

Department of the Air Force

Council for the Alaska Microreactor Program (CAMP)



19 MAR 2025



Agenda

- **Opening Remarks & Pilot Status**
 - **DAF Advanced Nuclear Energy Update**
 - **Pilot Status & Progress**
 - **News & Updates**
 - **DAF Advanced Nuclear Energy Deployment Strategy**
 - **UAF – Nuclear Energy Feasibility in Nome, AK**
 - **INL – Industry Update for Scaling Advanced Nuclear Technology**
 - **Project Partner & Stakeholder Updates**
 - **Closing Remarks**
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OPENING REMARKS

Ms. Nancy Balkus
Deputy Assistant Secretary of the Air Force
(Infrastructure, Energy, and Environment)





News & Updates

- **Bipartisan Support for ADVANCE Act of 2024**
- **Continued DAF Collaboration**
 - Alaska DEC workshop
 - NRC workshops
 - Conferences
 - Political engagements (e.g. White House Office of Science and Technology)
- **Administration Change (new Executive Orders)**

138 STAT. 1448 PUBLIC LAW 118-67—JULY 9, 2024

(b) AUTHORIZATION OF APPROPRIATIONS.—Section 34(j)(1) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2229a(j)(1)) is amended—

(1) in subparagraph (G), by inserting “and” after the semicolon;

(2) in subparagraph (H), by striking “fiscal year 2013; and” and inserting “each of fiscal years 2024 through 2028.”;

and

(3) by striking subparagraph (I).

SEC. 5. GAO AUDIT AND REPORT.

Not later than three years after the date of the enactment of this Act, the Comptroller General of the United States shall conduct an audit of and issue a publicly available report on—

(1) barriers that prevent fire departments from accessing Federal funds; and

(2) the United States Fire Administration.

DIVISION B—ACCELERATING DEPLOYMENT OF VERSATILE, ADVANCED NUCLEAR FOR CLEAN ENERGY

SEC. 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This division may be cited as the “Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024” or the “ADVANCE Act of 2024.”

(b) TABLE OF CONTENTS.—The table of contents for this division is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

TITLE I—AMERICAN NUCLEAR LEADERSHIP

Sec. 101. International nuclear export and innovation activities.

Sec. 102. Denial of certain domestic licenses for national security purposes.

Sec. 103. Export license notification.

Sec. 104. Global nuclear energy assessment.

Sec. 105. Process for review and amendment of part 810 generally authorized destinations.

TITLE II—DEVELOPING AND DEPLOYING NEW NUCLEAR TECHNOLOGIES

Sec. 201. Fees for advanced nuclear reactor application review.

Sec. 202. Advanced nuclear reactor prizes.

Sec. 203. Licensing considerations relating to use of nuclear energy for nonelectric applications.

Sec. 204. Enabling preparations for the demonstration of advanced nuclear reactors on Department of Energy sites or critical national security infrastructure sites.

Sec. 205. Fusion energy regulation.

Sec. 206. Regulatory issues for nuclear facilities at brownfield sites.

Sec. 207. Combined license review procedure.

Sec. 208. Regulatory requirements for micro-reactors.

ADVANCE Act: Accelerating Deployment of Versatile Advanced Nuclear for Clean Energy Act of 2024





News & Updates



EO 14153: Unleashing Alaska's Extraordinary Resource Potential



EO 14154: Unleashing American Energy



EO 14156: Declaring A National Energy Emergency



EO 14213: Establishing the National Energy Dominance Council

- **DAF is conducting due diligence to assess new Executive Orders' (EOs) potential to unlock new possibilities**
 - Several EOs seek expedited permitting processes related to energy and natural resources
 - New requirements could lead to adjustments within NRC licensing to support advanced nuclear reactors
- **Bipartisan support for advanced nuclear energy technologies expected to continue**



Advanced Nuclear Strategy & Eielson AFB

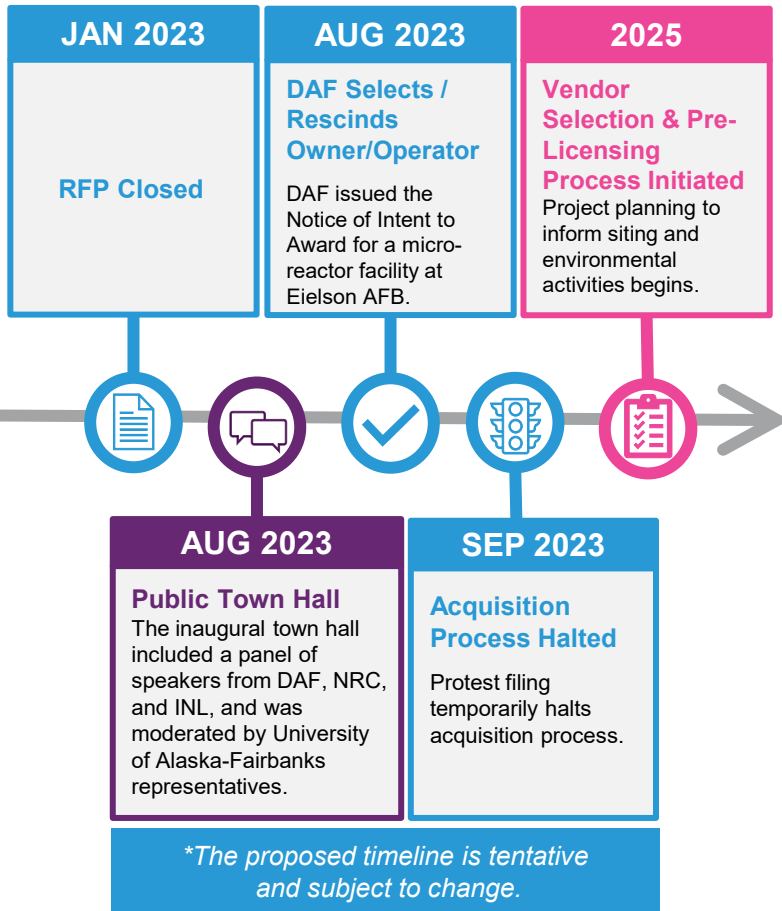
- **Strategy uses technology-agnostic approach to meet mission resilience requirements and NEPA compliance**
- **Eielson pilot is the pathfinder for Enterprise deployment**
 - **Pilot is currently in proposal review**
- **SAF/IEE Memo: *Pathways to Advanced Nuclear Energy at DAF Installations* Initiates DAF framework for advanced nuclear energy siting**



