SMR & Microreactor Deployment Pathways

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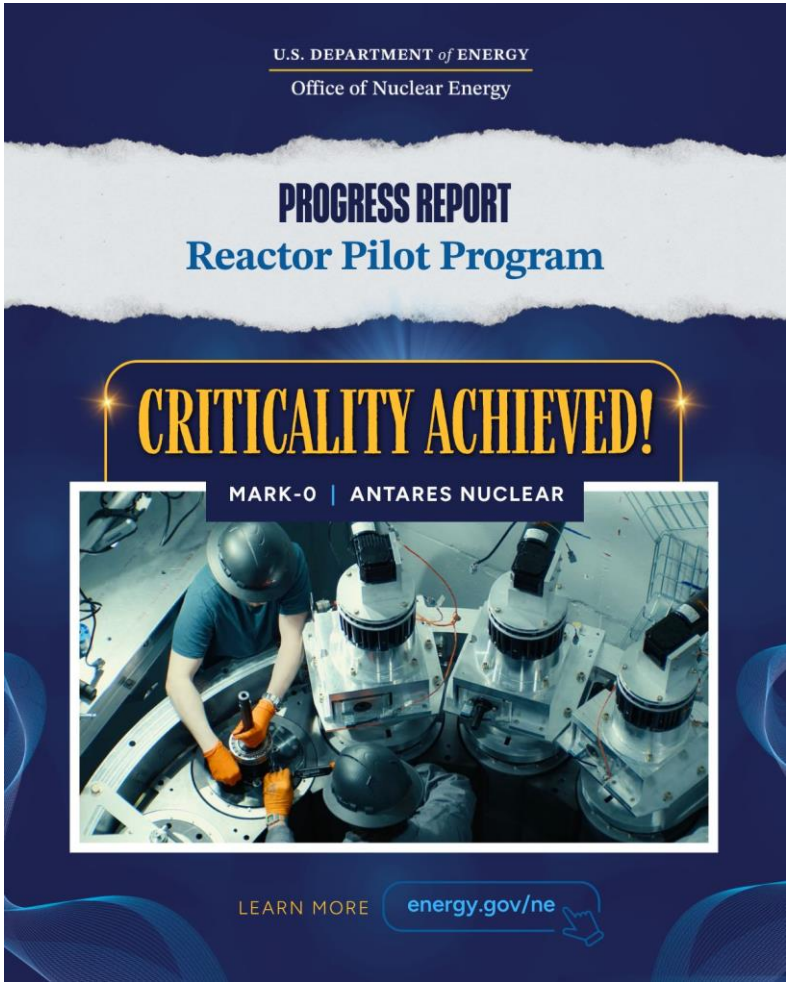
Mirion Connect Americas
Henderson, NV
June 2026

Our first reactor – The Antares R1 Mark-0



Sustained criticality
June 4, 2026 - 12:30 PM MDT

INL RACE Facility

Antares Prime - California

Designed and Built by Antares – Authorized by DOE – In Record Time

Key Components of our Supply Chain

MIRION + Paragon

EXOSENS

BWXT

NAC INTERNATIONAL

Antares is redefining nuclear energy.

01.

*We **design and build** factory mass-producible, heat pipe–cooled micro nuclear reactors to power critical infrastructure — safely, efficiently, and reliably.*

02.

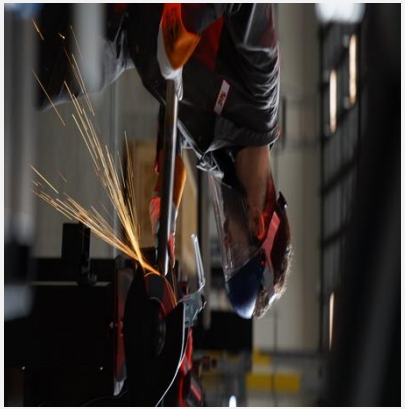
*Our **multidisciplinary team** of 80+ experts from nuclear, aerospace, and defense industries is designing, manufacturing, and testing under an NQA-1 program.*

03.

