# Department of the Air Force Microreactor Pilot

Office of the Deputy Assistant Secretary of the Air Force for Infrastructure, Energy, and Environment

**Town Hall**

August 2025

# Who We Are

**Moderator**

**Amb. Mike Sfraga (ret.) Ph.D.**
Interim Chancellor
U. Of Alaska Fairbanks

**Panelists**

**Ms. Nancy Balkus**
Deputy Assistant Secretary of the AF for Infrastructure, Energy, and Environment

**Colonel Matthew Johnston**
Base Commander
Eielson AFB

**Mr. Bill Goodwin**
Chief Legal & Strategy Officer
Oklo

**Dr. Jess Gehin**
Associate Lab Director
Idaho National Laboratory

**Ms. Laura Willingham**
Senior Enviro. Project Manager
Nuclear Regulatory Commission

**Ask a question**

# What's the pilot?

- **WHY:** Response to 2019 National Defense Authorization Act (NDAA) and 2021 Executive Order "Promoting Small Reactors for National Defense & Space Exploration"
- **WHAT:** Department of the Air Force & Defense Logistics Agency-Energy partnership to execute a 30-year Power Purchase Agreement (PPA)
- **HOW:** Commercial offeror would finance, design, license, install, operate, and maintain 5 MW microreactor to deliver electricity and steam to Eielson AFB

# What is a microreactor?

- Clean, reliable power and heat
- Enhanced safety features
- Small footprint
- Transportable via shipping container
- No grid connection needed
- Infrequent refueling
- Potential for austere environments
- Cost-effective over time

# What is the goal of the pilot?

- Pilot to demonstrate technology
- Increase energy resilience
- Pathfinder for future projects
- Playbook to develop and document streamlined and repeatable processes
- Positively engage with communities
- Foster strategic partnerships
- Enhance national security, nuclear strategy aligned with Executive Orders

# What's the latest?

- Notice of Intent to Award sent to **Oklo** in May
  - Initiates the negotiation process between the Air Force and Oklo
- Next steps:
  - Siting and environmental analyses
  - Begin NRC licensing process
  - Community engagement and public comments
  - Develop implementation timeline