3 Ps: Your partnership remains crucial for successful pilot and pathfinder development



Eielson AFB Micro-Reactor Pilot Program Status



Where DAF has been since August 2024 CAMP

- Aug 24:** Nuclear Regulatory Commission (NRC) Memorandum of Understanding (MOU) Addendum
- Oct 24:** Frontiers Project
- Nov 24:** Fission for the Future
- Nov 24:** American Nuclear Society
- Nov 24:** Alaska Department of Environmental Conservation (ADEC) Workshop
- Jan 25:** Integrated Strategy Group (Base Town Hall)
- Mar 25:** NRC Annual Conference
- Mar 25:** Tanana Chiefs Conference (TCC) Convention

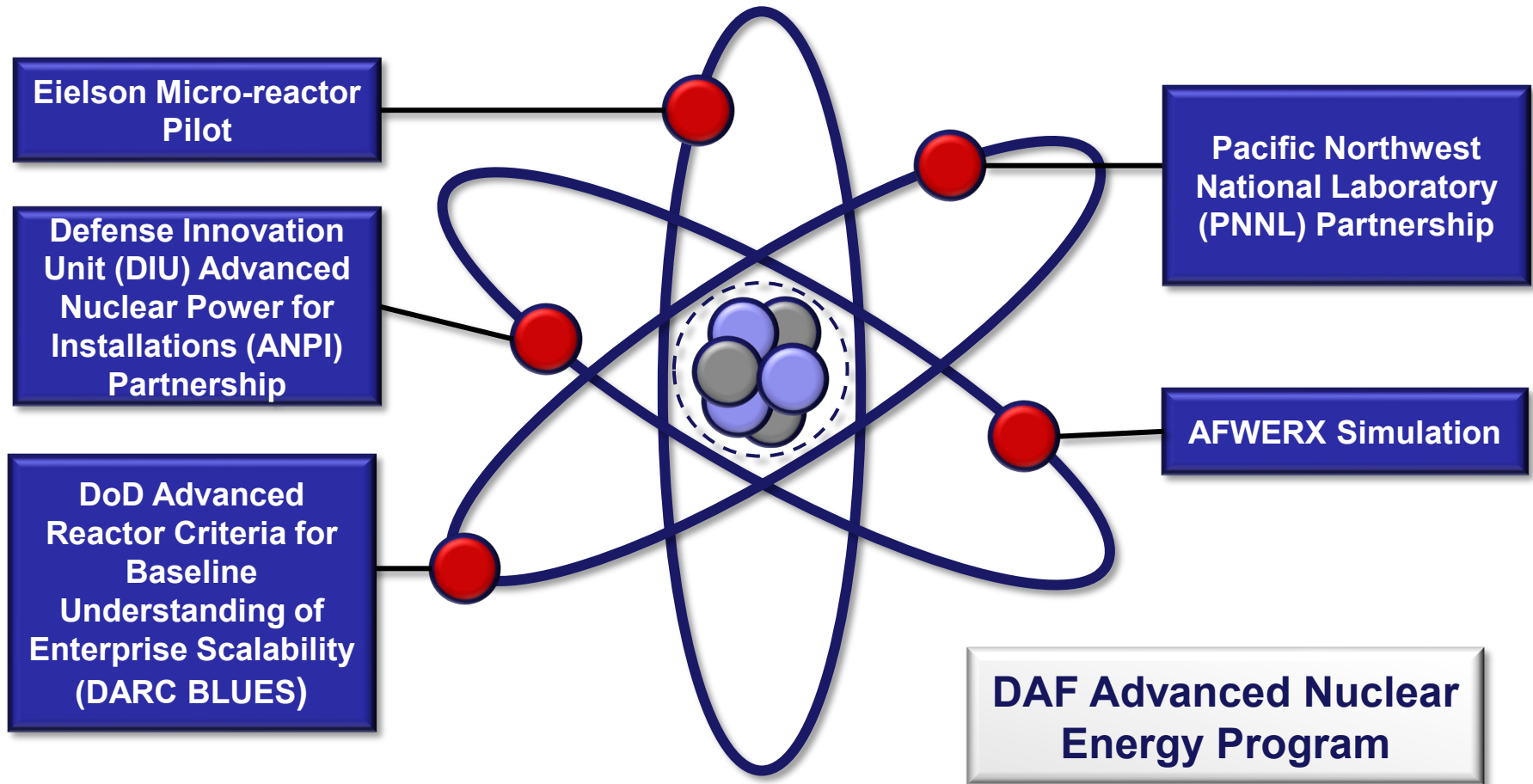
BLUE: Procurement Actions
PURPLE: Partner and Stakeholder Engagement
PINK: Licensing, Siting, and Operation

For more information, please visit: <https://www.Eielson.af.mil/microreactor/>



DAF Advanced Nuclear Energy Program

BLUF: DAF is exploring advanced nuclear energy capabilities to support its mission-critical infrastructure through several ongoing efforts





NUCLEAR ENERGY FEASIBILITY IN NOME, AK



INDUSTRY UPDATE FOR SCALING ADVANCED NUCLEAR TECHNOLOGY

March 2025

Brian M. Smith

Director, Nuclear Reactor Development
Idaho National Laboratory

Nuclear Industry Update

Council for the Alaska Microreactor Program

Battelle Energy Alliance manages INL for the
U.S. Department of Energy's Office of Nuclear Energy