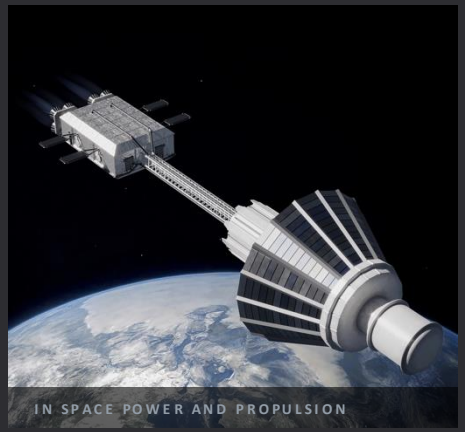
*Our **defense-first focus** de-risks supply chains and provides access to a first-move energy market. Antares is partnering with DOD customers and winning contracts to prove our technology.*

04.

*Our 322,000 sq. ft. facility, in Torrance, CA can produce **our first 50 reactors.***



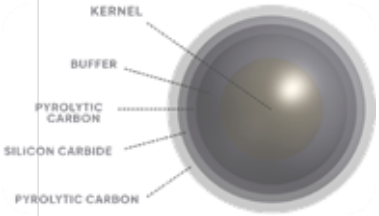
"Strategic Energy" is our mission



STRATEGIC ENERGY

- Enable **critical mission capabilities** that are impossible without nuclear power.
- Target 100 kWe - 2 MWe to power critical assets like **missile defense sites and counter-space systems**
- Unlock clean, resilient, supply chain free power on **earth and in space**.
- Deliver **complete integrated solution to unlock mission effect**, not just a "box of power"

Safety and Performance Assured with TRISO Fuel



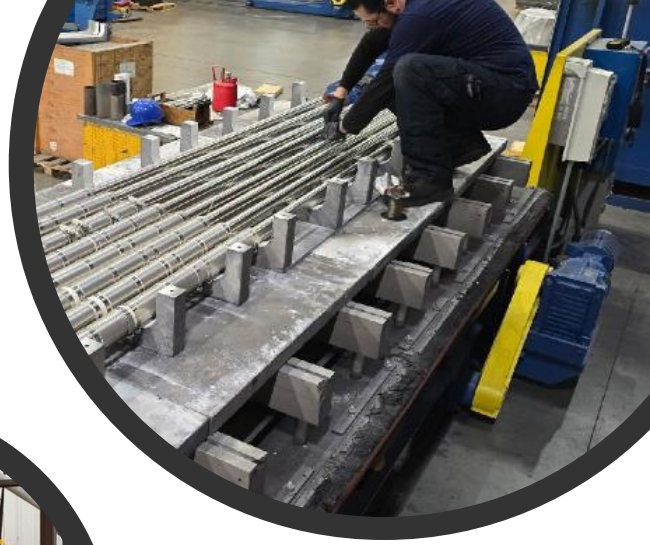
TRISO Fuel Particles → Fuel Compacts → Graphite Hexes → Fuel Stacks

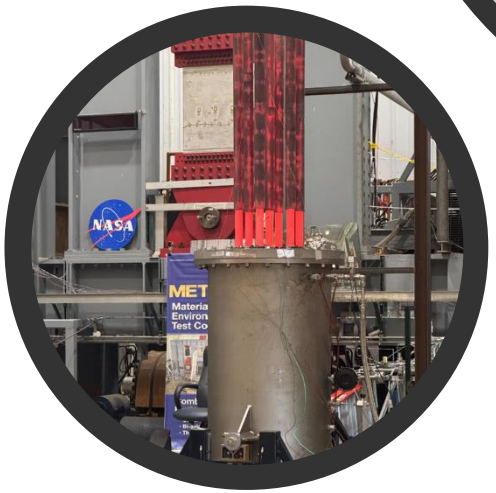
"The Most Robust Nuclear Fuel on Earth"