# Colonel Matthew Johnston

## Eielson AFB Base Commander

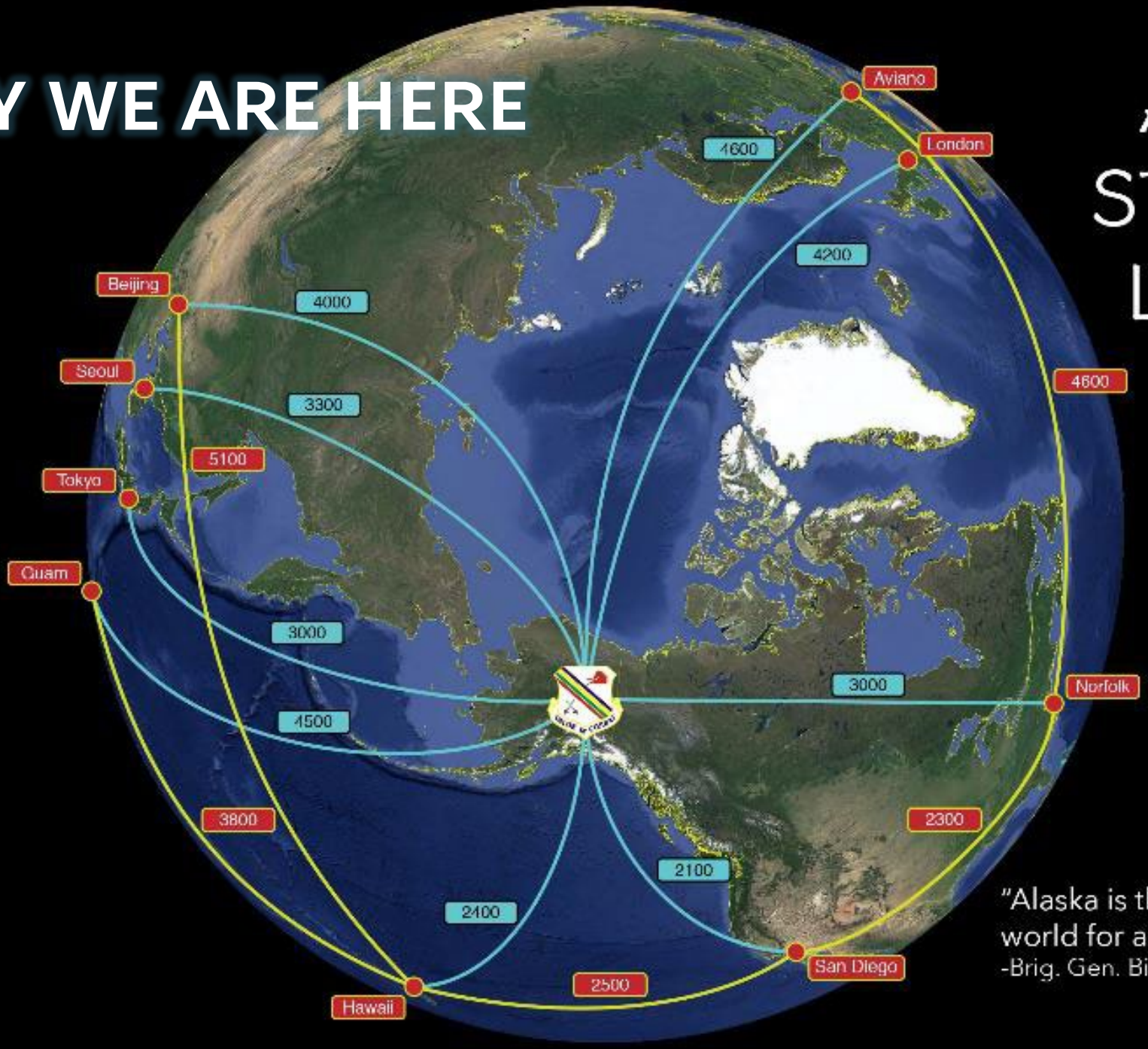
# 354 FW - Missions

#1: Homeland Defense with F-16 mission
#2: Deploy to Pacific, fight, and win with F-35 Mission
#3: Project follow-on airpower and forces from Eielson
#4: Provide Air Expertise to Joint Force through ASOG
#5: Advance joint and combined airpower training in the JPARC

5 Missions – Most I have ever seen in career
- #1, #2, #3, & #4 are done simultaneously in time of war

- Missions are still growing
  - 250+ personnel in Active Associate for 4x KC-135s
  - 175 personnel for F-35 mission

# WHY WE ARE HERE




# ALASKA'S STRATEGIC LOCATION

"Alaska is the most central place in the world for aircraft operations."
-Brig. Gen. Billy Mitchell, 1935

OKLO

# Town Hall Meeting

**Our mission is to provide clean, reliable, and affordable energy on a global scale**

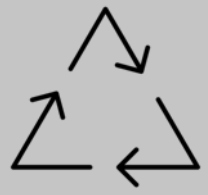
We are executing our mission through the design and deployment of next-generation fast reactor technology

