Current NRC Findings Related to Supplier Oversight

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Presentation at the
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OVERVIEW

- Vendor Inspections
- Oversight of Vendors
- Key Inspection Findings and Lessons Learned
- Conclusions
- Questions

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VENDOR INSPECTIONS

- Vendor inspection program for new reactors was established in 2007
- Vendor Inspection Center of Expertise was formed in 2012
- Verify effective implementation of
  - Appendix B to 10 CFR Part 50 quality assurance requirements
  - 10 CFR Part 21 reporting requirements
- NRC conducted 16 vendor inspections 2011, including 1 EDV inspection
- Inspections will increase to approximately 25-30 inspections for 2012

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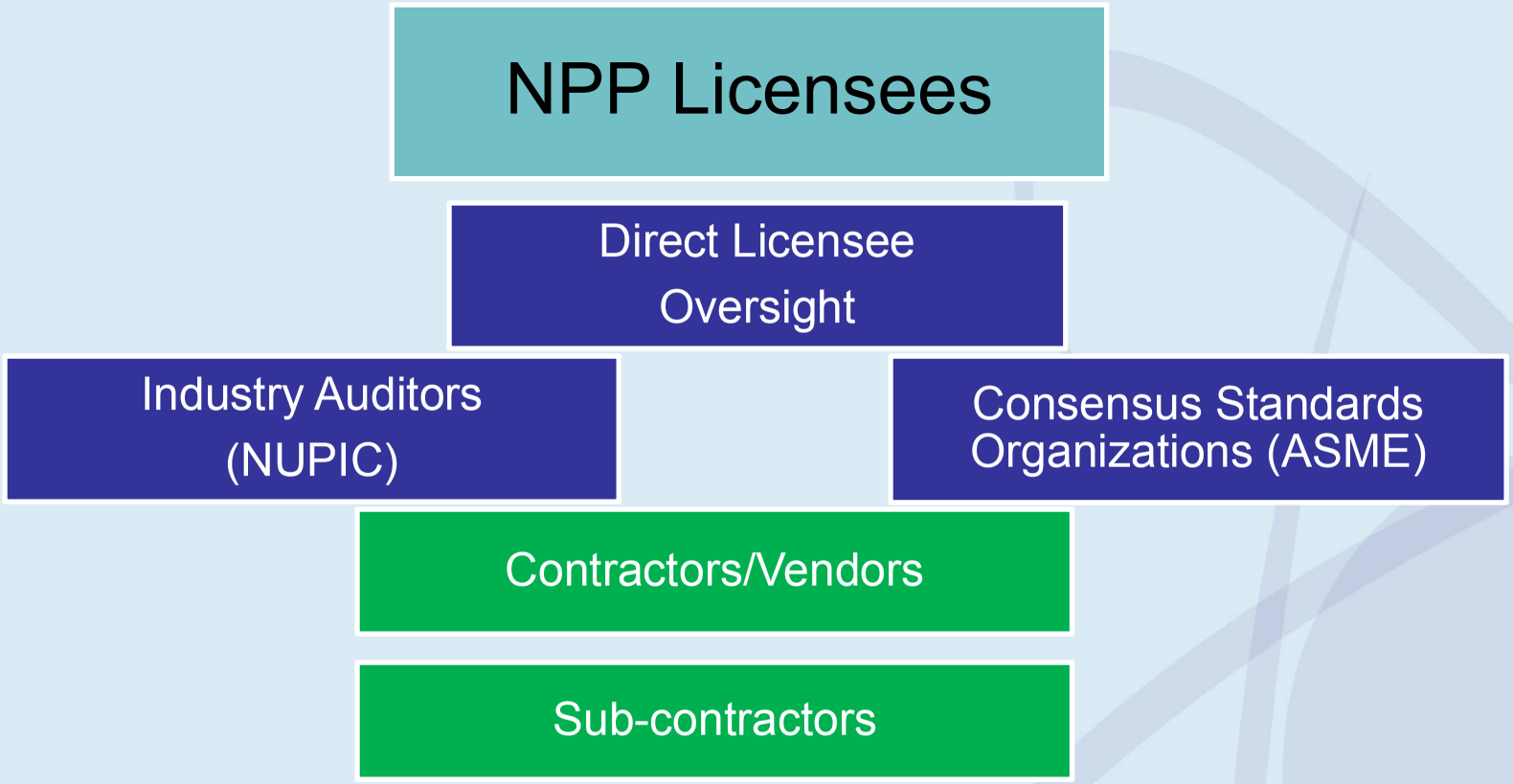
OVERSIGHT OF VENDORS