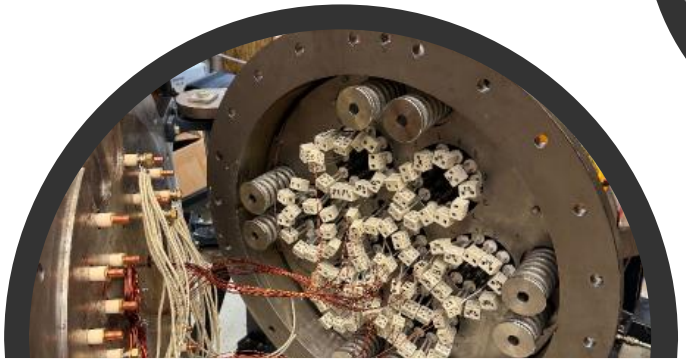
- DOE Office of Nuclear Energy

Differentiate through Demonstration

In **2025**, we set the pace for advanced reactor development—completing our Conceptual Design Review (CDR) on an accelerated timeline and becoming the first company in the country to receive an approved Nuclear Safety Design Agreement (NSDA) for a reactor. We opened Antares Prime—145,000 sq-ft of vertically integrated R&D space—to accelerate in-house manufacturing and iteration, tested our first Electrically Heated Demonstration Unit (EDU), submitted our Preliminary Documented Safety Analysis (PDSA), prepared our reactor test site, and became the first U.S. microreactor to receive a HALEU allocation and begin fuel fabrication.

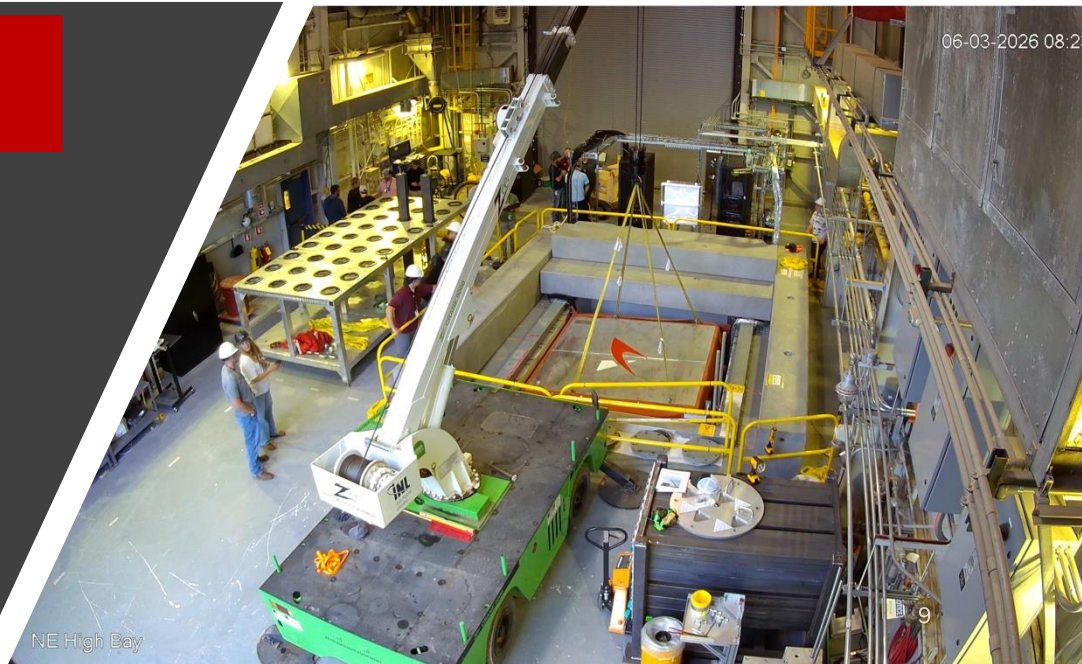


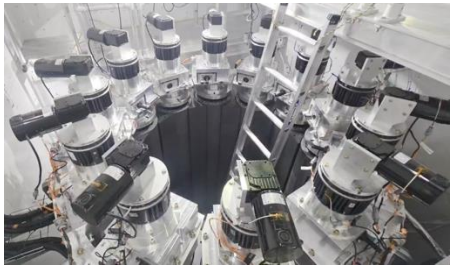




Build, Test, Iterate

In **2026**, we conducted our first reactor demonstration at Idaho National Laboratory under the Department of Energy's Reactor Pilot Program—validating reactor physics, reactivity control behavior, and system-level safety performance in operation. In parallel, we will close the final reactor design and safety analysis and complete qualification of our heat pipes, heat exchanger, and power conversion system, **setting the conditions to produce electricity in 2027**.

