



# **New Reactor Business Line Commission Briefing**

**September 24, 2015**



# **Opening Remarks**

**Mark Satorius**  
**Executive Director for Operations**



# **Overview of the New Reactor Program**

**Glenn M. Tracy**  
**Director**  
**Office of New Reactors**

# **Anticipated Outcomes (1/2)**

- **Verifying safe construction and vendor performance through effective oversight**
- **Implementing strategies for completing active Combined License (COL) and Early Site Permit (ESP) applications**
- **Demonstrating timely design certification (DC) reviews**

# **Anticipated Outcomes (2/2)**

- **Proactively engaging stakeholders for small modular reactor and non-light water reactor designs**
- **Addressing policy and complex regulatory issues**

# **Key Program Challenges**

- **Continued change in workload and nuclear business interests**
- **First-time implementation of 10 CFR Part 52 construction**
- **First-of-a-kind and innovative designs and approaches**
- **Ensuring appropriate resources for the changing workload and emerging non-light water technologies**

# **Implementing Key Strategies**

- **Managing resources and skills to align with projected work**
- **Developing and implementing lessons learned**
- **Implementing the plan for transition to operations**
- **Proactively engaging on emerging issues**



# **Large Light Water Reactor & Small Modular Reactor Licensing**

**Frank Akstulewicz**  
**Director**

**Division of New Reactor Licensing**

# **Executing Our Licensing Mission (1/2)**

- **Continuing to emphasize regulatory activities supporting licensees**
  - **License amendments (Vogtle and Summer)**
- **Supporting multiple mandatory hearings**
  - **South Texas Project, Levy and PSEG**
- **Completing DC reviews in a manner that assures safety on schedule**
  - **APR1400, US-APWR and NuScale**

# **Executing Our Licensing Mission (2/2)**

- **Safely completing the LLWR COL reviews**
  - **North Anna and Turkey Point**
- **Preparing for the next ESP application**
  - **Clinch River**

# **Strategies for Completing the Licensing Mission (1/2)**

- **Goal: Safe and timely resolution of technical issues on current applications**
  - **Strategy: Emphasis on NRO Safe Closure List**
- **Goal: Effective resource management**
  - **Strategy: Establish workload priorities and direct critical resources to support critical milestones**

# **Strategies for Completing the Licensing Mission (2/2)**

- **Goal: Close regulatory gaps and fulfill infrastructure needs**
  - **Strategy: Disciplined, focused meetings to address regulatory process questions**
  - **Strategy: Finalize Design Specific Review Standard**
  - **Strategy: Effective Use of Readiness Assessment Audits**

# **Developing A Vision of Licensing Work in FY17 and Beyond (1/2)**

- **Licensee regulatory activities still an emphasis**
  - **License amendments**
- **Completing COL mandatory hearings**
  - **Lee, North Anna and Turkey Point**

# **Developing A Vision of Licensing Work in FY17 and Beyond (2/2)**

- **DC applications**
  - **APR1400, US-APWR, NuScale, Holtec, and ABWR and AP1000 renewals**
- **SMR COL applications**
  - **Clinch River and UAMPS**
- **ESP applications**
  - **Clinch River and Blue Castle**



# **Proactive Engagement To Support Small Modular Reactor Policy Issues and Advanced Reactor Licensing**

**Michael Mayfield, Director  
Division of Advanced Reactors  
and Rulemaking  
Office of New Reactors**

# **Small Modular Reactor Policy Issue Resolution Supports Timely Licensing Reviews**

- **Goal: Resolution of issues affecting Design Certification**
  - **Strategy: Active engagement during pre-application discussions**
  - **Strategy: International cooperation**
  - **Strategy: Propose resolutions to Commission as early as possible**

# **Advanced Reactor Licensing**

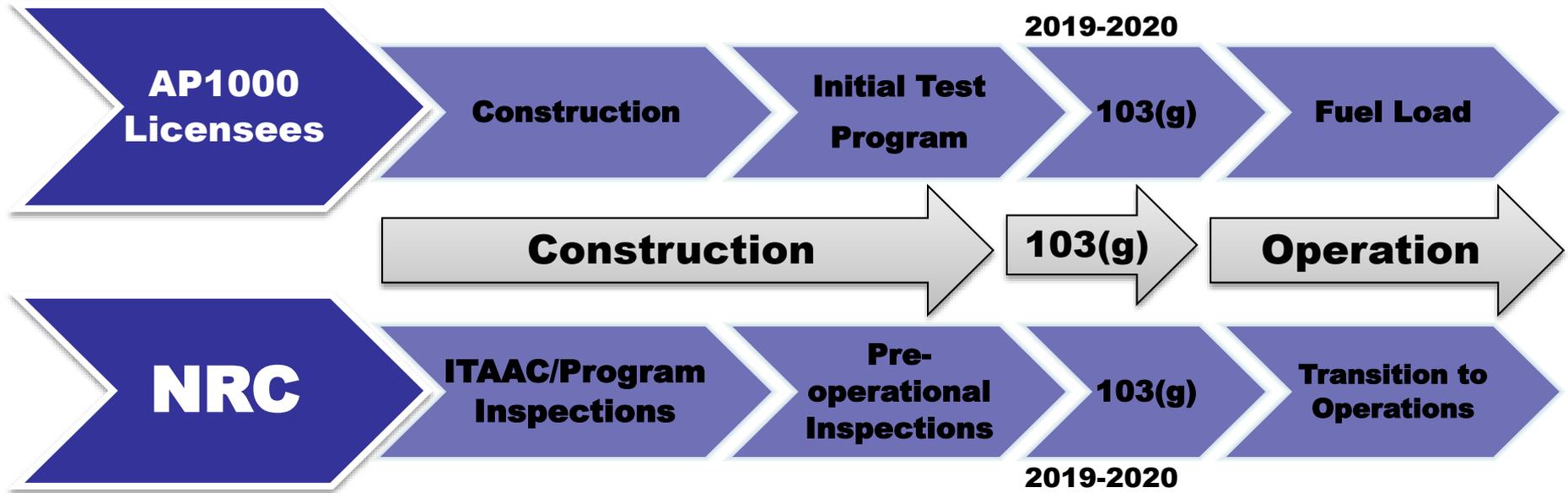
- **Goal: Adapting LWR regulatory framework to non-LWRs**
  - **Strategy: Focused activities to address key issues**
  - **Strategy: International cooperation**
  - **Strategy: Active engagement with stakeholders**



