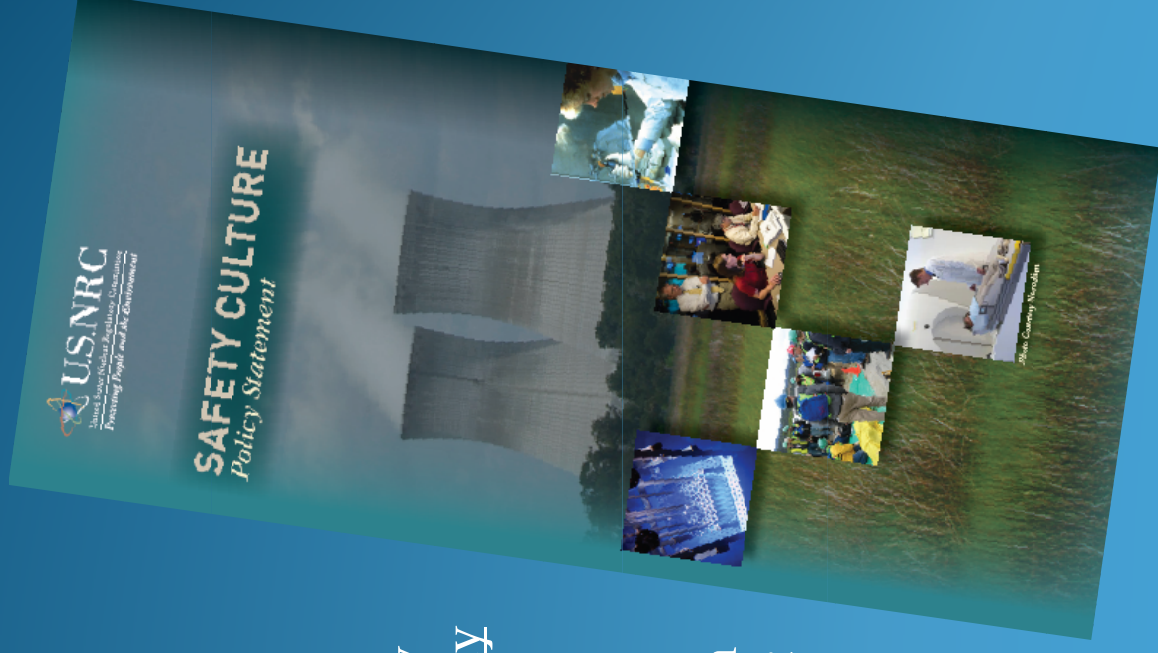
- ✓ Need to further emphasize the need to verify adequate implementation of vendor programs
- ✓ Need to maintain technical proficiency and challenge the technical adequacy of statements made by the vendors (enhanced use of technical specialists)



# A Plug for Safety Culture

The Commission defines Nuclear Safety Culture as the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.

Consider safety culture at construction sites and vendors facilities throughout the supply chain



# Questions