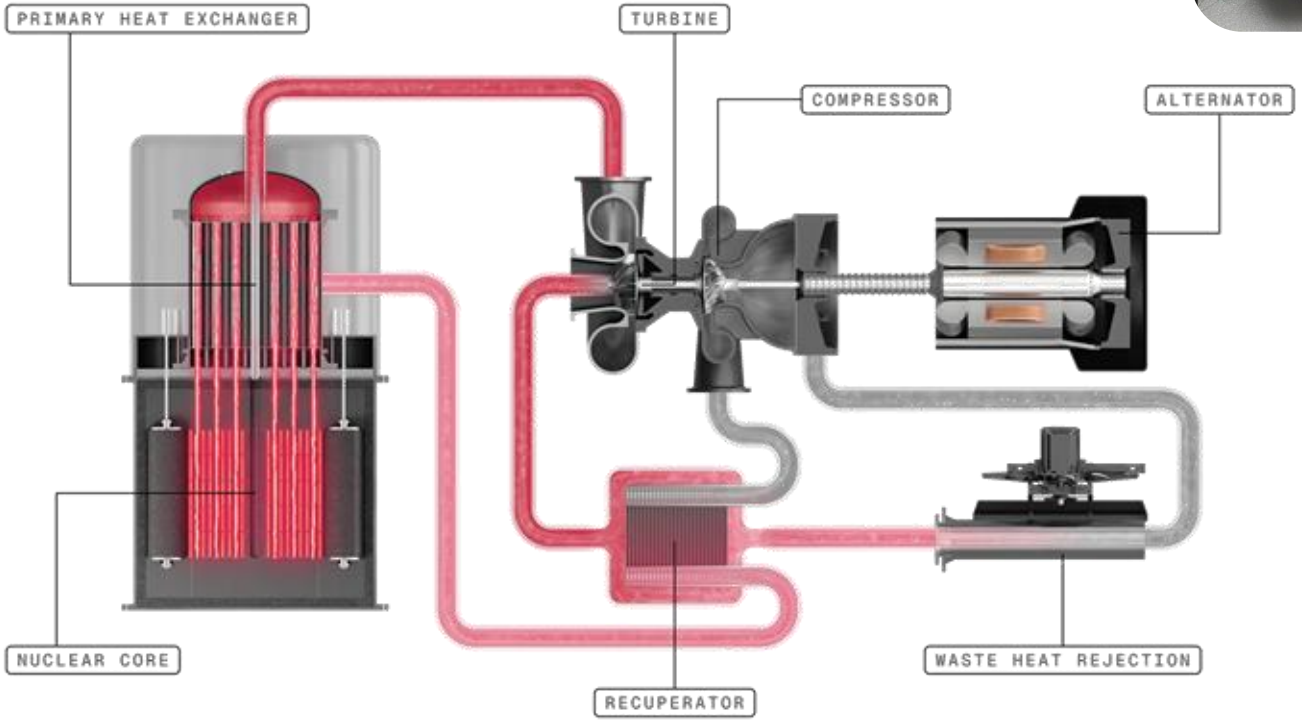




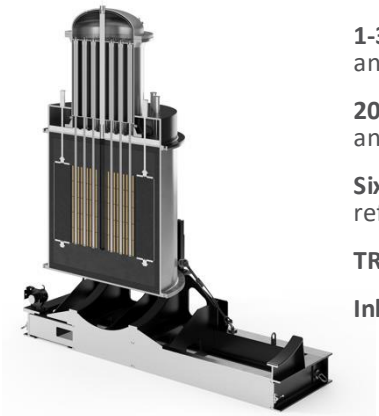
We developed expertise and supply chain in reactivity control, I&C, reactor protection, HMI, hardware in the loop qualification, and operations.