- The ultimate responsibility lies with the licensees
- NRC verifies licensees meet their responsibilities

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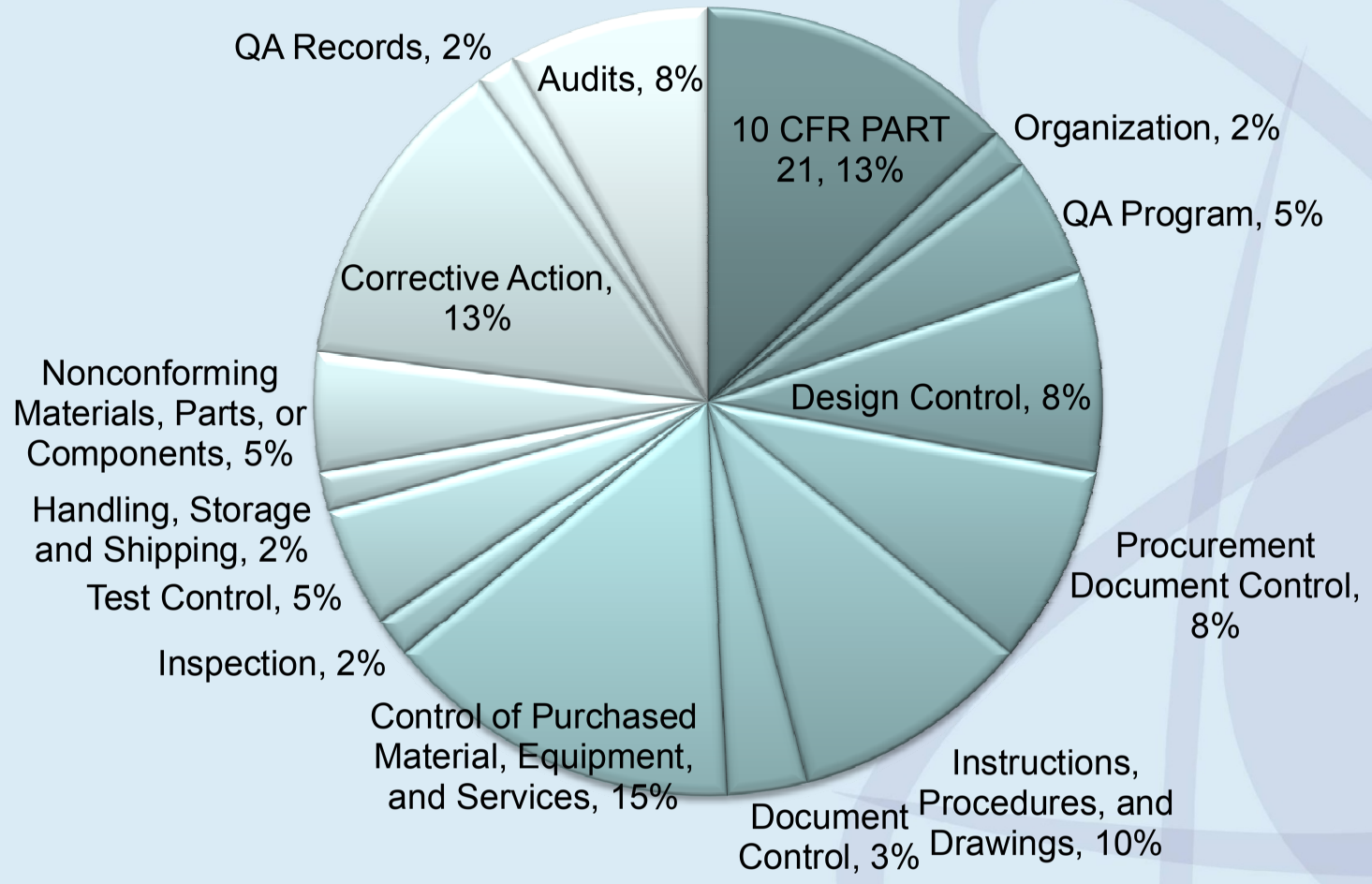
KEY INSPECTION FINDINGS

