



**U.S. NRC**

UNITED STATES NUCLEAR REGULATORY COMMISSION

*Protecting People and the Environment*

**AP1000  
Human Factors Engineering  
DAC/ITAAC**

**Inspection Overview**

**Thomas Fredette, PE**

**NRO/DCIP/CIPB**

[thomas.fredette@nrc.gov](mailto:thomas.fredette@nrc.gov)

**April 17, 2012**

# **DAC Inspection Background**

- **Framework developed - early 2010**
- **Piloted with South Texas DI&C - late 2010**
- **Shifted to AP1000 DI&C in 2011; inspections commenced in 2012**
- **Framework remains draft pending incorporation of lessons learned**
- **Inspection model- Regional inspection w/ specialized technical discipline support**

# Inspection Objective

- **DAC inspection is an ITAAC inspection; as with all ITAAC inspection, the objective is:**

***“verification that the design\*, as implemented, conforms to the licensing basis”***

***\* Piping, DI&C, HFE, radiation protection (ABWR only)***

# HFE DAC Inspection

- **Driven by development schedule**
- **Inspection is directed by RII/CCI, with technical staff (DCIP/COLP) support**
- **Guided by IPs 65001.23 through 26**
- **IP 65001.23 - Integrated System Validation (ISV) is one-time ITAAC inspection; results are applicable to all COL holders**
- **NRC will observe actual performance of ISV ITAAC; staff will work with ISV team to limit inspection impact on the activity**

# HFE DAC Inspection Framework

- **\*\* *Flowchart* \*\***
- **Generic for all DAC inspection (and inspection utilizing technical staff)**
- **RII leads- for HFE, all expertise provided by NRO; CIPB coordinates as necessary**
- **Various inspection guidance used**
- **Inspections documented and results archived in CIPIMS (ultimately will support ITAAC closure)**



# Discussion