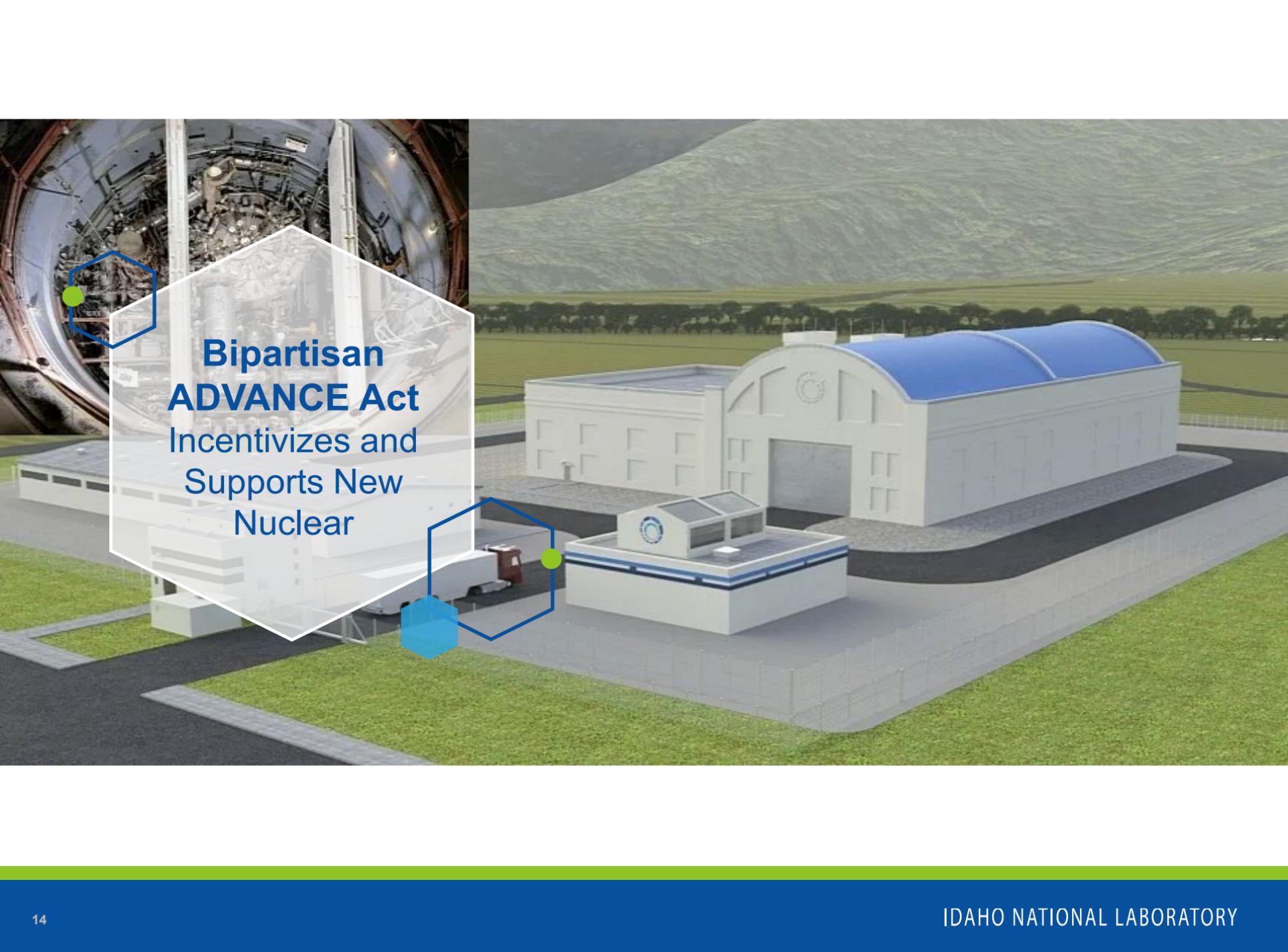




Vogtle Units
3 & 4 are Producing
**Clean, Reliable,
Economic
Power**



Palisades Restart
advanced by
\$1.5B from the DOE
Loan Program
Office



**Bipartisan
ADVANCE Act**
Incentivizes and
Supports New
Nuclear



Russian
Uranium Ban
Unlocks **\$2.7B**
for **LEU**
an **HALEU**
Production



Microsoft
Power Purchase
Agreement enables
the Launch of
**Crane Clean
Energy Center**