2011 FINDINGS BY REQUIREMENT



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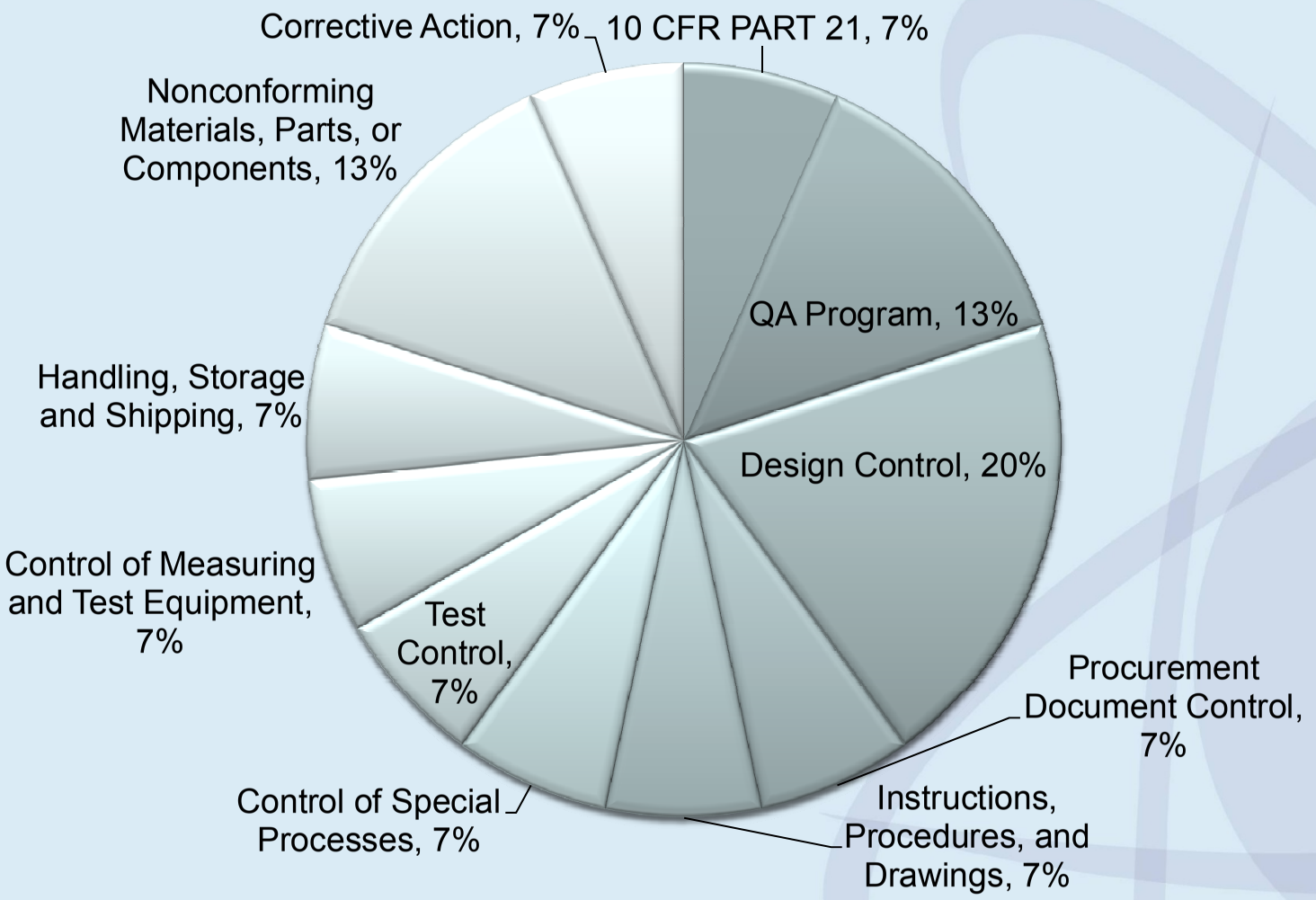
KEY INSPECTION FINDINGS

2012 FINDINGS BY REQUIREMENT



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KEY INSPECTION FINDINGS

- Perceived lack of oversight of sub-suppliers
- Inadequate Commercial Grade Dedication
- Use of commercial calibration services for safety-related applications without performing dedication