# **Construction Oversight**

**Laura Dudes**  
**Deputy Regional Administrator,**  
**Construction**  
**Region II**

# Staff Effectively Meeting Challenges of Dynamic Construction Environment (1/3)



# Staff Effectively Meeting Challenges Of A Dynamic Construction Environment (2/3)

- High quality, value-added inspections



# Staff Effectively Meeting Challenges Of A Dynamic Construction Environment (3/3)

- **First-of-a-kind inspections**
- **Adaptability / Future resource needs**



# Positioning for Operational Oversight

- **Organizational plan for the AP1000 transition**
- **Staff readiness for AP1000 reactor operation**
  - **AP1000 reactor operations training**
  - **Resource agility during the initial operations**
  - **Watts Bar lessons learned**





# **Vendor Inspection Program**

**Michael Cheok**  
**Director**

**Division of Construction Inspection  
and Operational Programs  
Office of New Reactors**

# Positively Impacting Vendor Performance

- **Successfully meeting the goals and objectives of the vendor inspection program**
  - **Support for new plant construction**
  - **Support for operating plants**
- **Verifying licensees are providing effective oversight of the supply chain**



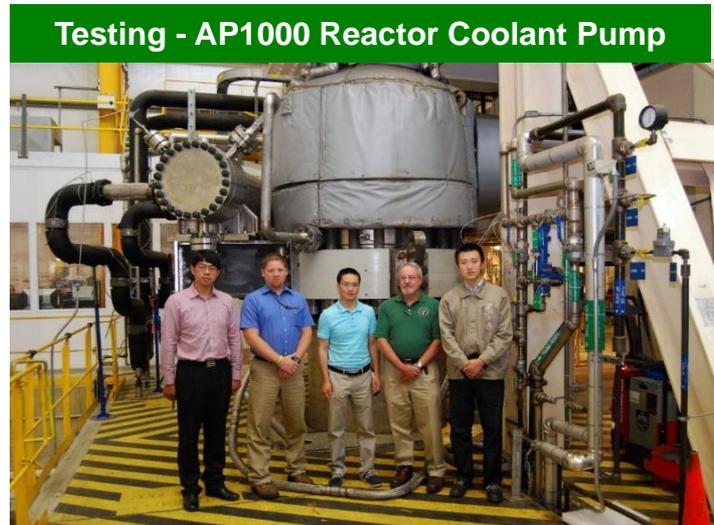
# Challenges Being Addressed

- **Squib Valve design margin and qualification**
- **Reactor Coolant Pump reliability**
- **Digital Instrumentation & Control validation**
- **Module fabrication quality**



# Strategies for Continued Improvement

- **Implementing in a risk-informed and technically-focused manner**
- **Integrating vendor inspection into Construction Inspection Program Information Management System**
- **Leveraging international collaboration**



# Launching New Initiatives

- **Implementing San Onofre Nuclear Generating Station lessons-learned**
- **Planning oversight of SMR fabrication**



Design Testing –  
Small Modular Reactor

# **Leveraging Resources Through International Engagement**

- **Achieving mutually beneficial outcomes between counterparts during construction oversight: Bilateral exchanges with Chinese regulator**
- **Gaining valuable insights on design reviews: Multinational Design Evaluation Program**
- **Actively participating in joint vendor inspections: Vendor Inspection Cooperation Working Group**

# **Leadership in Multinational Engagement**

- **IAEA Small Modular Reactors  
Regulators Forum**
- **Joint Nuclear Energy Agency  
CNRA/CSNI Group on the Safety  
of Advanced Reactors**

# **Continued Proactive Planning and Agency-Focus through Project AIM**

- **Centers of Expertise**
  - **Applying past experiences to identify further areas for enhanced agility and efficiency**

# **Continued Proactive Planning and Agency-Focus through Project AIM**

- **Transitional Plan for the merger of NRR and NRO**
  - **Using lessons learned from formation of NRO and merger of NMSS-FSME, and long-term work projections to identify potential efficiencies and challenges**

# Summary

- **Delivering safe and timely license amendments supporting construction**
- **Positively impacting safe construction through effective oversight**
- **Completing current licensing application reviews safely**
- **Preparing for small modular and advanced reactor designs**

# Acronyms

- **ABWR – Advanced Boiling Water Reactor**
- **AP1000 – Advanced Passive 1000**
- **APR1400 – Advanced Power Reactor 1400**
- **COL – Combined License**
- **CNRA – Committee on Nuclear Regulatory Activities**
- **CSNI – Committee on the Safety Nuclear Installations**
- **DC – Design Certification**
- **EPR – Evolutionary Power Reactor**
- **ESP – Early Site Permit**
- **IAEA – International Atomic Energy Agency**
- **ITAAC – Inspections, Tests and Acceptance Criteria**
- **LWR – light water reactor**
- **SMR – Small Modular Reactor**
- **UAMPS – Utah Associated Municipal Power Systems**
- **USAPWR – Advanced Pressurized Water Reactor**