# The Oklo Model

Oklo owns and operates the Aurora

Oklo offers long-term Power Purchase Agreements

Competitive pricing and terms



Lifecycle management of plant and fuel

# Oklo leverages proven technology to streamline commercial deployment

## Built on validated technology to reduce time to market

**MATURE TECHNOLOGY**

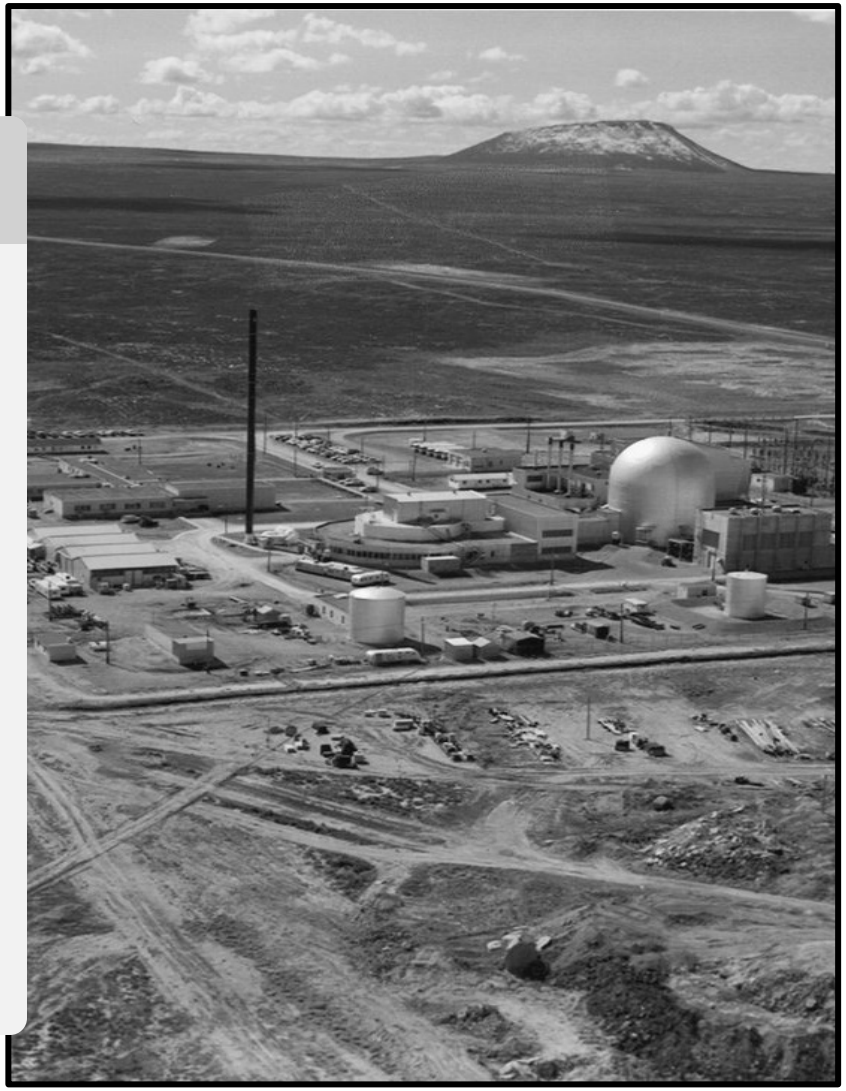
Oklo's Aurora powerhouse builds directly on proven technology from the Experimental Breeder Reactor-II (EBR-II), which successfully operated for over 30 years at INL.

**DECADES OF VALIDATED OPERATING EXPERIENCE**

Operational data from EBR-II informs the Aurora design, reducing risk and streamlining licensing.

**COMMERCIAL FROM DAY ONE**

Oklo's first Aurora powerhouse is designed from the ground up as a full commercial deployment, accelerated by its similarities to EBR-II; Oklo is not building a demonstration plant.



*Experimental Breeder Reactor-II (EBR-II)*

# Oklo and Alaska

- Oklo's involvement in Alaska spans the last decade:
  - Launch Alaska
  - Alaska Center for Energy and Power (ACEP)
  - Eielson AFB Aurora Powerhouse