Oracle
Plans to Use
**3 SMRs to
Power a
Gigawatt-Scale
Data Center**



Morgan Stanley



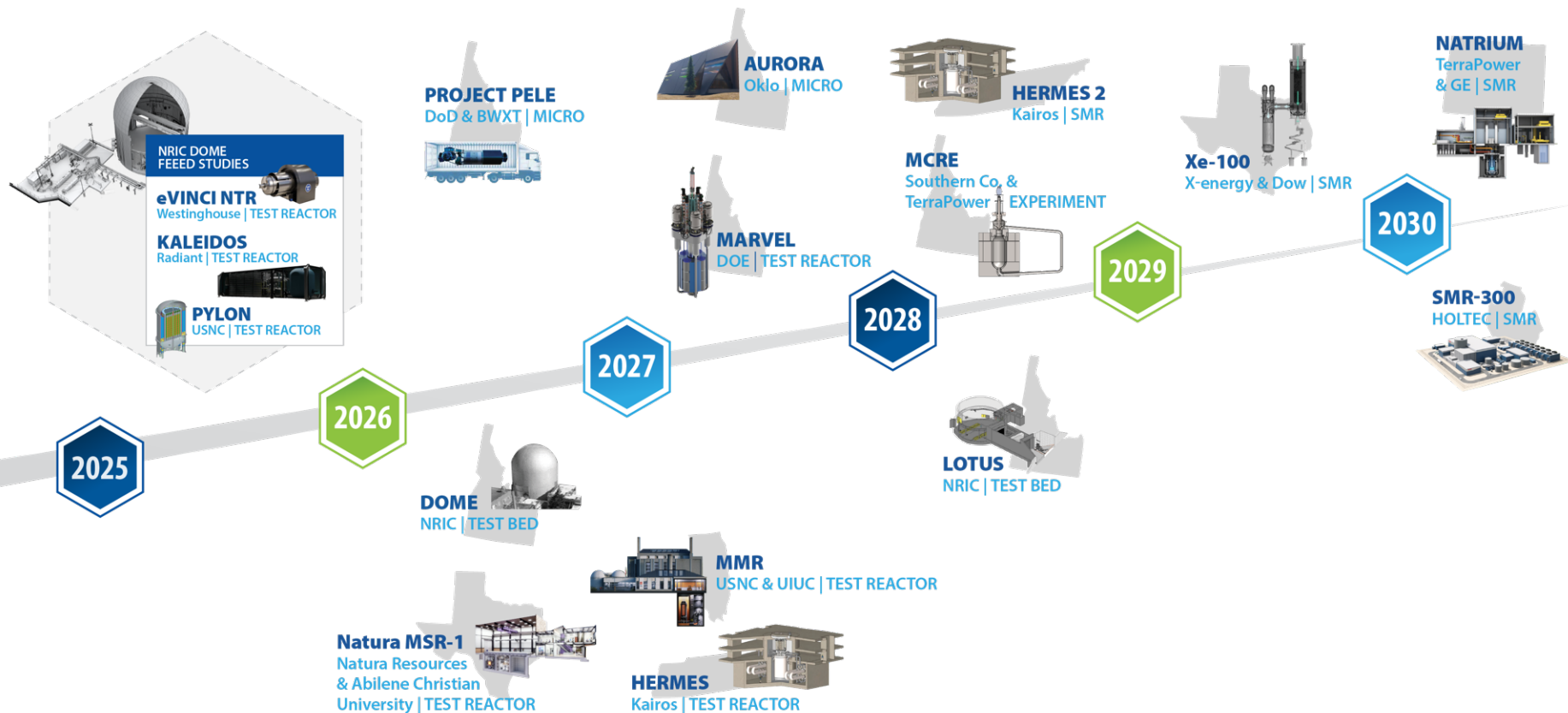
Brookfield





Poland
announces
\$16B Investment
in its first
nuclear plant

Accelerating advanced reactor demonstration and deployment





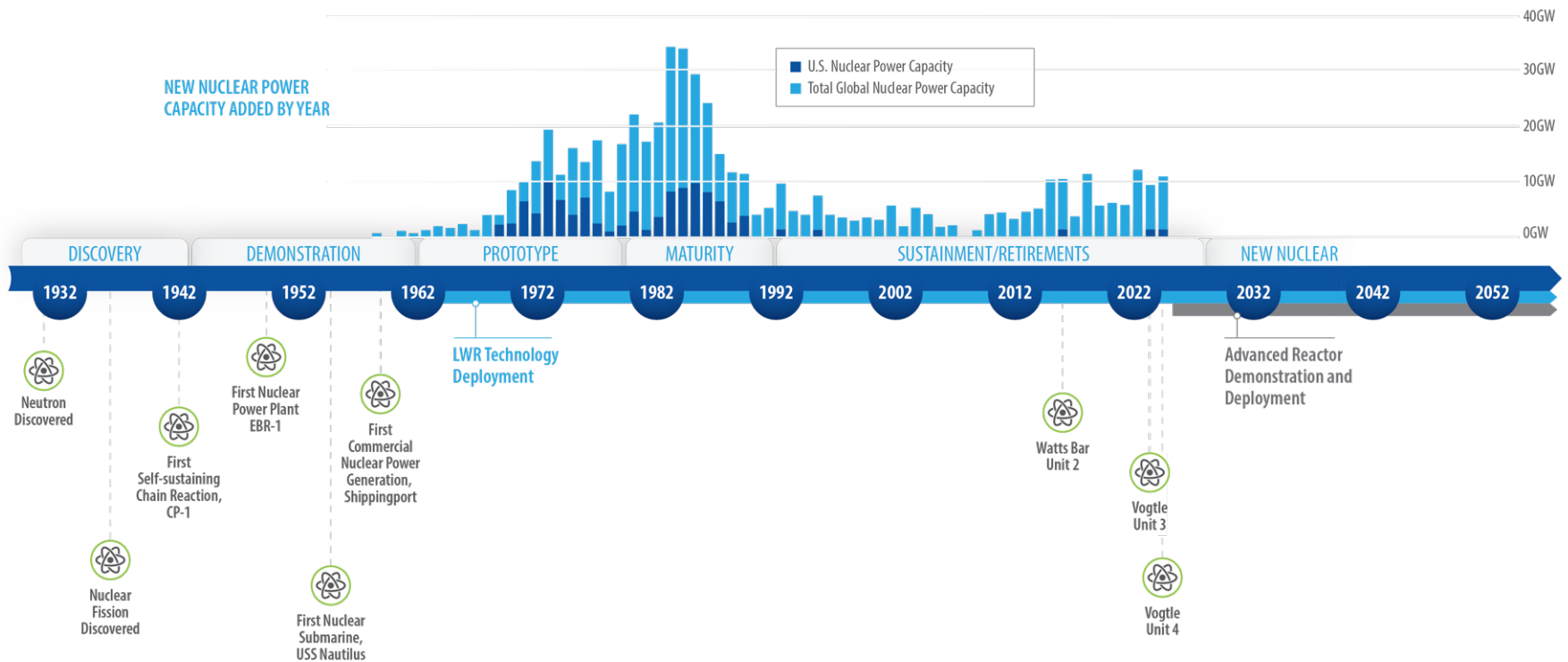
Updated Liftoff
Report Reflects
**Increased
Commercialization
Momentum**