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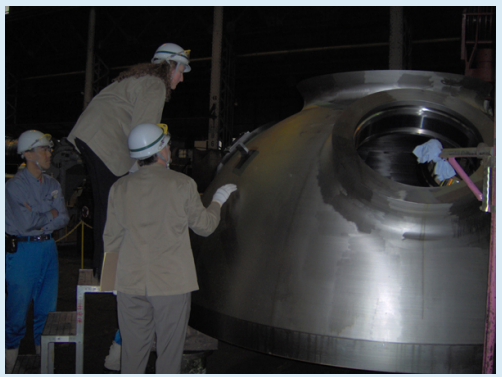
SUB-SUPPLIER OVERSIGHT

- Obayashi Corporation - a Westinghouse sub-supplier
- Shaw Modular Services - a Shaw Nuclear Services sub-supplier
- Purdue University – a Westinghouse sub-supplier



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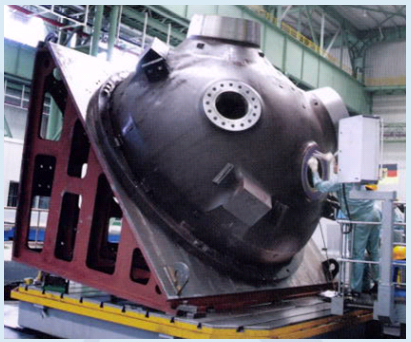
LESSONS LEARNED

Sub-Supplier Oversight

- Deficiencies in sub-suppliers performance may not be detected based on an audit of the supplier
- Audit Checklist
  - Are the questions asked sufficient to determine that the PO requirements and regulatory requirements are being met?
  - Is the objective evidence sufficient to demonstrate acceptability of quality?
  - Auditors need to be adequately trained to implement the audit checklist



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COMMERCIAL GRADE DEDICATION

SPX Copes Vulcan

- Failure to perform an adequate technical evaluation to identify appropriate critical characteristics for an initiator assembly

Fischer Controls

- Inappropriate use of positive material identification to verify critical characteristics related to chemical properties
- Also identified by RII inspectors at MOX and LES

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LESSONS LEARNED

Commercial Grade Dedication

- When performing dedication:
  - identify the critical characteristics based on the safety-function and failure modes of the item being dedicated
  - chose verification methods that are able to verify that the critical characteristics are met

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COMMERCIAL CALIBRATION SERVICES

- SMS
  - Failed to dedicate calibration service
  - Allowed sub-suppliers to use commercial calibration services without dedication
- Continuum Dynamics, Inc
  - Used A2LA and NVLAP certification in lieu of performing a safety-related audit to qualify commercial calibration services
  - Did not dedicate the calibration services
  - Did not include all of the requirements of the APS SER in the manual or PO
- Clark Dynamics, LLC
  - Included all requirements of APS SER in the manual and in the PO but did not dedicate the service.

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LESSONS LEARNED

- Commercial-grade calibration services for safety related applications **MUST** be dedicated
- Licensees and vendors may use the alternative described in the APS SER in lieu of performing a commercial grade survey as part of dedication if the alternative method is documented in the quality assurance program and:
  - Technical Evaluation
    - » Identify any additional technical requirements for the specific M&TE being calibrated that need to be included in the PO such as:
      - » Tolerances
      - » Accuracies
      - » Ranges over which the item is to be calibrated
      - » Specific industry standards to be used, **etc.**

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LESSONS LEARNED

- Critical Characteristics
  - » Accreditation provided by one of the 6 ILAC domestic accrediting bodies
  - » Scope of the accreditation covers the contracted services
  - » Critical Characteristics identified in Purchase Order (PO)
    - » PO requires use of the lab's ISO 17025 accredited quality program
    - » PO imposes additional technical requirements identified in the technical evaluation
    - » PO requires reporting as-found calibration data when calibrated items are found to be out-of-tolerance
    - » PO requires identification of the laboratory equipment and standards used
- Acceptance of Critical Characteristics
  - » Review the calibration record as part of receipt inspection to verify that all of the critical characteristics are met

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CONCLUSIONS

- Licensees should work with their suppliers to ensure that supplier and sub-supplier Appendix B and 10 CFR Part 21 programs adequately implement the requirements imposed in the procurement documents
- Suppliers and sub-suppliers should be fully knowledgeable of all regulatory requirements and technical specifications imposed by licensees and/or other suppliers in procurement documents

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QUESTIONS

Aerial view of Vogtle 3 and 4 construction site – Unit 3 on left, Unit 4 on right

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