Insights Gained from Design, Construction, and Commissioning of Light Water Reactors in the U.S.

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IAEA Conference – June 2017
Objectives

• Status of new construction in the U.S.
• Impact of design change and/or design finalization during construction
• Supply chain challenges
• Construction/commissioning management and related risks
• Modern construction technologies and methods: advancements vs. challenges
• Good practices and lessons learned
Status of New Construction in the U.S.

- Vogtle and V.C. Summer COLs were issued in February and March 2012, respectively
- First concrete pours were made in March 2013
- Operation currently planned for late 2019 for the first Vogtle or V.C. Summer unit
- Licensee is ultimately responsible for building the plant as designed and licensed
- NRC continues support for ongoing construction inspections
Impact of Design Changes During Construction

- Regulatory processes are in place to handle necessary changes to design/licensing basis during construction.
- Certain changes require a license amendment, an exemption, or both, and require NRC approval in advance of the construction of the plant change/modification.
- Maintenance of licensing basis configuration control.
- Possible construction delays.
Supply Chain Challenges

• Counterfeit, Fraudulent, and Suspect Items (CFSI)
• Adequate Sub-supplier Oversight
• NRC ITAAC and Vendor Inspections
Construction/Commissioning Management and Related Risks

- Quantity and quality of ITAAC Closure Notification submittals as Vogtle and V.C. Summer units near completion
- Transition to operation for Vogtle and V.C. Summer
Modern Construction Technologies and Methods: Advancements vs. Challenges

• Modular plant construction
• Passive safety systems
• Simplified plant arrangement
Examples of Good Practices and Lessons Learned

• Continuing with early and frequent communication between the licensee and NRC post licensing and throughout construction

• Maintaining flexibility during construction by establishing the PAR process

• Having residents at construction site
Thank You

For additional information on the NRC’s Construction Reactor Oversight Process (cROP) please visit us at: