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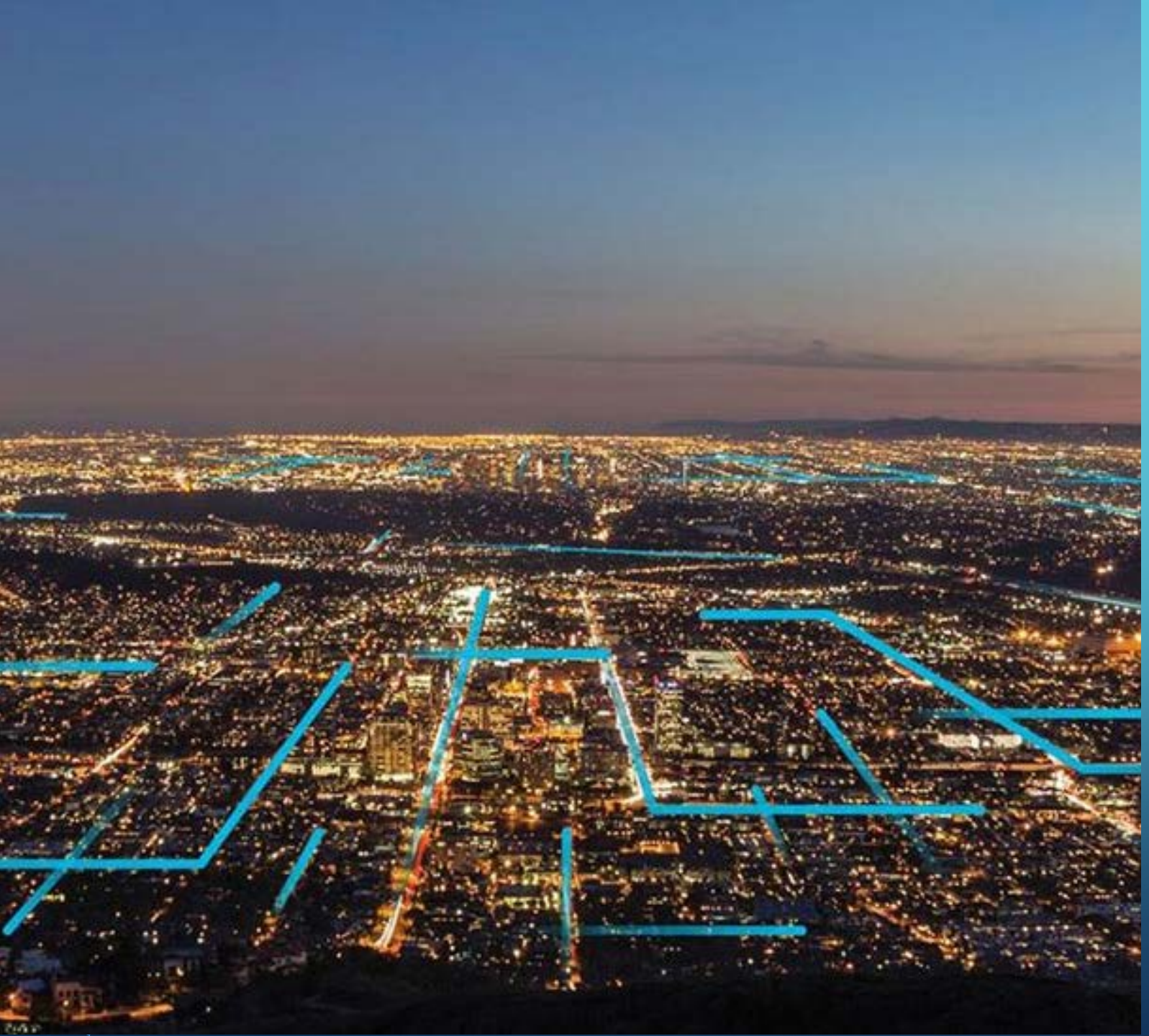
Protecting People and the Environment

JOINT FERC-NRC COMMISSION MEETING

JANUARY 25, 2024



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Andrea Kock

Deputy Office Director for Engineering

Office of Nuclear Reactor Regulation

- Overview of Power Reactor Activities

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OUR CONTINUED PARTNERSHIP CONTRIBUTES TO NUCLEAR POWER PLANT SAFETY

Andrea Kock	• Overview of Power Reactor Activities
Jason Paige	• Update on Interagency Agreements, Grid Reliability, Implementation of E.O. on Electromagnetic Pulses
John Wise	• Update on Subsequent License Renewal
Peyton Doub	• NRC's Permitting Process for the National Environmental Policy Act (NEPA)
Brian Yip	• Updates on Cybersecurity Program, Research Activities, and Trends in Inspection and Oversight

Photo: Georgia Power Company

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NRC IS FOCUSED ON ITS MISSION

- The NRC maintains strong licensing and oversight programs focused on the safe operation of nuclear power plants.
- The NRC demonstrated its ability to execute its mission through authorization of operations at Vogtle Units 3 & 4.

WE ARE PREPARED TO ADDRESS CHANGES IN THE OPERATING REACTOR LANDSCAPE

- Nuclear Power Reactors serve a significant role in the stability of our nation's electrical grid.
- This stability, paired with national focus to achieve net-zero emissions by 2050 are contributing to an increased interest in long term operation.
- Recent legislative programs support continued operation of the existing nuclear fleet.

EXECUTING OUR MISSION TO SAFELY LICENSE NEW AND ADVANCED REACTORS

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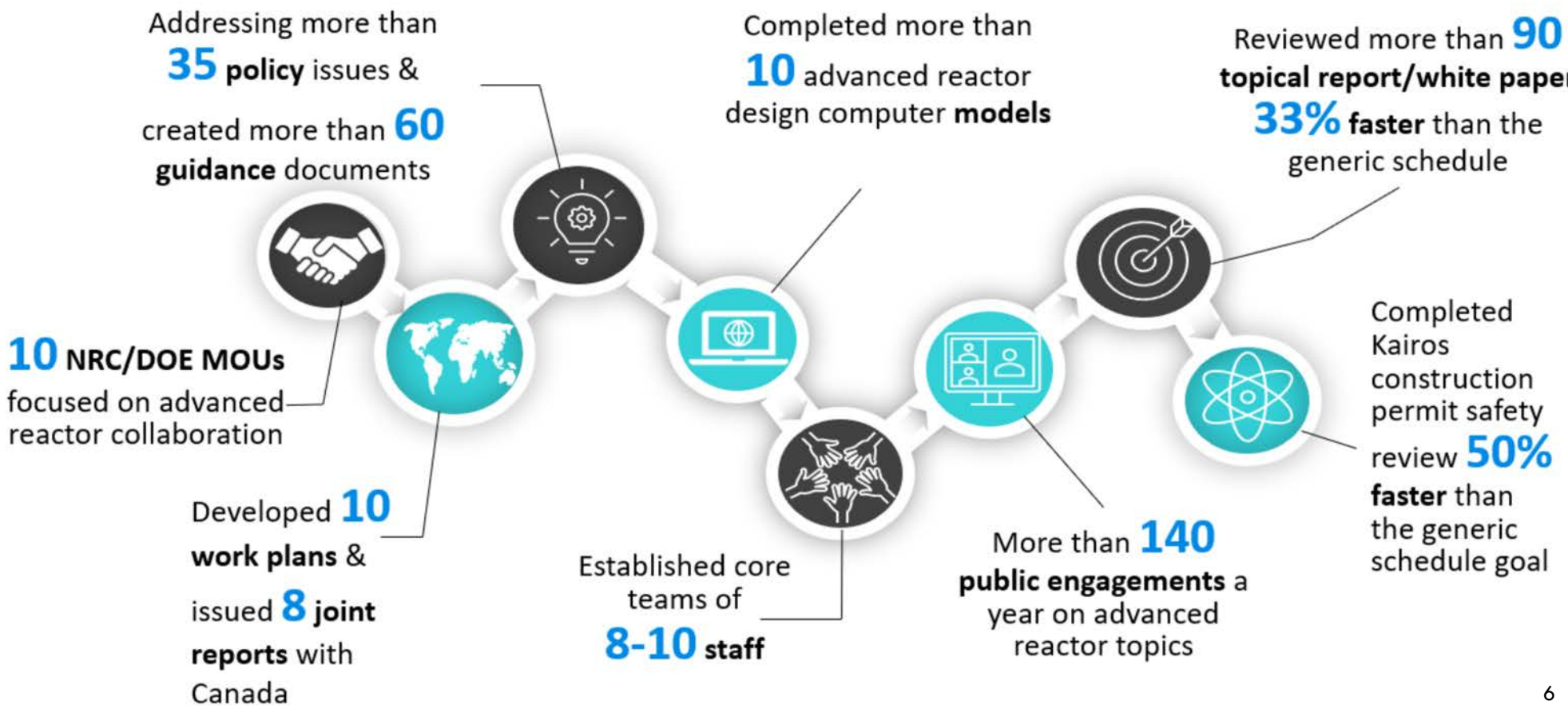

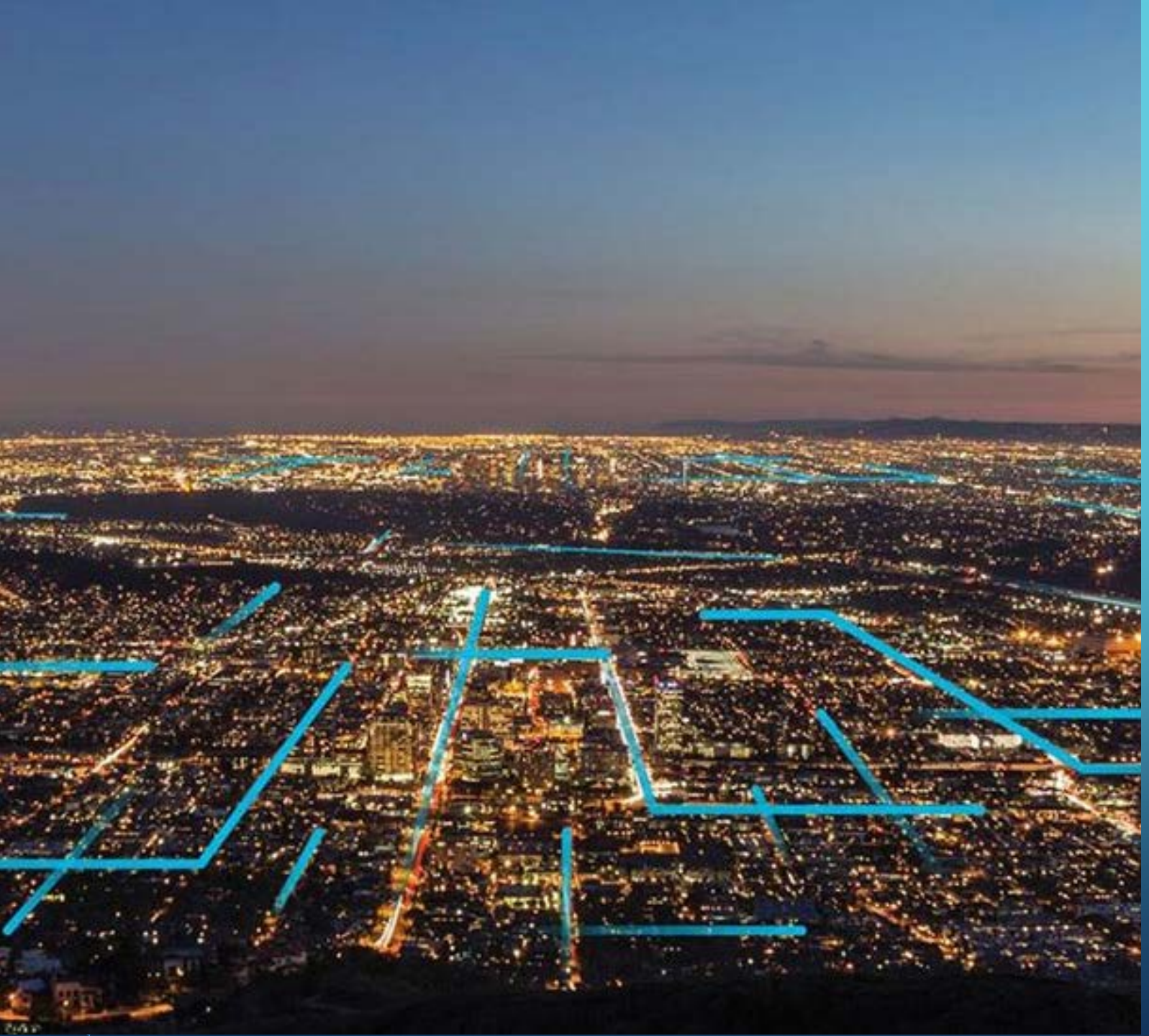

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Jason Paige

Chief, Long Term Operations and Modernization Branch

Division of Engineering and External Hazards

Office of Nuclear Reactor Regulation

- Update on Interagency Agreements
- Grid Reliability
- Implementation of Executive Order on Electromagnetic Pulses

NUCLEAR SAFETY AND SECURITY IS ENHANCED BY INTERAGENCY AGREEMENTS

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Mutual Interests

- Dam safety
- Reliability of the grid
- Cyber and physical security

NRC-FERC MOU/MOAs:

- Grid Reliability, Cyber Security and Physical Security (MOA)
- Dam Safety Interagency Agreement (IAA)
- Critical Energy/Electric Infrastructure Information (MOU)

NRC-NERC MOU

- Security (Cyber/Physical)

THERE CONTINUES TO BE STRONG COORDINATION BETWEEN NRC, FERC, & NERC

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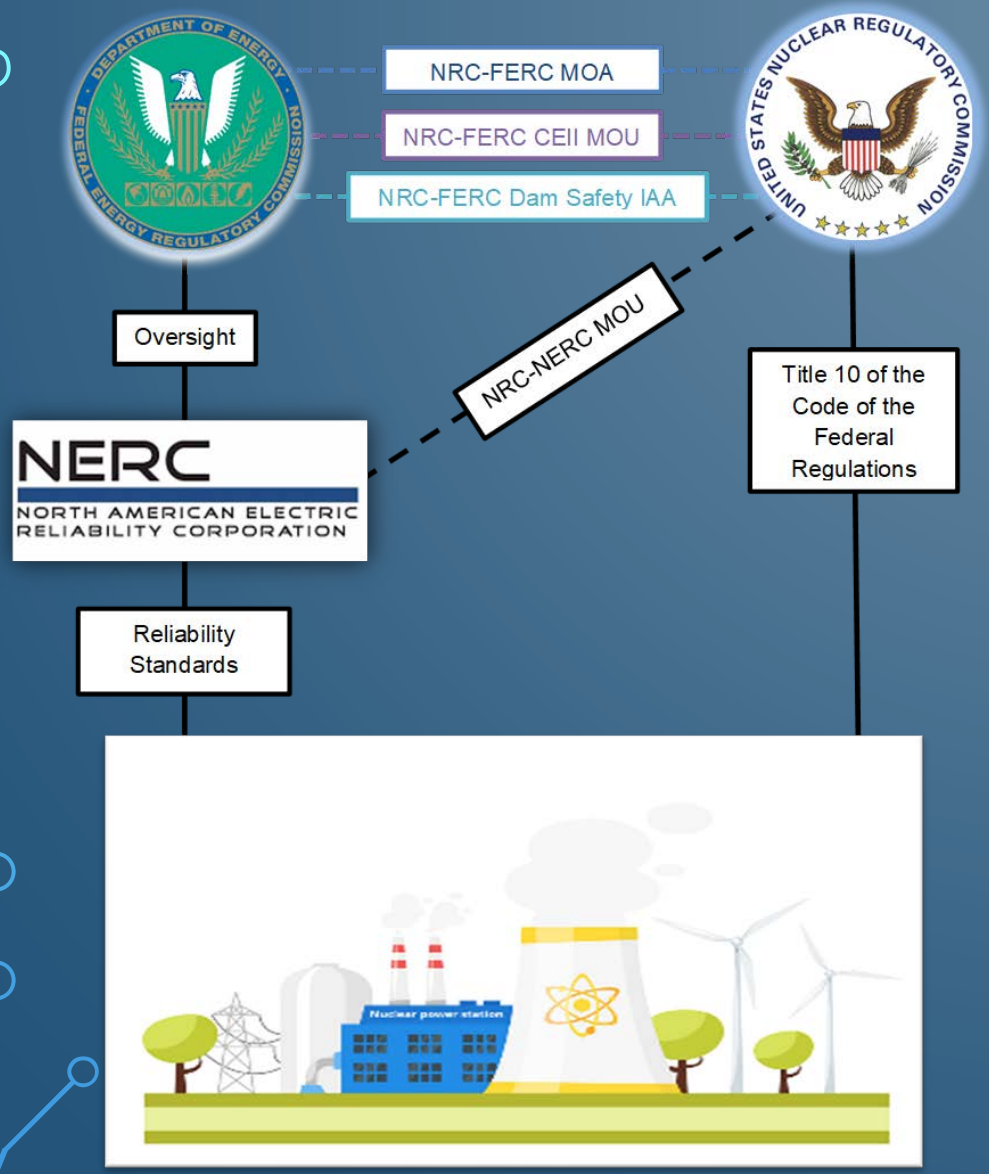
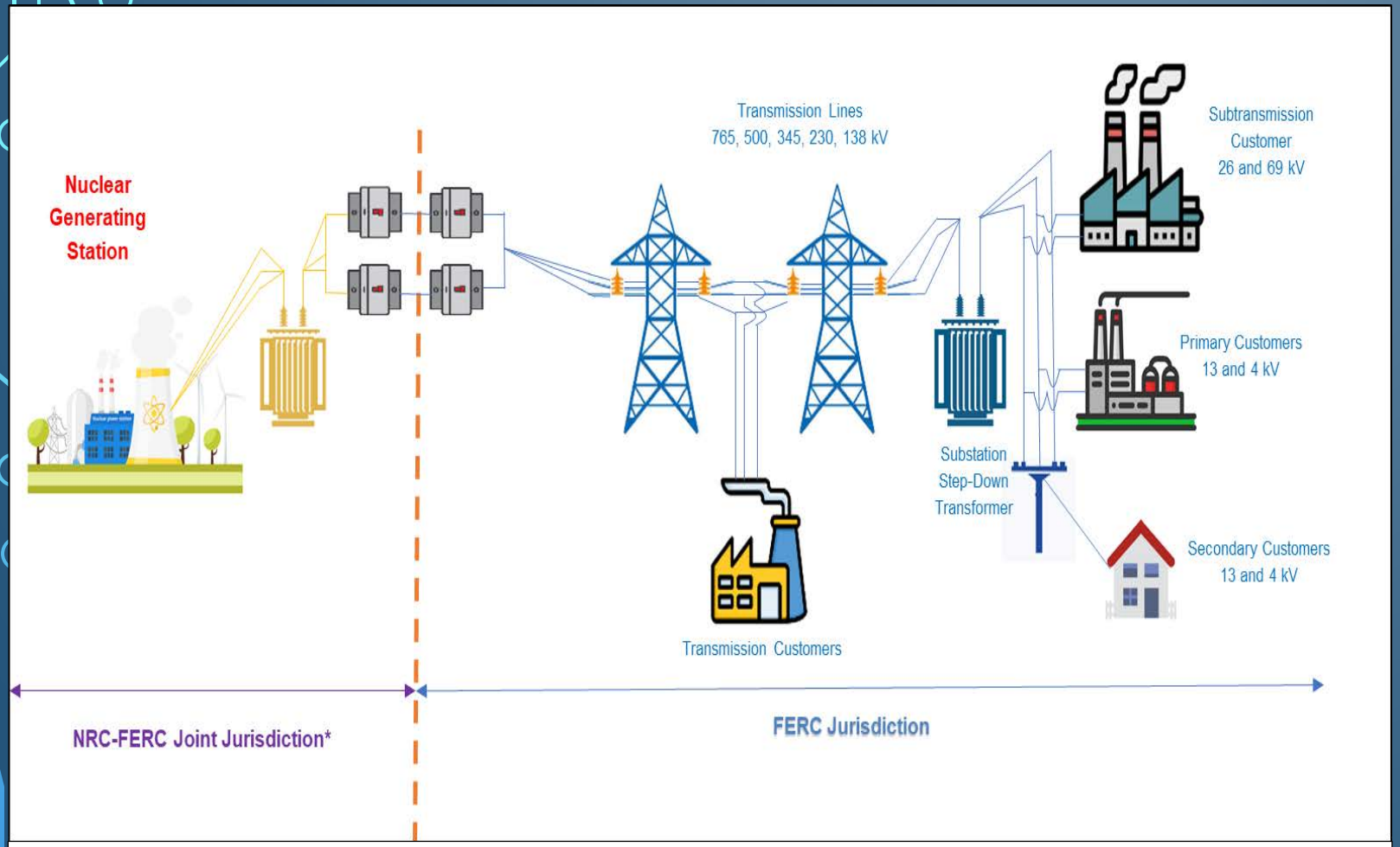


- Interagency agreements facilitate exchange of information on technical, regulatory, and policy issues to fulfill our regulatory missions.
- Coordination demonstrated during the 2021 Texas cold weather event.

RECENT COMMUNICATIONS HAVE ENHANCED UNDERSTANDING OF RESPONSIBILITIES



* NRC and FERC have regulatory jurisdiction over Nuclear Generating Stations but through mutual agreement, FERC elects not to exercise its authority in those areas where the NRC exercises oversight.

- Clearer understanding of responsibilities between NRC, FERC, & NERC
- Exploring options to establish agreement with the Electric Reliability Council of Texas (ERCOT)
- Further alignment on the jurisdiction of each agency

IMPROVED UNDERSTANDING OF THE NATION'S RESILIENCE TO EMP EFFECTS

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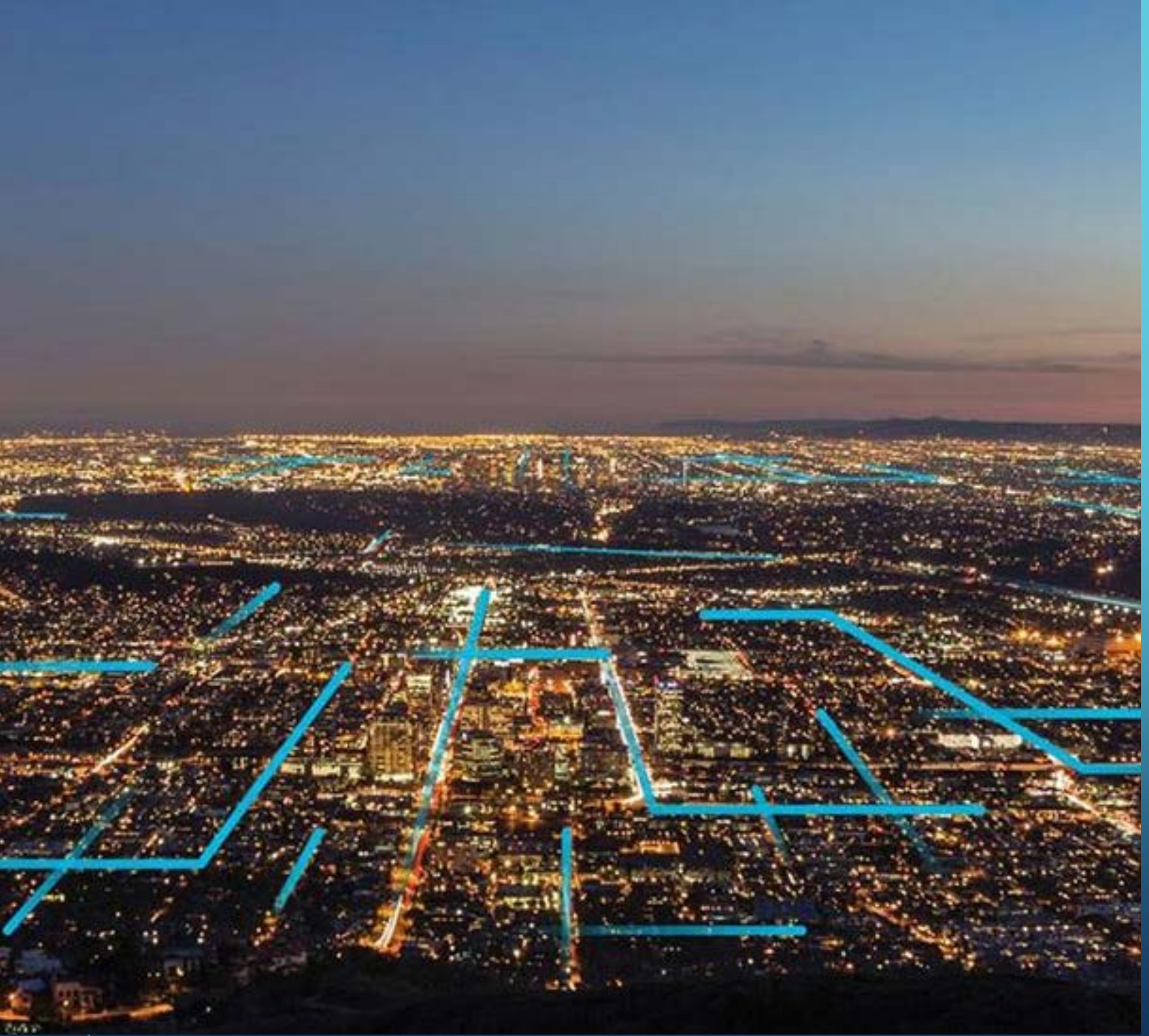
- Executive Order 13865 issued March 2019
  - Federal agencies have worked closely to improve understanding of the nation's resilience to electromagnetic pulse (EMP) effects.

- Nuclear power plants can safely shut down after an EMP-related electric grid event.
  - Recent analyses and tests continue to support NRC's position
  - No additional NRC regulatory action is needed

- Currently, the NRC does not have any additional actions for addressing the Executive Order.
  - Will continue to participate during interagency meetings



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John Wise

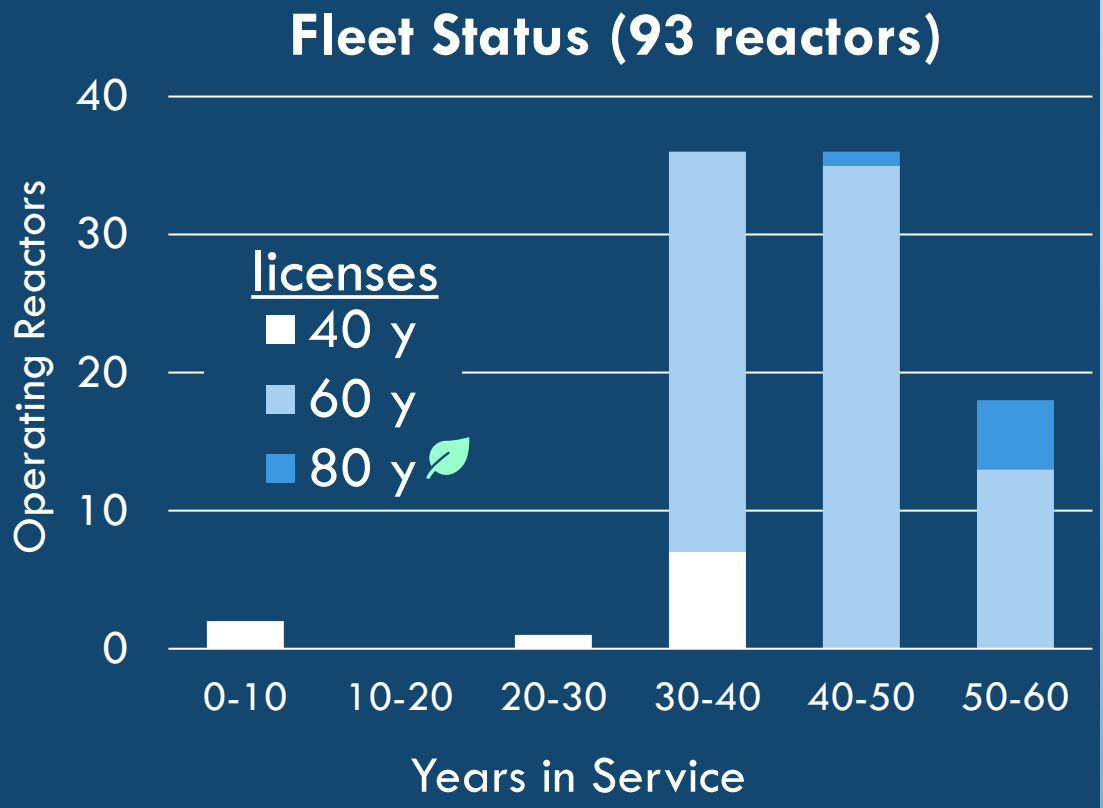
Senior Technical Advisor for License Renewal Aging Management

Division of New and Renewed Licenses

Office of Nuclear Reactor Regulation

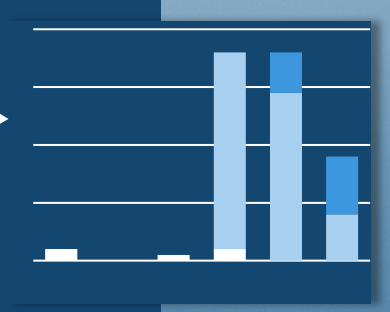
- Update on Subsequent License Renewal

HIGH LEVEL OF INTEREST AND ACTIVITY IN EXTENDING THE SERVICE LIFE OF THE OPERATING FLEET



subject to 80y environmental impact reassessment

+16 renewals in progress



- Subsequent renewal (80 y) interest is high
- NRC is appropriately positioning for potential interest in extension to 100 years

ENHANCING RENEWAL PROCESSES AND GUIDANCE TO SUPPORT SAFE, EFFICIENT LIFE EXTENSION

Licensing Review Efficiencies

- Risk insights
- Leverage current plant programs & prior NRC approvals

Plant Safety: Technical Guidance

- Learn from operating experience
- Update best practices to manage aging degradation

Plant Safety: NRC Oversight

- Extend renewal inspection program to 80 years
- Greater focus on resolution of plant aging issues

Environmental Impacts

- Update impact assessment for 80 years

PARTNERSHIPS IN LONG TERM OPERATION

International workshops, conferences, and committees on operating experience and proven practices