Producing Electricity in 2027

In 2027, our electricity-producing reactor (Mark-1) will be tested at full electrical output on American soil. We will validate system performance and prepare for customer deployments beginning in 2028.



Our Deployment Strategy



Reactor

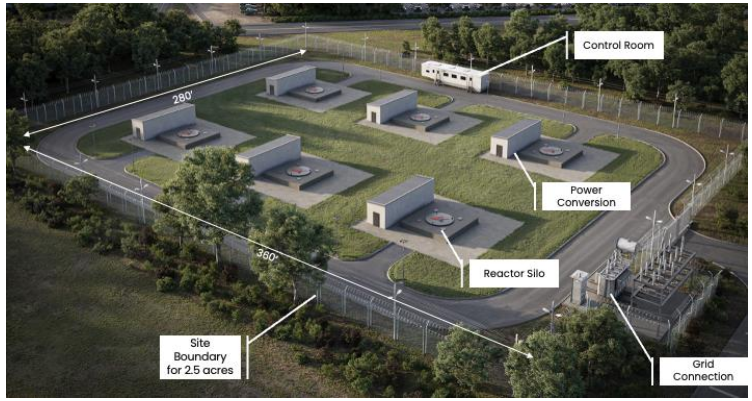
1-3.3 Megawatt thermal. Capable of co-generation of **heat** and **electricity**. Scalable to higher power levels.

200 kW to 1 MW electric for critical infrastructure resilience and remote power.

Six effective full-power years of clean energy without refueling.

TRISO Fuel (19.75% U-235).

Inherent safety with Generation IV technology



Site

Deployable to remote and austere locations or for grid integration

Minimal site footprint for co-location with user facilities

Power and heat applications can be custom configured

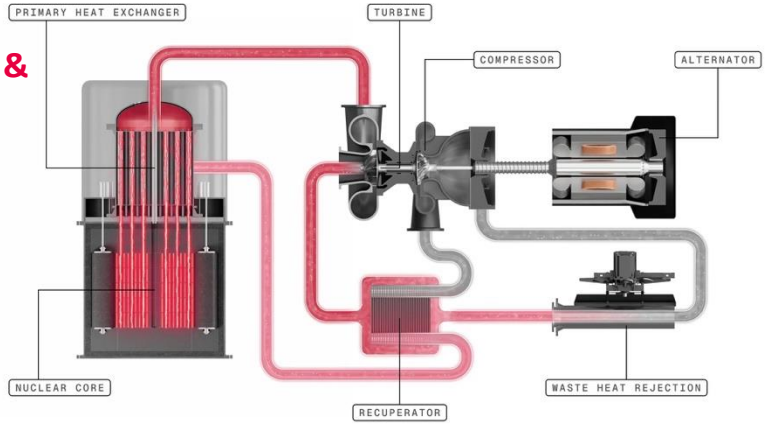
Safety and security with integrated protective features for radiation and external threats

Scalable to power larger sites with co-location of multiple reactors

Power Conversion & & Process Heat

Closed-loop nitrogen **Brayton cycle** provides reliable power in a wide range of environments.

Process heat available at
- 825 °C
- 575 °C
- 200 °C



Logistics

Transportable by tractor-trailer, barge, and rail.

We have raised over $130M in private capital and have multiple government awards

AFNWC

Evaluate Antares R1 microreactor for resilient infrastructure power; deliver a comprehensive demonstration data package by June 2026.

AFWERX

Assess Antares R1 microreactor for Air Force missions; deliver comprehensive design review by July 2026.

SPACEWERX

Adapt Antares R1 architecture into a space reactor for power/propulsion; deliver design review in July 2026.

DIU

Advanced Nuclear Power for Installations (ANPI)
Mature and demo Antares R1 for DoW installations to enable follow-on on-base reactor deployments.