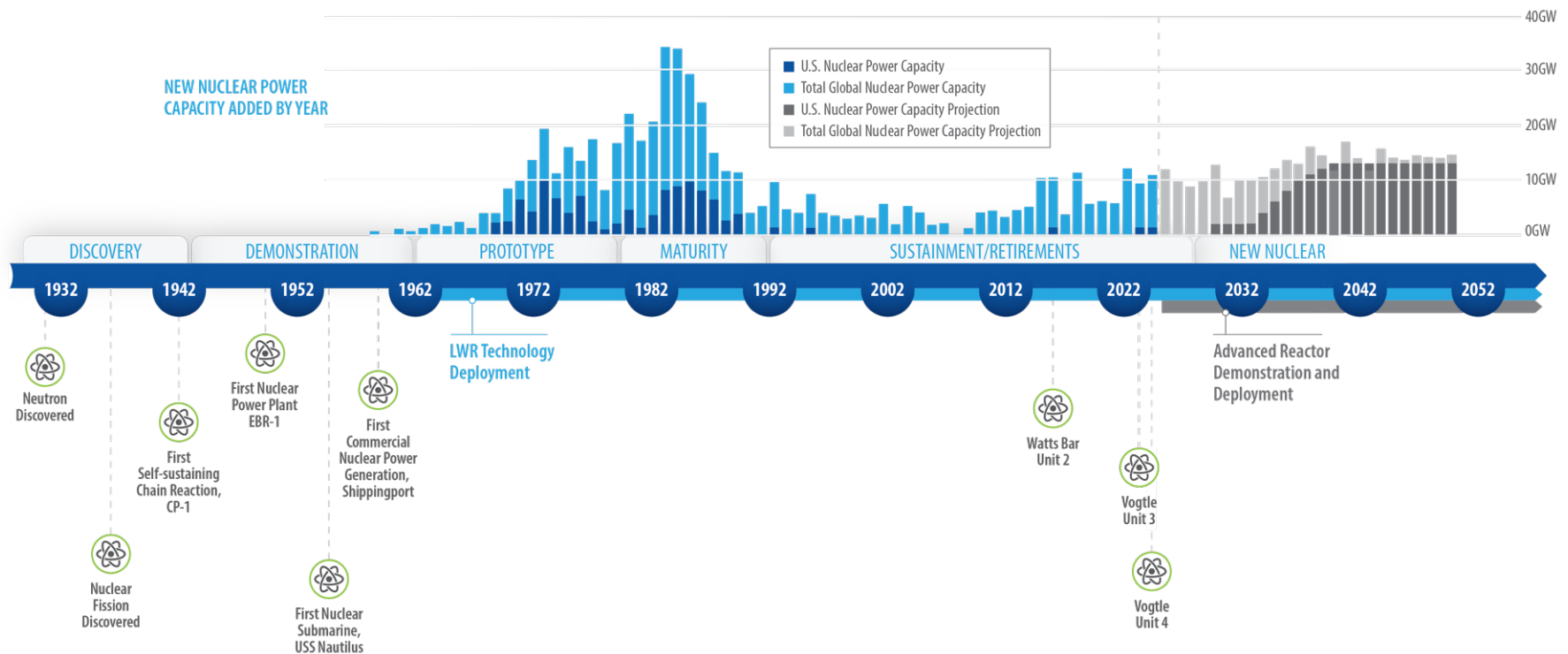
Pathways to Commercial Liftoff

Advanced Nuclear

The history of nuclear power, up to now



The future of nuclear power is rapidly increased deployment in the U.S. and abroad to meet market demand





Partner Information Sharing

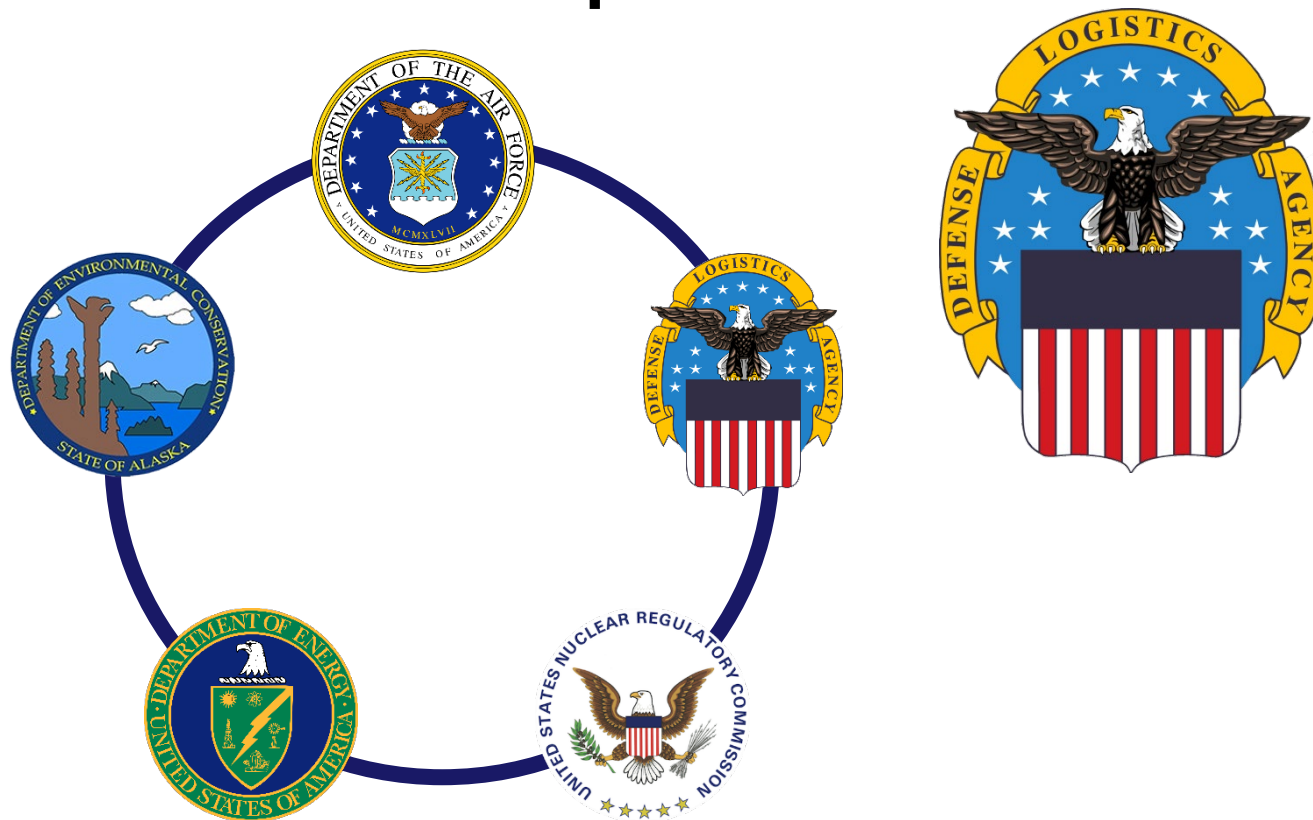
Roundtable Partner Updates: Eielson AFB





Partner Information Sharing

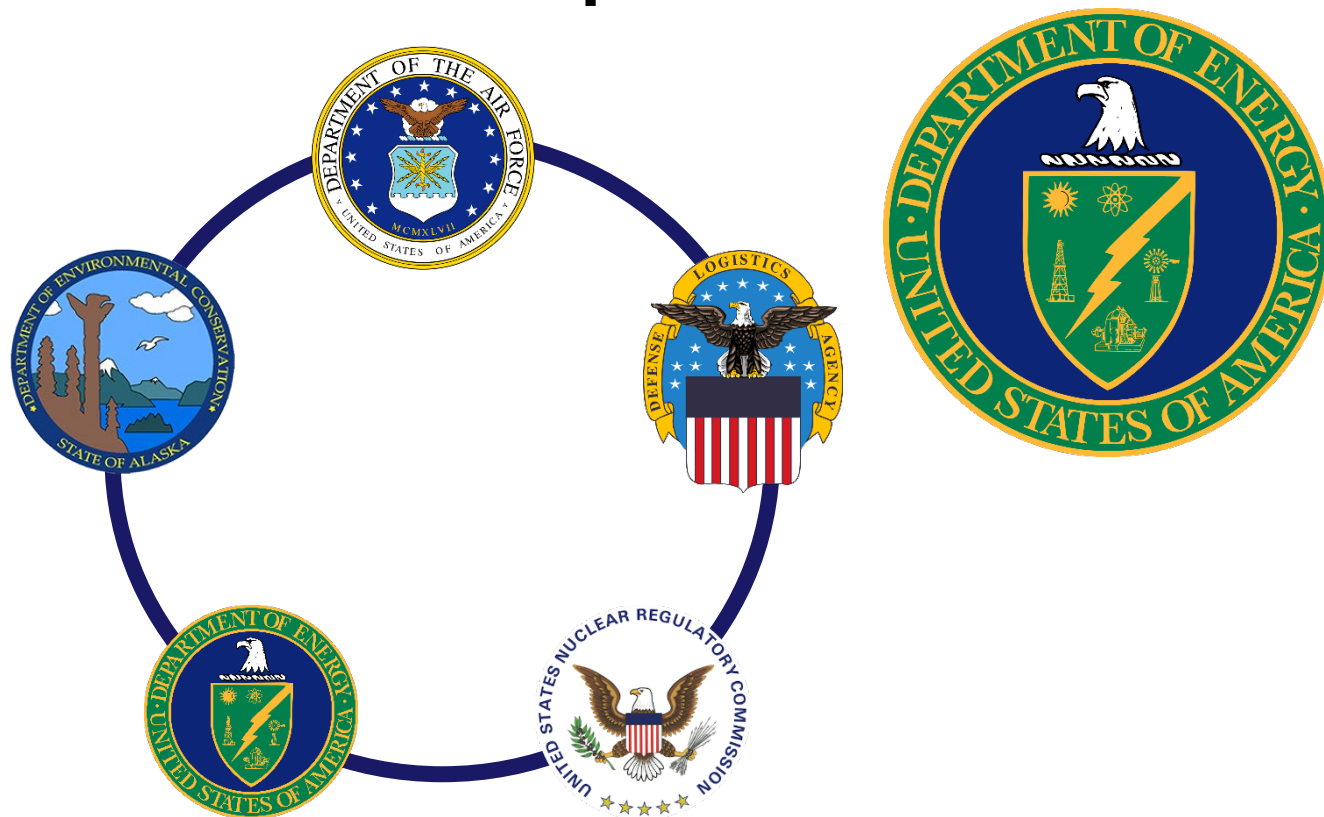
Roundtable Partner Updates: DLA





Partner Information Sharing

Roundtable Partner Updates: DOE





Partner Information Sharing

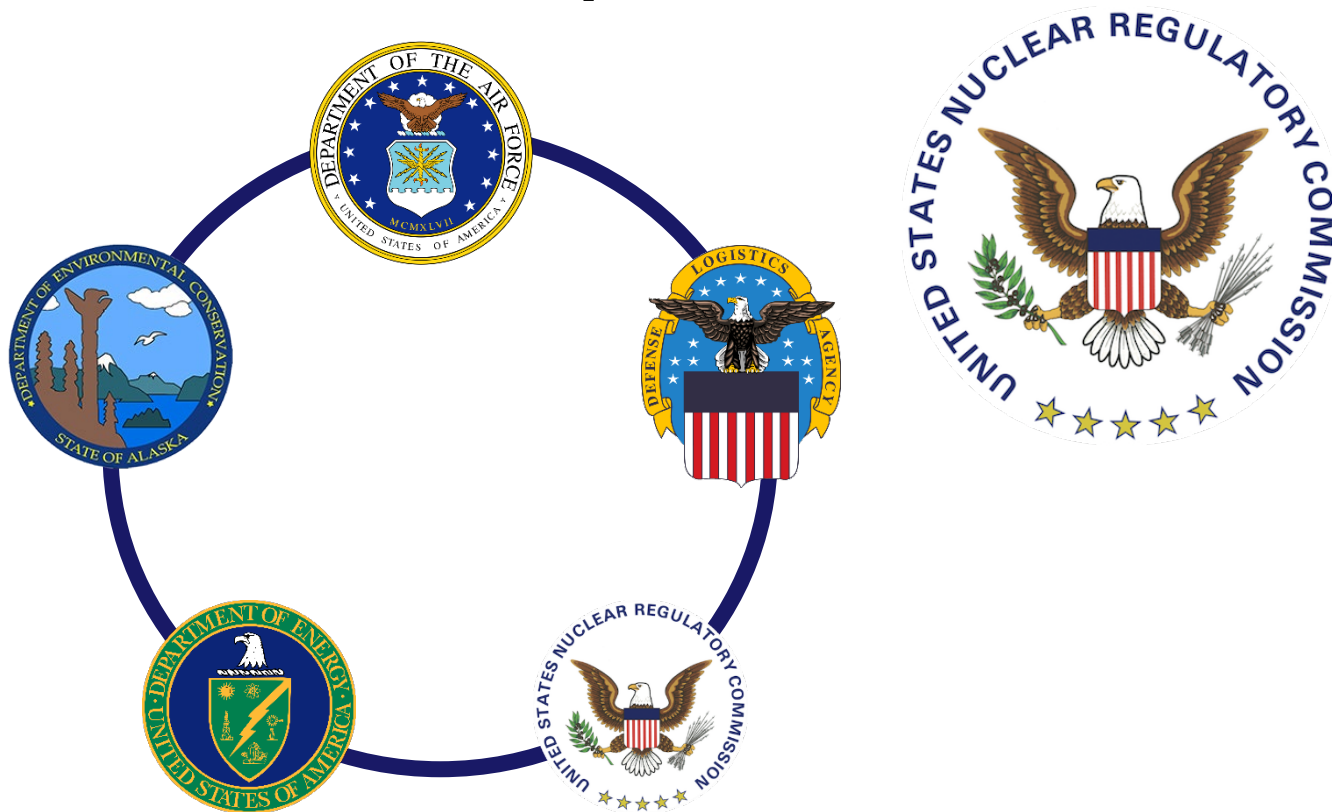
Roundtable Partner Updates: INL





Partner Information Sharing

Roundtable Partner Updates: NRC



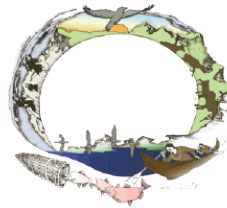


Updates and Discussion



Local Leadership Update

Tanana Chiefs Conference



Tanana
Chiefs
Conference



Local Leadership Update

Alaska Governor Dunleavy





Local Leadership Update

Alaska State Legislature





Local Leadership Update

Alaska Department of Environmental Conservation





Local Leadership Update

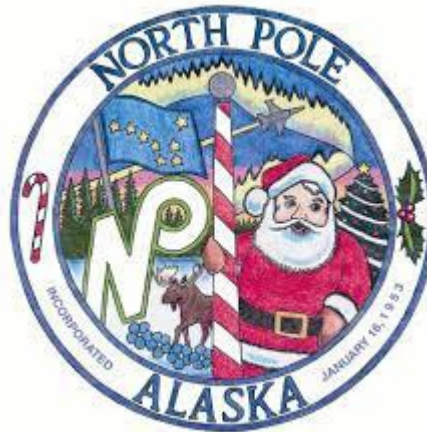
Fairbanks North Star Borough





Local Leadership Update

City of North Pole Mayor's Office