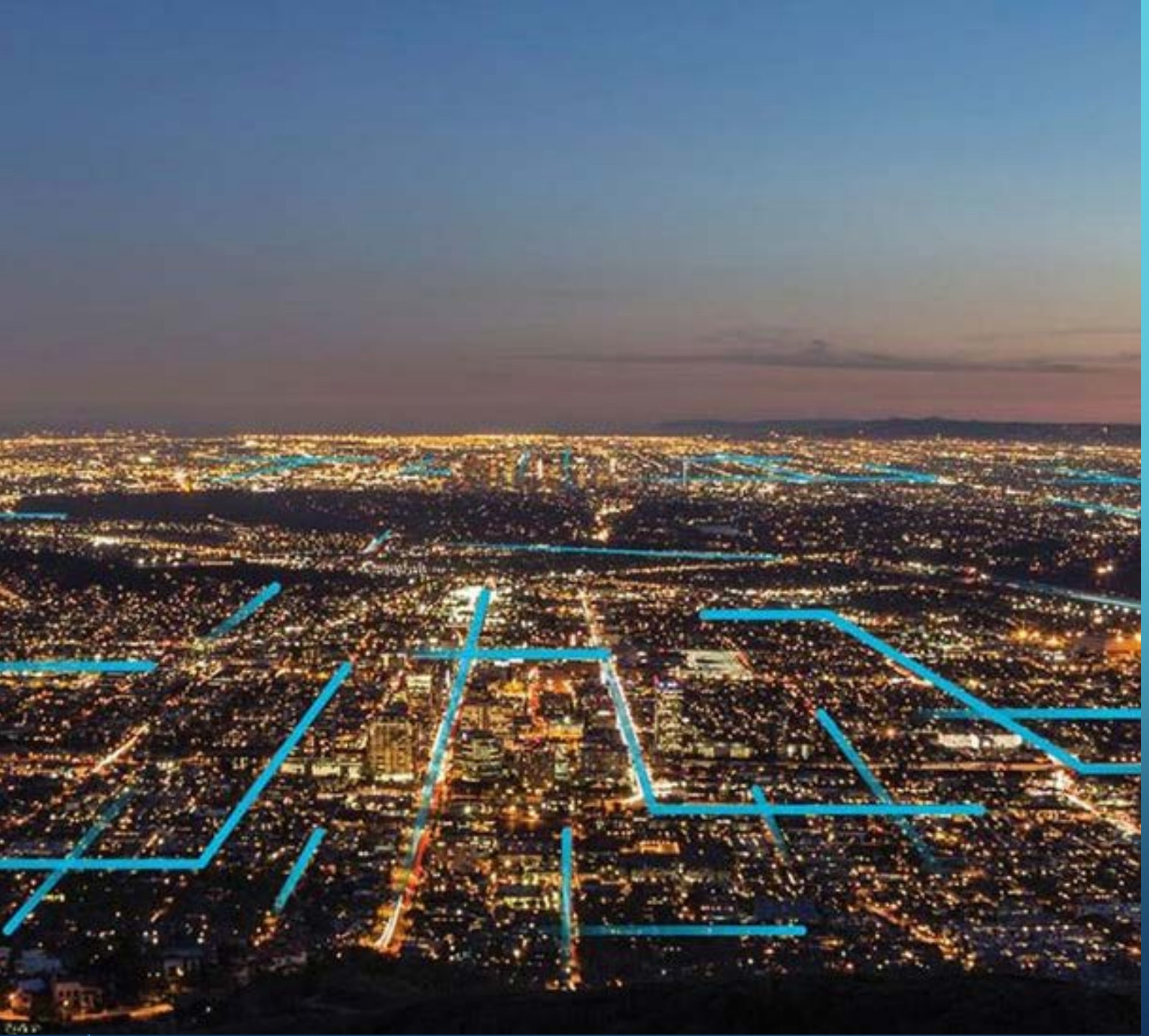
IAEA

NEA

LWRS
LIGHT WATER REACTOR SUSTAINABILITY

EPRI

Research coordination with U.S. DOE, EPRI, and international partnerships



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Peyton Doub

Acting Chief, Environmental Project Management Branch 3

Division of Rulemaking and Financial Support

Office of Nuclear Material Safety and Safeguards

- NRC's permitting process for the National Environmental Policy Act

ADAPTING TO NEPA CHANGES AND STREAMLINING ENVIRONMENTAL REVIEW

Photo credit: Robert Schwemmer/NOAA

Artist Rendering of Proposed Hermes 1 and 2 Reactors

Fiscal Responsibility Act NEPA Amendments

- Time Limits
- Page Limits
- Agency interaction

Process Improvements

- Portfolio Approach
- Agile Project Management
- Earlier Preapplication
- Flexible Audits
- Incorporation by Reference

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NRC Environmental Center of Expertise (ECOE)

