



U.S. NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

NRC Report

NUPIC Meeting

Raleigh, NC

February 14, 2008

Rich McIntyre

Office of New Reactors



Topic Areas

- NRO Vendor Inspection Program
- NRC Vendor Inspections
- NUPIC Joint Utility Audit Observation
- International Cooperation
- Commercial Grade Calibration Services
- Future Vendor Inspection Activities



NRO Vendor Inspection Program

- IMC 2507 – Construction Vendor Inspection Program for New Reactors
 - IP 43002 – Routine Inspection Procedure
 - IP 43003 – Reactive Inspection Procedure
 - IP 43004 – Commercial Grade Dedication
 - IP 43005 – Procedure for oversight of industry's vendor activities
 - IP 36100 – 10 CFR Part 21



Completed Vendor Inspection Activities

- Vendor Inspections
 - Velan (with French ASN observer), 9/2007
 - Areva NP, Inc., 9/2007 and 10/2007
 - University of Texas, 10/2007
- Third Party Oversight
 - Cameron NUPIC Audit, 8/2007
 - Flowserve-Vernon NUPIC Audit, 10/2007



NRC Vendor Inspections

Velan – Montreal, Canada

Summary of findings:

- Failure to develop an appropriate Part 21 procedure to evaluate deviations and failures to comply associated with substantial safety hazards
- Failure to perform independent verification and validation of design calculations
- Failure to develop adequate procedures for accomplishing activities affecting quality



NRC Vendor Inspections

Areva NP, Inc.

- Locations:
 - Lynchburg, VA – NRO led
 - Eaton Cutler-Hammer facility, Greenwood, SC - NRR led
- Summary of findings:
 - Failure to adequately implement testing activities and qualify testing personnel
 - Failure to adequately document design changes and engineering design review conclusions
 - Failure to impose purchase order requirements on suppliers for control of M&TE
 - Failure to implement appropriate procedural guidance



NRC Vendor Inspections

University of Texas at Austin

- QA controls inspection at the Geotechnical Engineering Center's Soil Dynamics Laboratory
- Summary of findings:
 - Failure to monitor temperature and humidity for soils samples as required by purchase orders



NUPIC Audit Observation

- On October 22-25, 2007, three NRC staff observed the NUPIC joint utility audit at Flowserve Pump division in Vernon, CA
- NRC staff used IP43005, “NRC Oversight of Third-Party Organizations Implementing Quality Assurance Requirements”
- IP43005 Purpose:
 - Assess the NUPIC QA audit process used for suppliers of components to the nuclear industry
 - Inspect the 10 CFR Part 21 program of the supplier



NUPIC Audit at Flowserve

- NUPIC audit process was effectively implemented by the audit team
 - Four performance-based findings for failure to adequately implement QA program requirements
- NRO Inspection Report identified three (3) violations of 10 CFR Part 21 requirements



International Cooperation

- October 2007 – observation of international counterpart inspections led by Korean regulator, KINS
 - Westinghouse, Newington NH
 - Crosby Valve, Wrentham MA
- November 2007 - observation of United Kingdom regulator design assessment at GE ESBWR and Westinghouse AP1000 offices
- NRC gained insights on foreign regulatory inspection process during these activities



International Cooperation

- January 4 -11, 2008, NRC staff met with representatives of KINS, Korea Hydro and Nuclear Power Co., LTD (KHNP), and Doosan Heavy Industries and Construction (DHI) in Korea
- Technical exchange visit with KINS was to discuss potential mutual cooperation and information sharing between the NRC and KINS in three primary areas:
 - vendor inspection
 - sharing of construction experience
 - the possibility of an NRC inspector to visit the Shin Kori site for several weeks to observe the construction inspection practices used by the Korean regulator.

International Cooperation

- March 2008 observation of international counterpart inspections led by French regulator, ASN:
 - AREVA NP, Saint Marcel - Heavy Components
 - Creusot Forge - Forging & Casting Group
 - Velan Inc – Valve Manufacturing
- February 19-22, 2008, meeting of the MDEP Working Group on Component Manufacturing Oversight in Paris



Commercial Grade Calibration Services

- NRC Letter to ACLASS Accreditation Services dated December 19, 2007 (ML073440472)
- Bases for NRC approval for accepting ACLASS calibration services as an alternative method for qualifying suppliers in lieu of supplier audit, commercial-grade survey, or in-process surveillance for commercial-grade suppliers of calibrations services.
- Similar to Arizona Public Services safety evaluation report dated September 28, 2005, for NVLAP and A2LA. (ML052710224)



ASME NQA-1/NRC interactions

- ASME Letter to NRC dated October 2, 2007, discussed resolution of NRC comments with the NQA-1 and plan to publish NQA-1-2008 in late March 2008 (ML073120445)
- NRC response letter dated December 10, 2007, identifies a plan for revising RG 1.28 during phase 3 of the RG update program, including a review of the published version of NQA-1-2008 for potential endorsement as part of the staff's planned update to RG 1.28 (ML073320346)



ASME NQA-1/NRC interactions

- NRR staff is in the initial stages of developing a revision to Regulatory Guide 1.28 for potential endorsement of the NQA-1-2008 Edition
- NQA-1 Task Group continues to address commercial grade dedication and software QA issues for revision and inclusion in the NQA-1-2009 addenda. These remain from NRC issues previously identified during the side-by-side review of 1994 and 2004 editions



Future Vendor Inspection Activities

- Vendor Inspections
 - Tioga Pipe, March 3-7, 2008
 - Accompany French regulator ASN on inspections at Areva NP facilities in France, March 2008
 - Areva NP GmbH (Germany), March 2008, German regulator to observe
 - Seven more inspections TBD, including possible international vendors
- Third Party Oversight
 - At least two NUPIC Audit observations TBD



Questions?