

# Part 52 Construction Lessons Learned

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# Vogtle Impact Overview

## ■ Initial Plan

- Unit 3 2016 Completion (5 years after first nuclear concrete)
- Unit 4 2017 Completion

## ■ Regulatory Delays

- Aircraft Impact Redesign
- Design Approval - 11 months delay
- Construction License - 8 months delay
- 215 Licensing Actions\*
- 143,000 inspection hours (Vogtle 3 and 4) – direct and indirect

\*Source: SNC Presentation 9/27/2022 (ML22265A097)

# Top Recommendations

- Develop expedited and more efficient process for reviewing licensing actions with minimal safety significance
- Update cROP to reflect latest risk insights and incorporate lessons learned
  - Utilize low safety significance issue resolution (LSSIR)
  - Limit significance of licensee identified findings
  - Revise SDP to ensure resources are focused on most safety significant issues
- Create a new mechanism to enable the agency to pilot new approaches or processes for the first licensee as unintended challenges are identified

# Improve Regulatory Efficiency (1 of 2)

- Replace unnecessary regulatory submittals with NRC-Licensee information exchange
  - Program schedule submittals derived from SECY-05-0197 that impose license conditions
  - ITAAC completion schedule required by 52.99(a)
- Post both direct and indirect inspection hours (actuals and forecasts) on the NRC website to provide transparency on NRC resource plans
- Focus on performance-based acceptance criteria, and not the process for achieving the safety standards

# Improve Regulatory Efficiency (2 of 2)

## ■ Optimize ITAAC number and scope

- NEI 15-02: Proposal for standardized and optimized ITAAC
- Take credit for NRC-approved licensee programs (e.g., QA, ASME, EQ, structural reconciliation, system-level testing), and NRC's inspection program.
- Utilize ITAAC to provide reasonable assurance, not as a 1:1 check of detailed design and construction features.
- ITAAC are not necessary when:
  - SSC design features and performance characteristics are not safety or risk significant
  - Component-level testing are challenged during system testing
  - They duplicate other ITAAC
  - They directly duplicate regulation with no site-specific design attributes

# Low-Safety Significance-Issue Resolution (LSSIR)



- Update cROP for Construction Lessons Learned
  - SDP—Truly consider the actual risk to the public in cROP, which was based on ROP where public actually incurs some risk; however, this risk is never realized by the public during cROP, as plant programs ensure non-conforming conditions are addressed prior to operation.
  - Licensee identified findings—limit significance (consider minor violations) for licensee-identified findings since plant programs ensure such issues are addressed prior to operation.
  - Implementing LSSIR would be extremely helpful in the construction environment, particularly when verbatim compliance issues arise within ITAAC inspections when there is no significance or impact to ITAAC intent.

# Planning for SMR Implementation (1 of 2)



## ■ FOAK Mitigation Strategies

- Tabletop each step of first of a kind actions with Licensees
- Apply learnings from first-time licensing process in real time through ISG, RIS or other mechanisms so that the first licensee can benefit from overcoming regulatory obstacles

## ■ License amendment process optimization

- Focus Tier 1 and ITAAC during Design Certification on safety significant structure, systems, and components and make language succinct, to reduce the possibility of LARs during construction
- Create a process for Licensee to proceed at risk for modification of Tier 1 prior to NRC approval via 50.59-like process, since there is no radiological danger to the public prior to fuel loading
- Benefits
  - ◆ Reduce potential for delays during construction due to license amendments
  - ◆ Eliminate the need for large resources to maintain an emergency LAR/PAR process

# Planning for SMR Implementation (2 of 2)



## ■ Changes to inspection program

- New reactors anticipate minimal onsite construction.
  - ◆ If the ratio to vendor to site construction activities swap, so should the ratio to vendor to site inspection of activities.
- Life-cycle inspection approach for new supplier
  - ◆ Prior to fabrication starting—conduct inspection of supplier's programs
  - ◆ Shortly after fabrication commencement—inspect execution of programs
  - ◆ Inform follow-up inspections based on supplier performance
- Ensure inspection program does not repeat inspections onsite





# Questions?

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