North Anna 3

North Anna 3

ITAAC Program Overview

November 18, 2015

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Purpose

- Provide the NRC Staff with an overview of North Anna 3 ITAAC program development activities
- Discuss opportunities for future interaction with NRC Staff to address specific North Anna 3 ITAAC topics

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North Anna 3 Project Overview

- The NA3 project is led by Dominion and supported by the EPC consortium of GEH and Fluor
- NA3 COLA was submitted in November 2007 and incorporates the ESBWR DCD by reference
- COLA is currently in Phase 4 of the NRC's six-phase review schedule
- The NA3 COL will contain approximately 1700 ITAAC

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Agenda

- NA3 ITAAC Program and Organization
- ITAAC Profile
- ITAAC Planning
- Nucleus© ITAAC Module
- Next Steps

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ITAAC Program

- Develop the procedures, processes, plans, and tools needed to efficiently and effectively complete ITAAC
  - RG 1.215, Guidance for ITAAC Closure Under 10 CFR Part 52
  - NEI 08-01, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52
  - Industry Lessons-Learned
- Establish ITAAC related roles and responsibilities of NA3 Consortium members
- Ensure ITAAC considerations are integrated appropriately into other programs (e.g., CAP)

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Completion Team Organization

- Integrated ITAAC Completion Team established
  - Dominion, GEH, and Fluor
  - Licensing, design, construction and operations experience
  - Bi-monthly meetings/frequent conference calls
- Members of NEI Construction Inspection Program (CIP) Task Force
  - Participants at NRC CIP meetings
  - Development of NEI 08-01
  - Monitoring early Uncompleted ITAAC Notification pilot

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Engagement with AP1000 Construction

- ITAAC Completion Team frequently interacts with Vogtle and Summer projects to identify best practices and lessons-learned
  - Two employees embedded at Vogtle for one year
  - Supported INPO Construction Review Visit at Summer
  - Supported Vogtle QA audit of ITAAC program
  - Supported Vogtle and Summer ITAAC assessments
  - Multiple benchmarking visits

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ITAAC Organization Training

- Two training modules developed
  - ITAAC introduction/orientation
  - ITAAC planning
- Initial training has been provided to key project personnel
  - New project personnel with ITAAC duties will receive introductory training
  - Additional training will be provided periodically to reinforce understanding of ITAAC program
- Future training modules will address completion process and ITAAC maintenance

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ITAAC Profile

ESBWR DCD			**1597**
COLA			**87**
	Security	30	
	EP	35	
	UHS & Essential Cooling	2	
	Offsite Power	7	
	Civil/Structural	12	
	Control Rods	1	
TOTAL ITAAC			**1684**

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ITAAC Timing

Phase	Quantity	%
♦ Design/Procurement	614	37%
♦ Construction	562	33%
♦ During Preop Testing	508	30%

- Design/procurement phase includes
  - DAC and other design confirmation (primarily DCIS)
  - Equipment qualification - type tests
  - ASME component fabrication inspections
  - Electrical and structural analyses
- Construction phase includes reconciliation of as-built SSCs
- Developing plans and strategy to minimize and manage projected surge during preop testing

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ITAAC Planning

- An ITAAC Completion Plan (ICP) is being developed for each ITAAC
- Objective
  - Define completion activities
  - Minimize potential challenges to ITAAC completion
  - Assign discipline responsibilities for each ITAAC
  - Establish project ITAAC schedule
  - Estimate required project resources to perform ITAAC and prepare ITAAC Closure Notification (ICN)

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ITAAC Completion Plan Content

- Activities, including schedule, necessary to execute ITA
- Responsible parties and deliverables
- Draft ITAAC determination basis
- List of principal closure documents
- Assessment of challenges and mitigation measures
- Vendor interface and document requirements

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ITAAC Completion Plan (continued)

- References to NEI 08-01 ICNs
- References to similar AP1000 ITAAC
- Lessons learned from review of AP1000 vendor and licensee IRs and ICNs
  - Generic issues incorporated into ITAAC processes
  - Applicable AP1000 ICNs reviewed during ICP development
  - Applicable ITAAC findings addressed in corresponding NA3 ICPs

ITAAC Assessment

- ITAAC are reviewed to identify potential challenges
- Assessment considerations include:
  - Timing – identify ITAAC occurring late in project timeline for detailed planning
  - Complexity and Scope – multiple ITA, complex analyses, number of activities/SSCs
  - Vendor involvement identified for enhanced oversight
  - Identification of first-time evolutions
- Numerical scores are assigned to facilitate ranking and appropriate mitigation measures

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ITAAC Assessment (continued)

- Initial assessment is in progress
- Mitigation options are under development
  - Specified in ICPs
  - Development of ICPs mitigates complexity, scope and vendor issues
- Additional assessments will be performed and mitigation measures developed based on industry lessons-learned

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ITAAC Completion Plan Pilot

- ICP pilot initiated in late 2014
- Establish confidence in process and team
  - ICP content, level of detail
- 85 representative ITAAC
  - DAC, vendor tests, as-built inspections/tests
- Reviewed by consortium and Dominion SMEs
- Pilot completion forecast end of 2016

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Nucleus© ITAAC Module

- EPC project management platform
  - Multiuser web interface
  - Accessible to entire project organization
  - Filter/search/sort capability
  - Schedule tracking
  - Automated progress and status reporting
- ITAAC Completion Plan Preparation
  - Centralize information needed for ITAAC planning and execution activities
  - Streamlines review and approval process

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Nucleus© ITAAC Module (continued)

- Automates completion process
  - Identifies principal closure documents
  - Assists in compiling completion package
  - Generates draft ICN
- Future platform for ITAAC maintenance
- Planned links to other project platforms
  - CAP platform
  - Engineering Design Tools
  - Quality Assurance Records
  - Work management

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NUCLEUS © ITAAC MODULE DEMONSTRATION

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Summary

- NA3 ITAAC team mobilized
  - ITAAC program and implementing procedures drafted
  - Initial review of potential ITAAC challenges in progress
  - Pilot project underway to exercise and validate ITAAC planning processes and tools
- Initial ITAAC training performed
- Nucleus© development continuing

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Next Steps

- Dominion plans to schedule additional meetings with the NRC to discuss specific pre-COL ITAAC related activities
  - Development of NA3 COL Appendix C
  - Identification of ITAAC families
  - DCIS DAC

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Questions?

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