# *AREVA's Perspective on Implementing NRC Requirements*

## *Improvements and Benefits realized from Inspections and Audits*

*Tara Werner*

*Manager, Quality Programs*

*June 17, 2010*

AREVA

# Discussion Contents

▶ **Introduction**

▶ **Types and frequency of oversight**

◆ **NRC**

◆ **NUPIC**

◆ **ASME Surveys**

◆ **Customer reviews**

◆ **INPO Assists**

▶ **Results and Improvements from Oversight**

▶ **Similarities and Differences in Oversight**

▶ **Conclusions and Questions**

# Introduction

▶ **AREVA's unique integrated offering covers every stage of the fuel cycle, reactor design and construction, and related services.**
**In addition, the group is developing a portfolio of operations in renewable energies.**

▶ **Quality Programs is responsible for the following in the U.S Region:**

◆ **Quality Programs**

◆ **Safety and non-safety related QA Programs**

◆ **Audits Programs**

◆ **Corrective Action Program**

# Types and Frequency of Oversight

- **NRC Inspection frequency has increased with the introduction of the nuclear renaissance**
  - 2006
  - 2007
  - Upcoming 2010
- **NUPIC Audits are performed every two years**
  - 3 Teams (average of 28 people)
  - 3 Locations
  - 1 week
- **ASME/National Board Surveys are performed every three years for renewal of the AREVA certificates**
- **Single customer audits average 15 per year since 2006**
- **INPO Assists began with the introduction of the nuclear renaissance**

# Results and Improvements from Oversight

▶ **NRC Inspection 99901359/2006-201 in July 2006; this inspection was limited scope focused on the Corrective Action Program and 10 CFR 21**

  ◆ **Procedure did not contain adequate justification to be documented for determining that a CR was not potentially reportable under 10 CFR 21.**

▶ **Corrective Actions**

  ◆ **Part 21 issue**

    • **Implemented enhancement in the electronic Corrective Action Program; this enhancement causes the following Part 21 questions to individually and automatically pop-up during the Screening process**

# Results and Improvements from Oversight

**Corrective Action Manager - Decision Point -- Web Page Dialog** ☒

Does the condition affect the design or procurement information approved or to be approved within the scope of the design certification or approval for a structure, system, or component, or part thereof under 10 CFR 52/New Plants?
(IF YES, CONTACT REGULATORY AFFAIRS FOR PART 21 APPLICABILITY AND REFER TO PROCEDURE 1707-01).

**Corrective Action Manager - Decision Point -- Web Page Dialog** ☒

Potentially Reportable Question 1/4: Is the condition a deviation to a technical requirement included in a procurement document?

**Corrective Action Manager - Decision Point -- Web Page Dialog** ☒

Potentially Reportable Question 2/4: Does the condition affect a basic component designed/fabricated under a 10 CFR Part 50 Appendix B QA Program or one that has successfully completed dedication?

**Corrective Action Manager - Decision Point -- Web Page Dialog** ☒

Potentially Reportable Question 3/4: Could the deviation create a substantial safety hazard that could cause a major reduction in the degree of protection provided to public health and safety for any facility or activity licensed or otherwise approved or regulated by the NRC?

**Corrective Action Manager - Decision Point -- Web Page Dialog** ☒

Potentially Reportable Question 4/4: Is the Condition Potentially Reportable Under 10 CFR Part 21?

No ▾

Next

AREVA

# Results and Improvements from Oversight

- **Major improvement/Best practice**

  - ◆ **Automatic pop-up questions drive employees to consider each Part 21 question for potential reportability**

  - ◆ **In the event that a question is answered "yes" or "unsure," the Deviation Determination process automatically is generated and runs parallel to the Condition Report in the electronic system**

  - ◆ **Defect Determination and Operability Assessment also automatically generate as the process is followed and run parallel to the Condition Report.**

  - ◆ **Potential Part 21 consideration is necessarily improved as a result of this enhancement**

AREVA

# Results and Improvements from Oversight

▶ **2009 Customer Audit**

- ◆ **Audit Finding was written in May 2009 by a single customer to document weaknesses in the AREVA Software Quality Assurance Program**

▶ **Corrective Action**

- ◆ **Hired an expert in Software Quality Assurance**
- ◆ **Established a team to review the Software Quality Assurance Program**
- ◆ **Revised Software Quality Assurance Program**
  - • **Procedures**
  - • **Computer Software Index Listing**

▶ **Major Improvement**

- ◆ **Procedures are streamlined and current**
- ◆ **Program is better controlled and understood**

AREVA

# Results and Improvements from Oversight

▶ **2008 ASME Material Organization Survey**

◆ **It was identified that Document Control throughout the organizations was weak related to printed information**

▶ **Corrective Action**

◆ **Implemented Water Marks (software enhancement to Document Control system) for printing documents**

- **Information Only**
- **Controlled**

▶ **Major Improvement**

◆ **Introduced a further level of control for document control**

◆ **Printed information is readily identifiable as "For Information Only" or "Controlled"**

# Results and Improvements from Oversight

▶ **2007 INPO Assist**

- ◆ It was identified that the AREVA Self-Assessment Program was weak.

▶ **Corrective Action**

- ◆ Performed bench marking effort to determine best practices in the industry
- ◆ Revised Self-Assessment Program to reflect more robust controls and requirements
- ◆ Implemented software enhancement to the corrective action program to address new Self-Assessment Program

▶ **Major Improvement**

- ◆ Encourages a more self-critical culture
- ◆ Encourages continuous improvement across AREVA

AREVA

# Similarities and Differences in Oversight

▶ **Similarities**

◆ **Preparations are generally the same for all types of audits and inspections**

◆ **Hosting audits is similar for all types of oversight**

◆ **Process for addressing auditor concerns is similar**

▶ **Differences**

◆ **ASME/National Board Surveys review and require revisions to the QA Manual during the survey**

◆ **Audit team make-up varies from audit to audit (team sizes, technical specialists)**

◆ **Audit time frames vary from audit to audit**

# Conclusions and Questions

- **Inspections, audits, and assists allow for identifying areas of weakness that lead to potential improvements and positive evolutions in QA Programs**

- **Corrective actions and improvements can sometimes be realized as best practices**

## *Questions?*