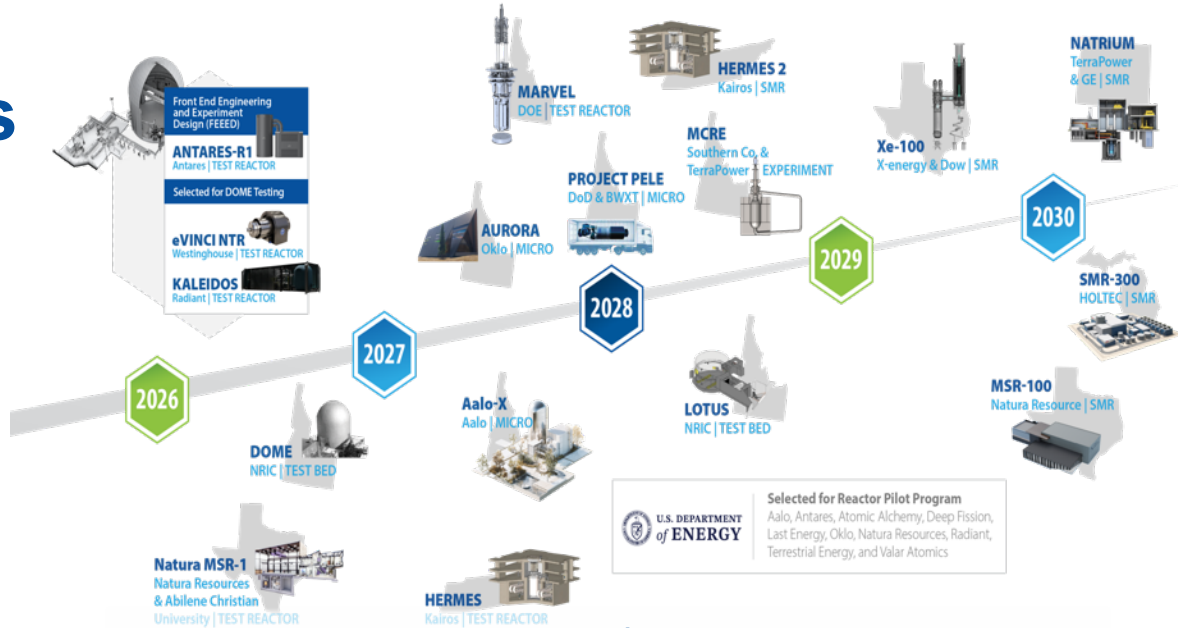
OKLO

# Dr. Jess Gehin

Associate Lab Director

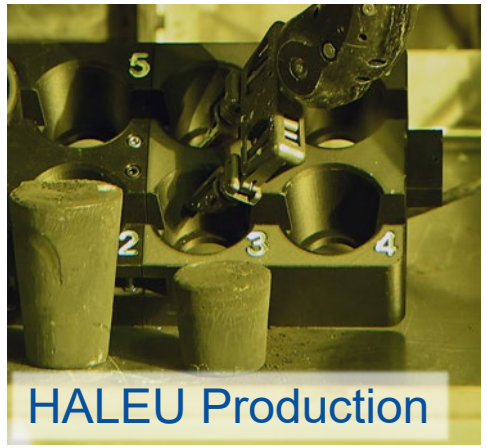
# Idaho National Laboratory Enabling Reactor Demonstrations

- US Department of Energy's Lead Nuclear Energy National Laboratory
- **Vision:** Our vision is to change the world's energy future and secure our nation's critical infrastructure.
- **Mission:** Our mission is to discover, demonstrate and secure innovative nuclear energy solutions, other clean energy options and critical infrastructure.



Reactor Demonstration/Deployment Timeline

Reactor Test Beds



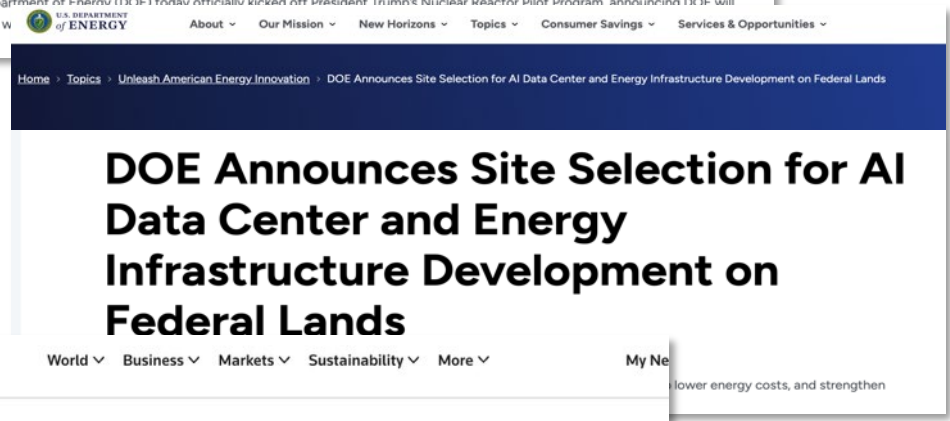
HALEU Production

Idaho National Laboratory

IDAHO NATIONAL LABORATORY

# Accelerating Nuclear Energy Demonstration and Deployment

- National Reactor Innovation Center DOME Test Bed Accelerated to be Ready in Spring 2026
- Radiant and Westinghouse selected for testing in DOME
- DOE Selects 11 projects for Reactor Pilot Program
- DOE Selects sites for Data Center and Energy Infrastructure
- INL Partners with Microsoft and AWS to accelerate nuclear deployment