Local Leadership Update

City of Fairbanks Mayor's Office





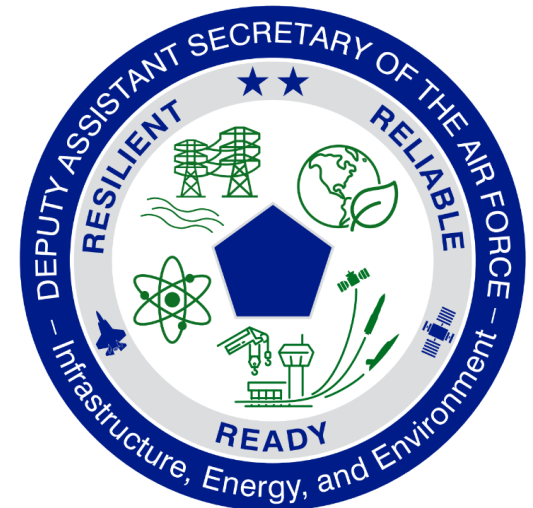
Open Discussion

- **Alaska Department of Law**
 - **Doyon Ltd.**
 - **Doyon Utilities**
 - **Fairbanks Economic Development Corporation**
 - **Golden Valley Electric Association (GVEA)**
 - **Northern Alaska Environmental Center**
 - **Regulatory Commission of Alaska**
 - **University of Alaska (UAF), Alaska Center for Energy and Power**
 - **U.S. Army Garrison Alaska - Fort Wainwright**
 - **Usibelli Coal Mine**
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CLOSING REMARKS

Ms. Nancy Balkus
Deputy Assistant Secretary of the Air Force
(Infrastructure, Energy, and Environment)





Contact Information

Contact with any questions, comments, or concerns:

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Micro-reactor Website
(<https://www.eielson.af.mil/microreactor/>)

Micro-reactor Org Box:
(SAF.IEE.Micro-ReactorPilot@us.af.mil)



Thank You!