A Nimble Organization to Handle Increasing Workload


Northern Chumash: Photo credit: Robert Schwemmer/NOAA


Triso-X Local and State Official Lunch and Learn
Photo credit: WYSH radio

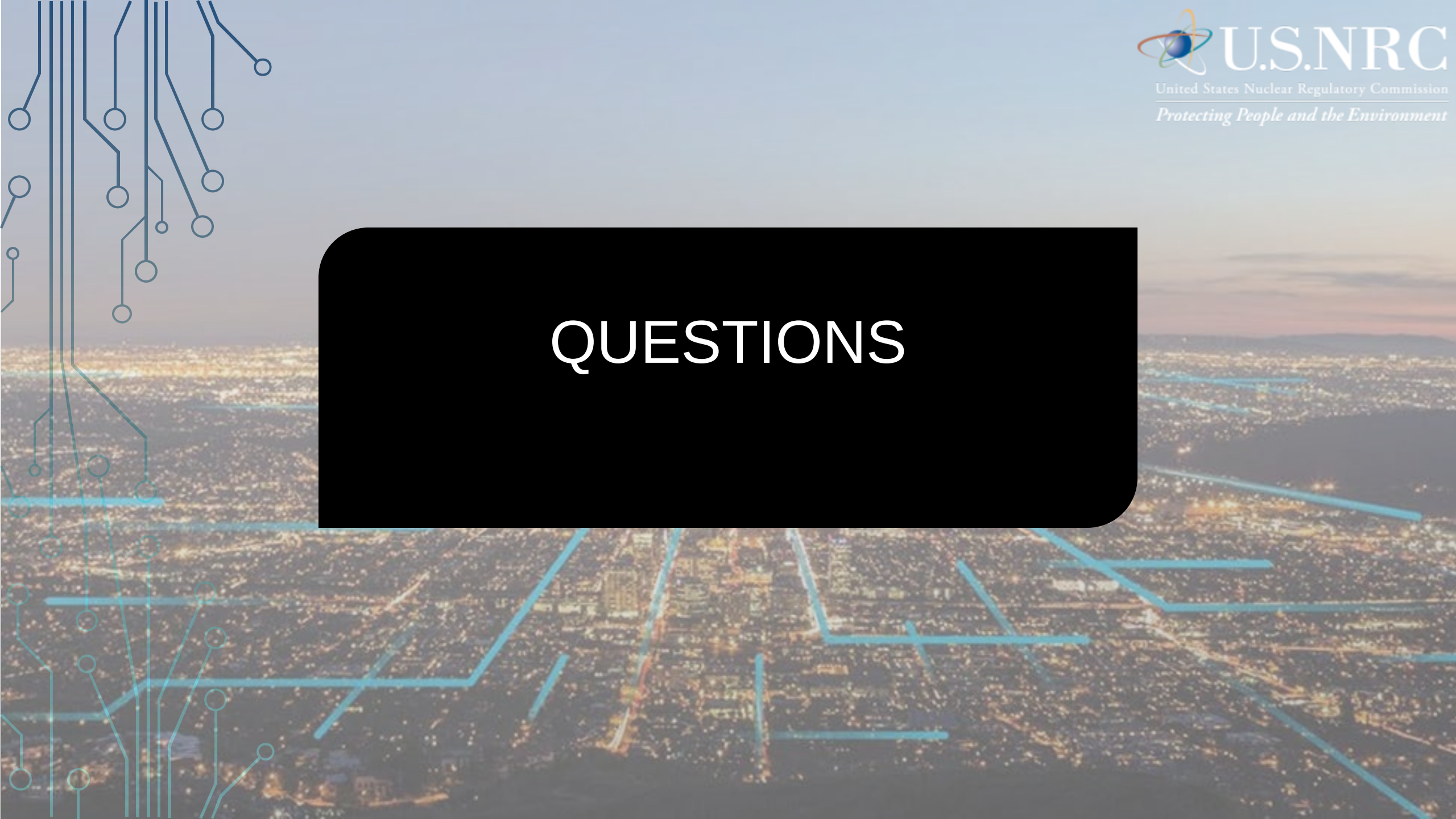
Robust Tribal Engagement

Enhanced Agency Interaction

New Communication Channels

Improved Stakeholder Confidence Through Meaningful Engagement and Communication

Meeting the Spirit and Intent of FAST-41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QUESTIONS

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CYBER SECURITY ACTIVITIES

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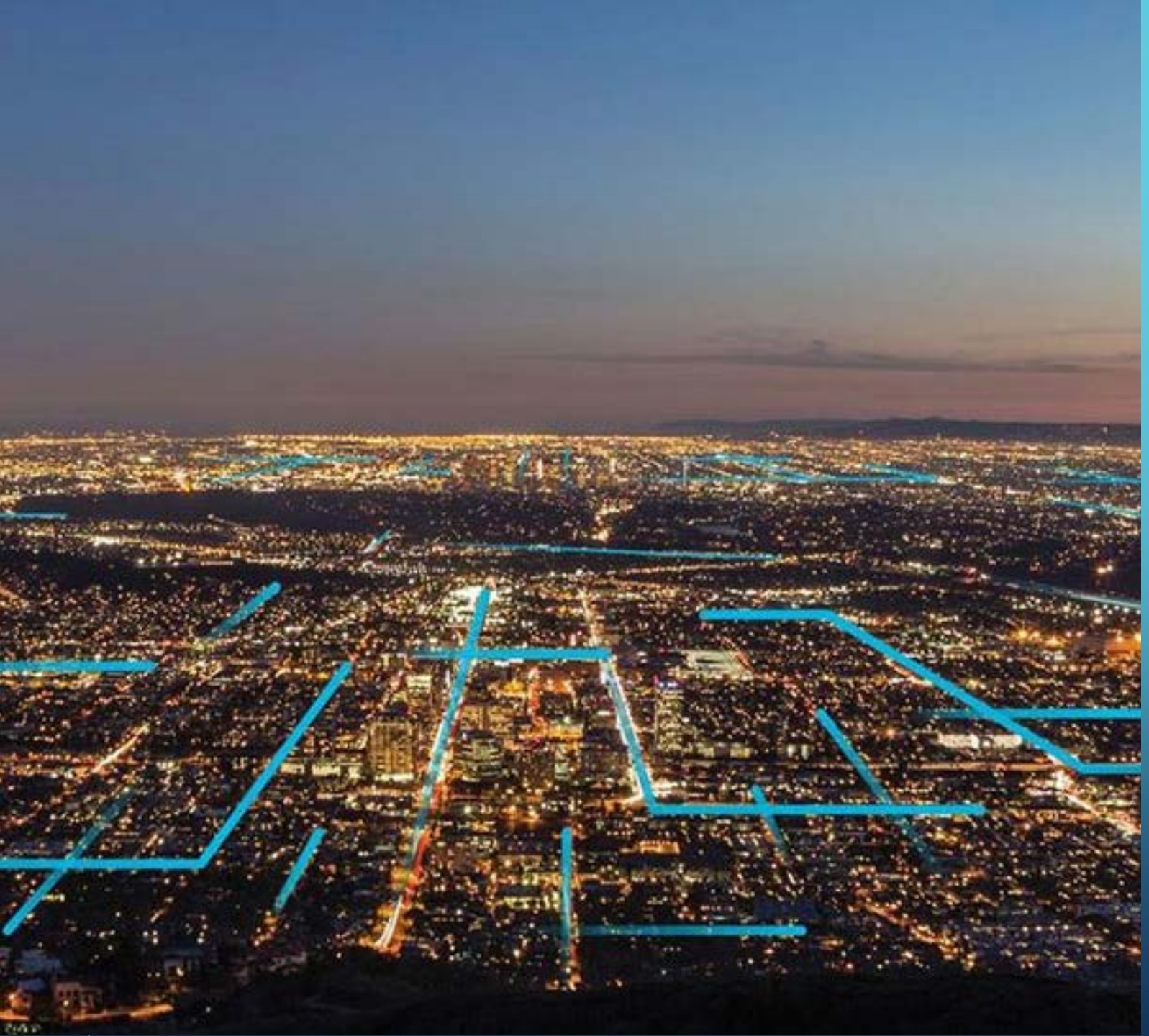

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Brian Yip

Acting Deputy Director

Division of Security Operations

Office of Nuclear Security and Incident Response

- Updates on Cybersecurity Program
- Related Research Activities
- Recent Trends in Inspection and Oversight

EVOLUTION OF THE NRC'S CYBERSECURITY PROGRAM

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- Over 20 years of experience with cybersecurity programs.
- Continuing to integrate lessons learned from cyber program implementation.
- Substantial research ongoing to prepare staff to address near- and long-term cybersecurity challenges:
  - Wireless technology
  - Novel technology applications
  - Autonomous/remote operation

