

Department of the Air Force

Department of the Air Force Micro-reactor Pilot Program Update



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Overview

- **Background**
 - **Pilot Status**
 - **Acquisition Process**
 - **Design Application**
 - **NRC Licensing Process**
 - **Stakeholder Outreach & Engagement**
 - **Timeline**
 - **Questions**
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Department of the Air Force Micro-reactor Program

- **Purpose:** The Department of the Air Force (DAF) is working with the Office of the Deputy Assistant Secretary of Defense for Energy and the Department of Energy on a program to validate micro-reactor technology and determine viability for future energy resilience efforts
 - **Program Objective:** Successful demonstration of a Nuclear Regulatory Commission (NRC)-licensed, commercially viable and inherently safe micro-reactor at a permanent military installation
 - **Program Approach:** DoD purchases the commodity (electricity and thermal energy) from the micro-reactor under a 30-year (PPA) Power Purchase Agreement (10 USC 2922a); not the micro-reactor itself
 - **Execution:** Focuses on short-term actions as part of a long-term plan
 - **Pilot Location:** Eielson Air Force Base, Alaska
 - Chosen due to mission criticality & opportunity to reduce carbon emissions
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Pilot Status

■ **Current PPA RFP Status:**

- DLA Energy working to gain legal input on updated draft
- Sections L&M near completion
- Technical & Financial Source Selection Committee identified

■ **DAF, NRC, DOE & DLA Memorandum of Understanding**

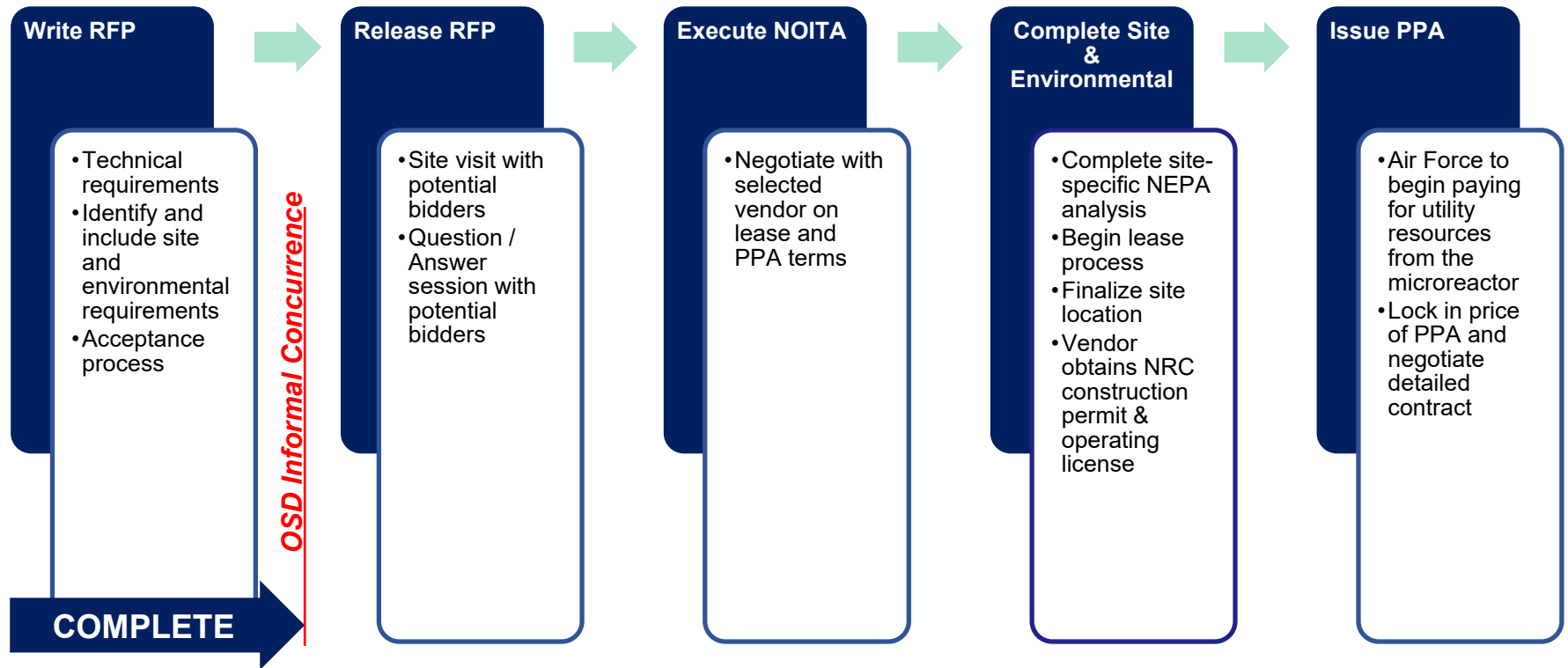
- Establishes coordination & sharing of technical expertise among DAF, DOE & DLA
- Identifies key roles & responsibilities during the pilot
- NRC reviews license application as an independent regulator

■ **Alaska Senate Bill 177**

- Exempts micro-reactors from Legislative siting approval and from six-department project studies by the State of Alaska
 - Passed the Senate 3 May 2022 - 16 Yeas; 2 Nays
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Acquisition Process

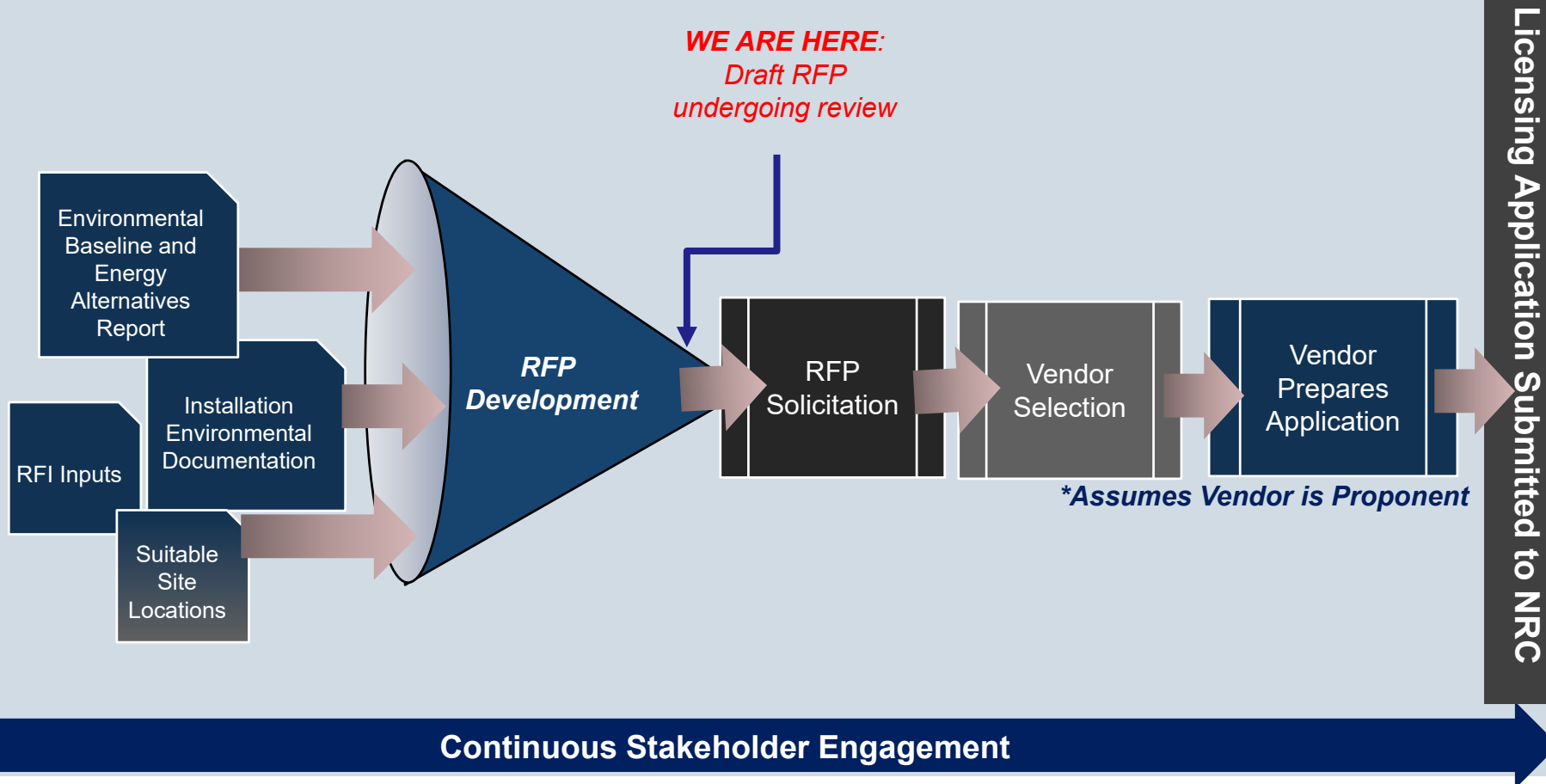


- Anticipate utilizing 30 year Lease & 20 year Energy Production Period
- Acceptance: 2 year Demonstration Period



Design Application Process

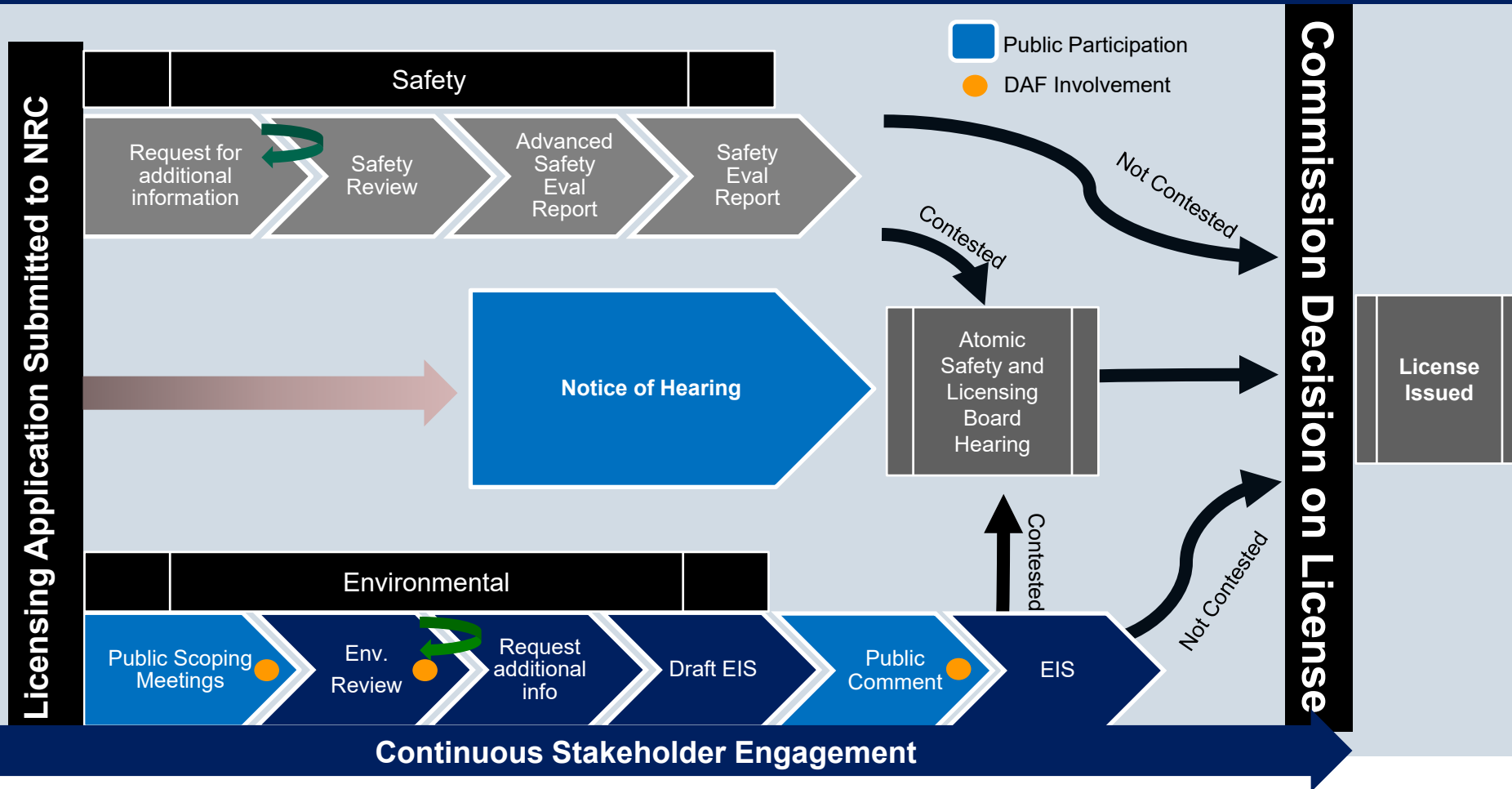
Regulatory Roadmap





NRC Licensing Process

Regulatory Roadmap





Stakeholder Outreach & Engagement

■ **Nov 2021 – May 2022 Engagements**

- Tribal Nations & Mayors initiated
- Alaska Senators' staff briefing
- Alaska Department of Environmental Conservation
- Alaska Nuclear Energy Working Group
- Quarterly Newsletter Initiated



■ **Eielson Pre-Proposal Conference**

- Provide opportunity for offerors to see potential sites & ask questions
 - Potential speakers to include Eielson AFB, DLA, SAF/IEE, NRC, & SAF/GCN
 - Results will be documented and made available to all interested offerors on the SAM.gov website
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High Level Timeline

2019

- Develop pilot program framework
- SAF/IEE memo to PACAF

2020

- Stakeholder engagement meetings
- Release RFI to industry

2021

- Draft RFP
- Compile environmental data

2022

- Release RFP
- Anticipated to Select Vendor – Notice of Intent to Award

2023

- Vendor develops licensing application to the NRC

2024

- NRC environmental and safety review

2025

- NRC finalizes environmental and safety review; Execute Contract

2026

- Construction and Pre-operational testing

2027

- Commercial operation

Near-term targets for successful RFP:

- Ensure technical, operational, and site requirements are adequately depicted in draft RFP

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