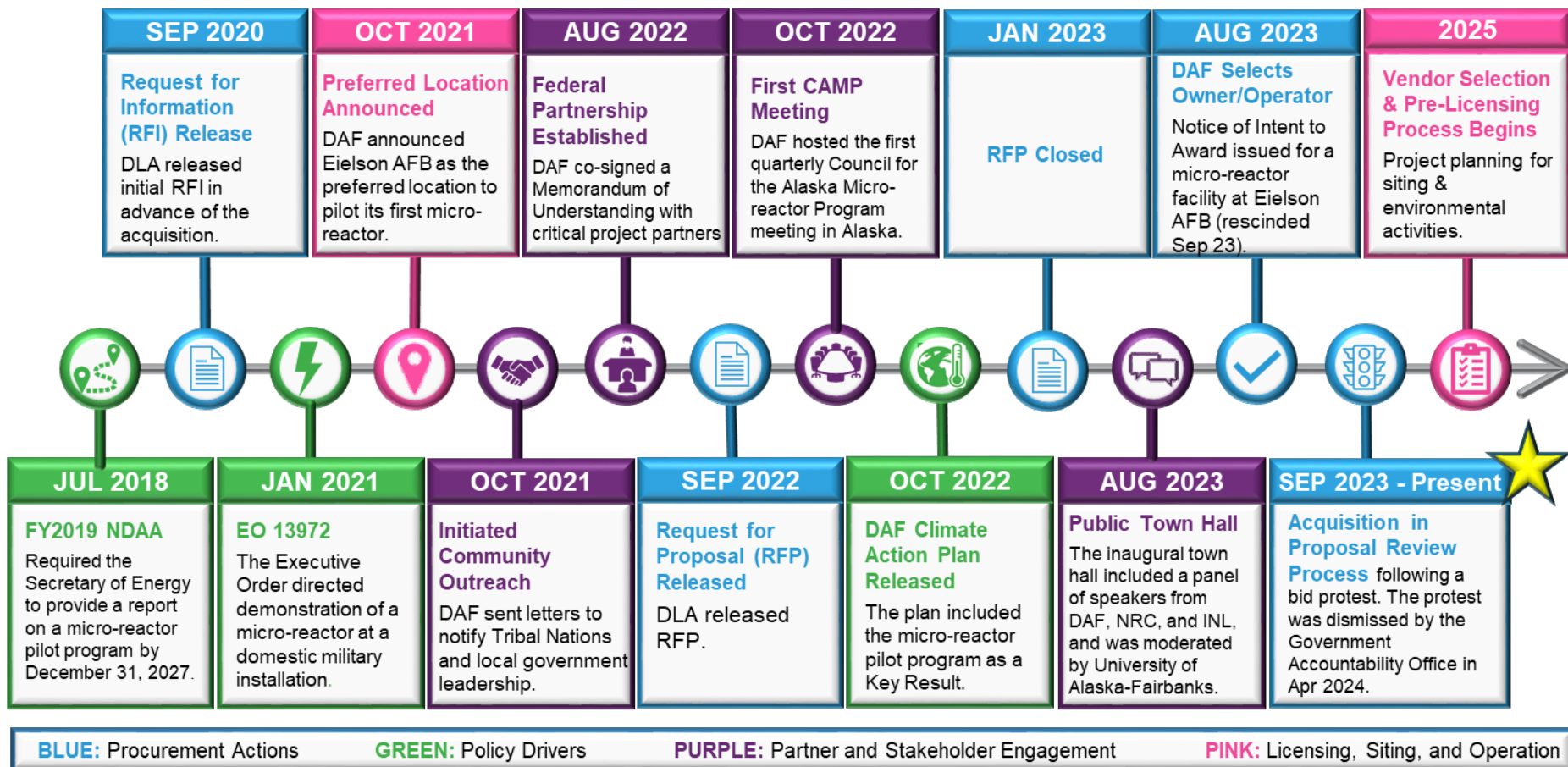




BACKUP SLIDES



Current Timeline





Communication Methods, Tools & Frequency



Communication Tool	Frequency	Purpose
Eielson Micro-reactor Webpage	Ongoing	✓ Streamline dissemination of up-to-date information in an accessible format
Council for the Alaska Micro-reactor Program (CAMP) Meetings	Ongoing	✓ Provide timely and transparent information and updates for key stakeholders ✓ Strengthen stakeholder coordination and relationships
Town Hall	As Needed	✓ Connect with and inform a wider stakeholder audience about the Eielson pilot and advanced nuclear energy technology
Newsletter	Quarterly	✓ Immediate and real-time delivery of important project updates
External Publications	As Needed	✓ Ensure widest dissemination of information to expand audience and message accessibility



DAF Advanced Nuclear Energy Program

BLUF: DAF is exploring advanced nuclear energy capabilities to support its mission-critical infrastructure through several ongoing efforts

- **Micro-reactor Pilot** at Eielson AFB explores aspects related to future deployments including procurement, leasing, contracting, siting, licensing, safety review, environmental review, and tribal and public engagement
 - **Pacific Northwest National Laboratories partnership** developed roadmaps to outline decision-making processes and supports regulatory, siting, and community engagement activities
 - **AFWERX simulation of Radiant Industries' Kaleidos micro-reactor at Hill AFB** demonstrates adoption of nuclear energy into installation power grids
 - **DoD Advanced Reactor Criteria and Baseline Understanding for Enterprise Scalability (DARC BLUES)** seeks to implement robust siting criteria and data-driven decision-making tool with vertical governance to scale advanced nuclear energy technology across the Department
 - **DAF partnered in Defense Innovation Unit Advanced Nuclear Power for Installations** to explore full-lifecycle nuclear energy generation across viable sites
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