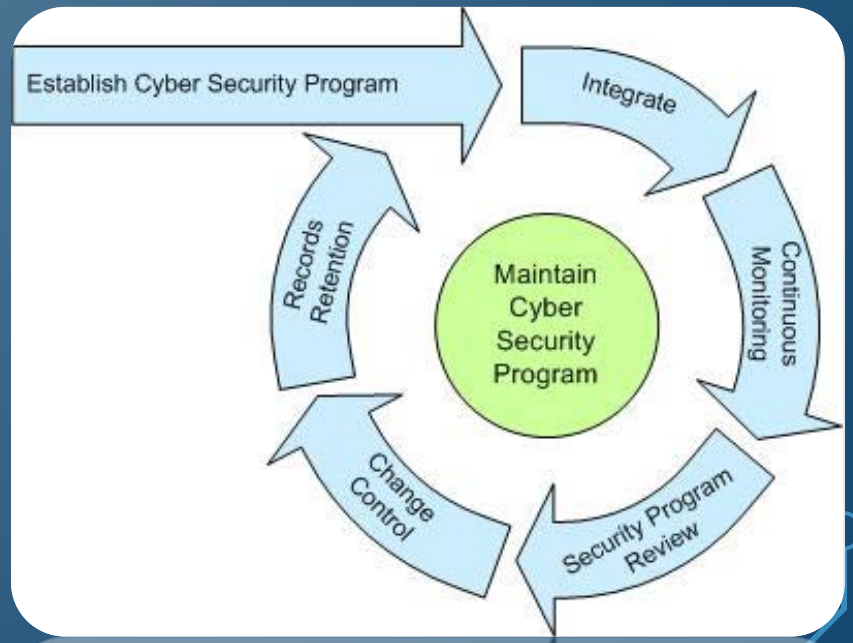
Credit: International Atomic Energy Agency

COLLABORATING WITH FERC/NERC TO DEVELOP THE PROGRAM

- Engagement and cooperation with FERC/NERC contributed substantially to our oversight of balance of plant critical digital assets.
- NERC's bright line survey was instrumental in establishing the boundaries for NRC and FERC oversight of cybersecurity for balance of plant systems.
- In 2022, NRC approved industry guidance on the identification and protection of balance of plant critical digital assets, consistent with the applicable NERC Critical Infrastructure Protection standards.

EVALUATING LESSONS LEARNED FROM CYBER PROGRAM IMPLEMENTATION

- In 2022, staff completed first inspection cycle since incorporating cyber into the Reactor Oversight Process.
- Current cyber inspections focus on licensees' effectiveness in maintaining their cyber programs.
- Licensees have effectively implemented the cyber requirements for balance of plant critical digital assets.



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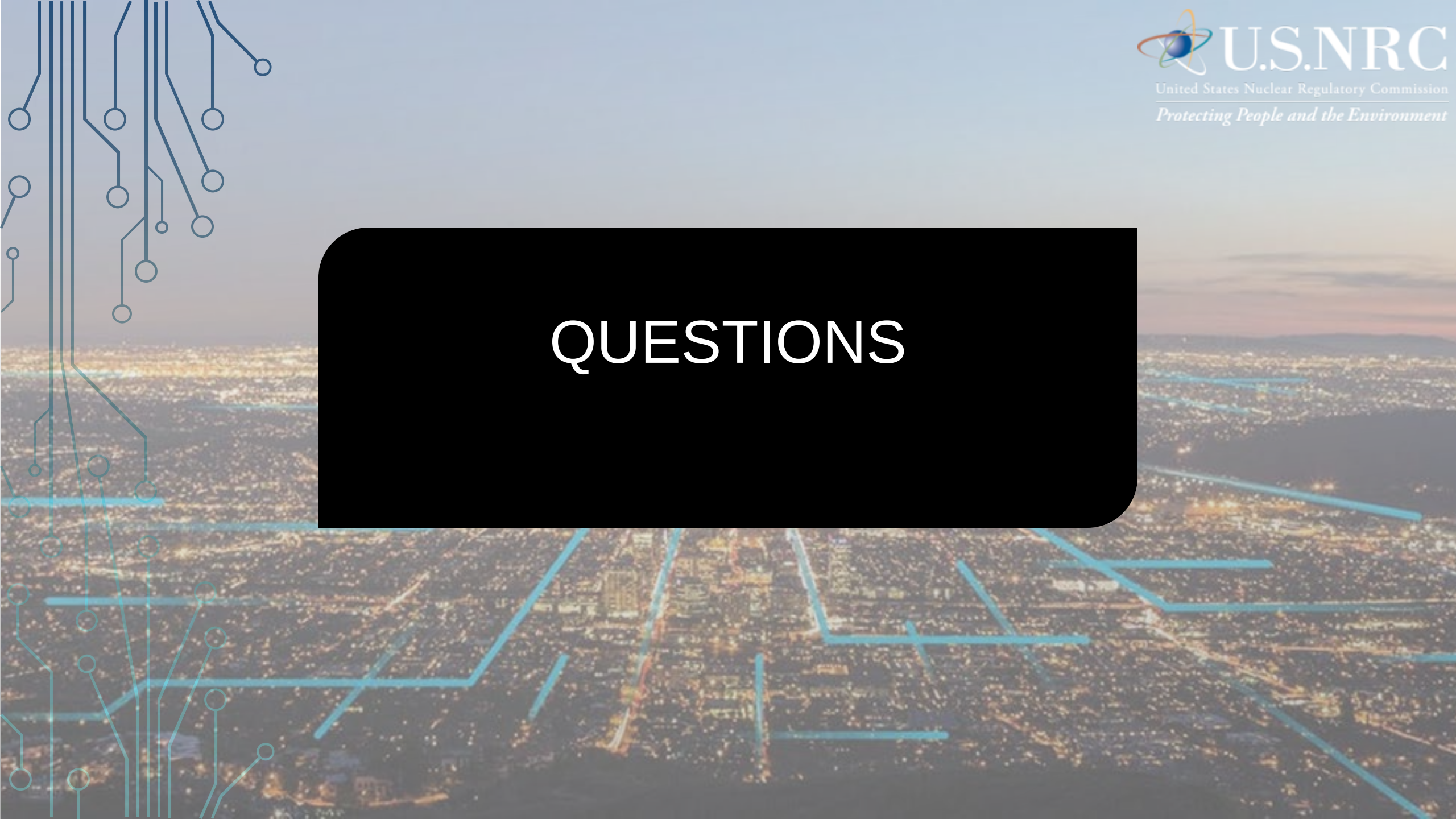
BUILDING STRONG SECURITY PROGRAMS THROUGH INTERAGENCY ENGAGEMENT

- NRC/FERC collaboration on regulation of balance of plant cybersecurity is touted by Federal partners as a best practice in addressing dual regulation.
- More recent NRC/FERC staff engagement on security topics, such as uncrewed aerial systems, physical security, and intelligence issues.
- NRC and FERC engage more broadly with interagency partners through groups such as the Cyber Regulators Forum and the Federal Senior Leadership Council.
- Interagency partnerships support identification of lessons learned and best practices, and strengthen protection of U.S. critical infrastructure.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