# Town Hall Alaska Microreactor Pilot Program – NRC Update

August 2025

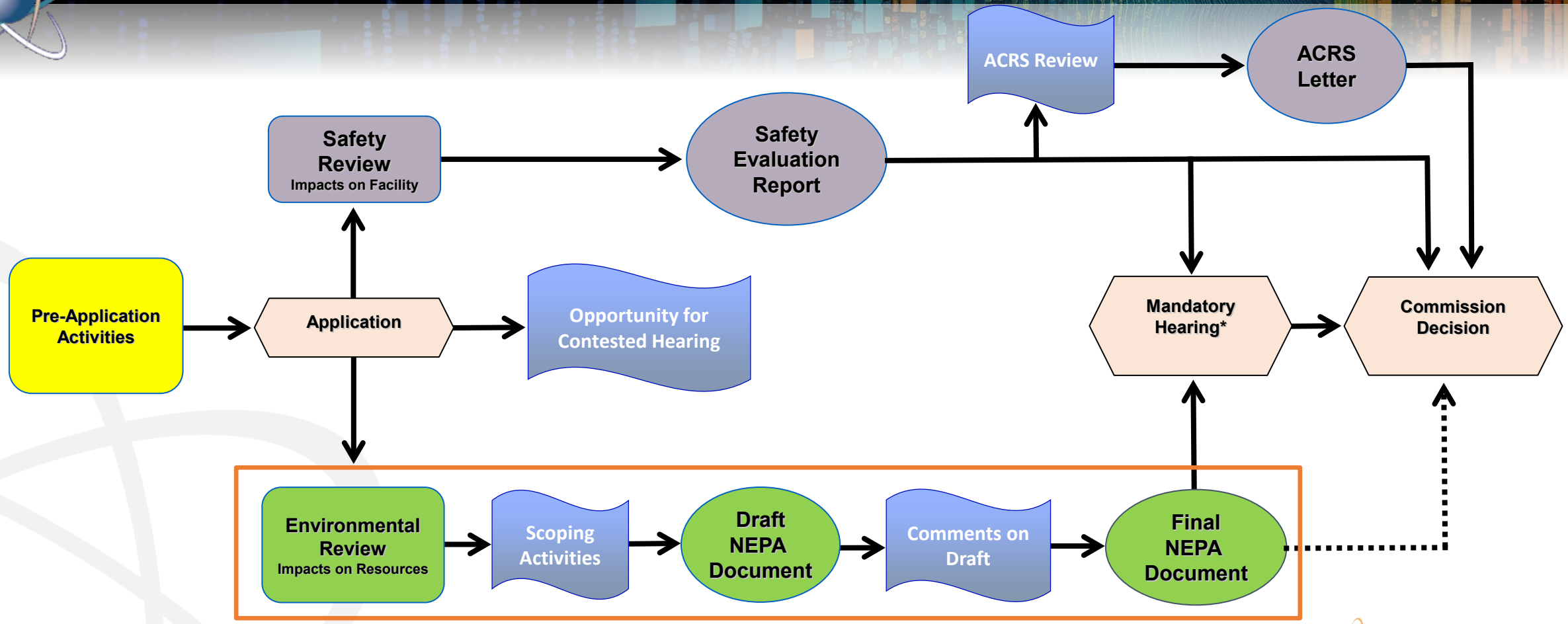
# NRC Mission Statement

*The NRC protects public health and safety and advances the nation's common defense and security by enabling the safe and secure use and deployment of civilian nuclear energy technologies and radioactive materials through efficient and reliable licensing, oversight, and regulation for the benefit of society and the environment.*

www.nrc.gov/about-nrc.html

U.S.NRC
United States Nuclear Regulatory Commission
*Protecting People and the Environment*

# NRC Two-Part Licensing Process




ACRS: Advisory Committee on Reactor Safeguards
NEPA: National Environmental Policy Act

* Required for early site permits, construction permits, or combined licenses



U.S.NRC
United States Nuclear Regulatory Commission
*Protecting People and the Environment*

# Recent Regulatory Changes

- On May 23, 2025, President Donald J. Trump signed 4 Executive Orders to jump-start the nuclear energy industry.
  - Executive Order (EO) 14299, "Deploying Advanced Nuclear Reactor Technologies for National Security."
  - Executive Order (EO) 14300, "Ordering the Reform of the Nuclear Regulatory Commission."
  - Executive Order (EO) 14301, "Reforming Nuclear Reactor Testing at the Department of Energy."
  - Executive Order (EO) 14302, "Reinvigorating the Nuclear Industrial Base."

# Scan the QR code to ask a question!

# Contact Us

**Microreactor Website**

**(https://www.eielson.af.mil/microreactor/)**

**Microreactor Org Box:**

**(SAF.IEE.MicroreactorPilot@us.af.mil)**