JBSA Advanced Nuclear Power for Installations (ANPI)

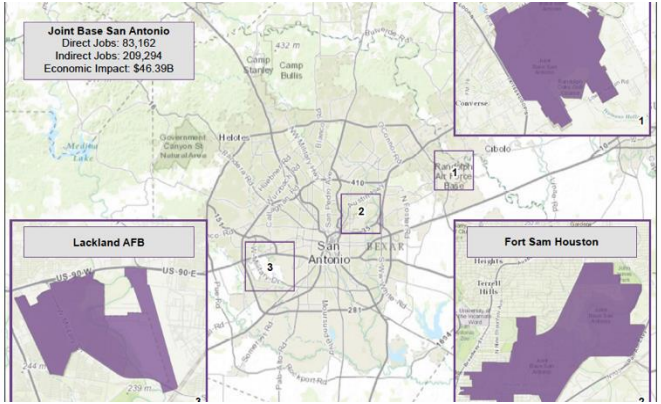
JBSA selected as potential site for the Advanced Nuclear Power for Installations initiative to enhance energy resilience

The Department of the Air Force (DAF), in conjunction with the Defense Innovation Unit (DIU), announced on April 22, 2026, that Joint Base San Antonio was selected as a potential location for a nuclear microreactor under the Advanced Nuclear Power for Installations (ANPI) initiative.

The Air Force chose to pair JBSA with Antares Nuclear, Inc., a private American firm, as part of an energy resilience strategy to align mission requirements with site-specific characteristics.

"The future of air and space dominance is powered by resilient energy," said The Honorable Michael Borders, Assistant Secretary of the Air Force for Energy, Installations, and Environment. "By integrating advanced nuclear technology, we are not just keeping the lights on; we are ensuring our most critical national security missions are never compromised by power outages. This is a pivotal moment for the Department of the Air Force."

The ANPI initiative aims to have an advanced nuclear reactor operational at a DAF installation by 2030. Next steps include comprehensive siting and environmental analyses in accordance with the National Environmental Policy Act (NEPA).



From Concept to Deployment: The Antares Approach

1. Design

Target technology that is needed now and can be deployed in months, not years or decades
Define mission, resilience, and operational requirements
Assess supply chain readiness and manufacturing maturity
Identify critical technology and production gaps
Develop reactor architecture, safety basis, and system integration
Design around available industrial capabilities where possible

2. Capability Development

Develop enabling manufacturing capabilities where supply chains are insufficient
Develop efficient quality system that become a natural part of workflow
Establish production methods for first-of-a-kind components
Qualify materials, tooling, and manufacturing processes
Build the industrial foundation for scalable deployment

Require no miracles to achieve deployment

From Concept to Deployment: The Antares Approach

3. Tests & Demonstrations

Validate key technologies and subsystems
Demonstrate safety, performance, and reliability
Verify manufacturing processes and quality controls
Incorporate lessons learned into the production design
Execute progressively larger demonstrations, especially nuclear demonstations

4. Regulatory & Authorization Pathway

Develop safety, safeguards and security basis in parallel with design
Support DOE authorization for demonstrations and initial deployments
Support Department of Defense / Department of the Army authorization pathways
Generate operational data from demonstrations
Transition to NRC licensing for broader commercial deployment
Leverage advanced reactor licensing modernization initiatives

Deploying advanced reactors requires the simultaneous development of technology, manufacturing capability, regulatory authorization, and supply chain readiness.

From Concept to Deployment: The Antares Approach

5. Design for Manufacturing (DfM)

Optimize for repeatable factory production
Apply lessons learned from prototypes, demonstrations, and early deployments
Standardize components, interfaces, and assembly processes
Reduce manufacturing complexity and cost
Qualify suppliers and quality systems to scale to meet demand
Prepare for fleet-scale deployment

6. Flexible Site Deployment

Deploy modular reactor units matched to initial customer demand
Integrate with site microgrids and critical infrastructure
Enable incremental capacity expansion through additional reactor modules
Maintain resiliency through distributed generation architecture
Scale from single-reactor installations to multi-unit energy campuses

Design → Build Capability → Test → Authorize → Manufacture → Scale & Deploy


ANTARES

Antares on YouTube

https://youtu.be/FNvWz1SETq0?si=enSVXtdbR1T_tGyK

https://youtu.be/iCkwFUJcvUE?si=6tPPUzt3EWaBlMFM