

# DEEP FISSION

Joint Meeting of the Radioactive Materials Transportation Committee  
& the Transuranic Waste Transportation Working Group

December 10, 2025

**Mike Brasel**  
COO



**Powering Humanity from a  
Mile Underground**

**DeepFission.com**

## La Crosse Boiling Water Reactor Vessel Removal and Transportation for Burial



# Integrating three established technologies.

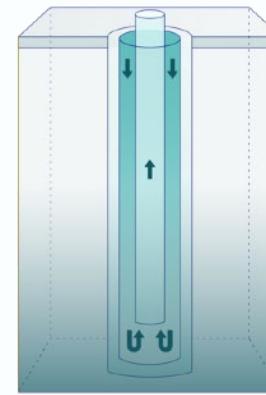
Deep Fission combines three technologies into one solution called the Gravity Nuclear Reactor, significantly reducing the cost and complexity of surface infrastructure.

## Pressurized Water Reactor



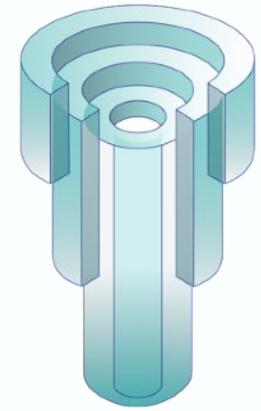
Hydrostatic pressure from one-mile-deep column of water provides 160 atm of reliable pressure, safely and naturally. PWR uses readily available low-enriched uranium (LEU) fuel.

## Geothermal Technology



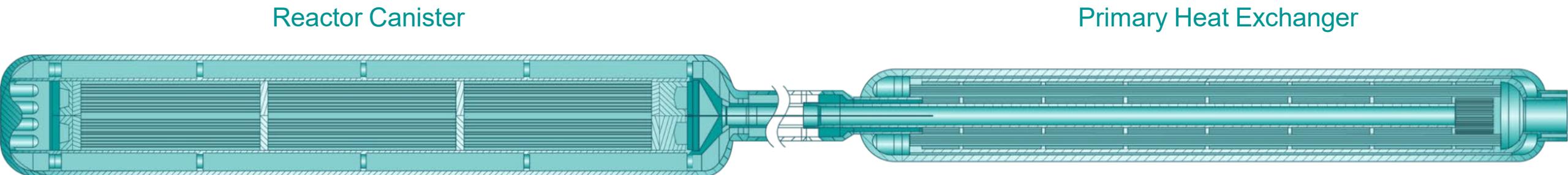
Novel deployment approach applies proven geothermal components and processes for energy transfer to the turbine generator at the surface.

## Deep Borehole Drilling



Optimized borehole\* design is intended to be drillable using standard oil & gas infrastructure for containment a mile underground, subject to further development.

# The Gravity Nuclear Reactor may be the biggest scientific breakthrough in nuclear power of the last 50+ years.



## Deep PWR

Standard Fuel Assemblies with readily available LEU fuel, exploring 2x2 and 3x3 configurations

## Deep Geo Vault

Optimized Borehole drilled utilizing oil & gas technology and expertise

## Deep Geothermal

Steam Generator leveraging conventional geothermal technology

+ Passive Safety and Containment

+ Natural Emergency Core Cooling

+ No Need for Expensive Mega-Structures

# Accelerated Innovation— Deep Fission is a new class of infrastructure.

Intellectual property (IP) process is expedited and intended to create long-term IP moat and technology licensing potential.



## Core Concept Stack

Deep Borehole Nuclear Reactor

Borehole Nuclear Power Plant System

Deep  
Geologic  
Leverage

Borehole  
Reactor  
Canister  
Design

Deep  
Casing &  
Containment

Rapid Install,  
Operations &  
Maintenance

Deep  
Safety &  
Security

24

Pending  
Applications;  
1 US Application  
Issued

40+

Unique  
Innovations  
and Novel  
Concepts to date

# Demand for energy could quickly create a national security and infrastructure crisis.

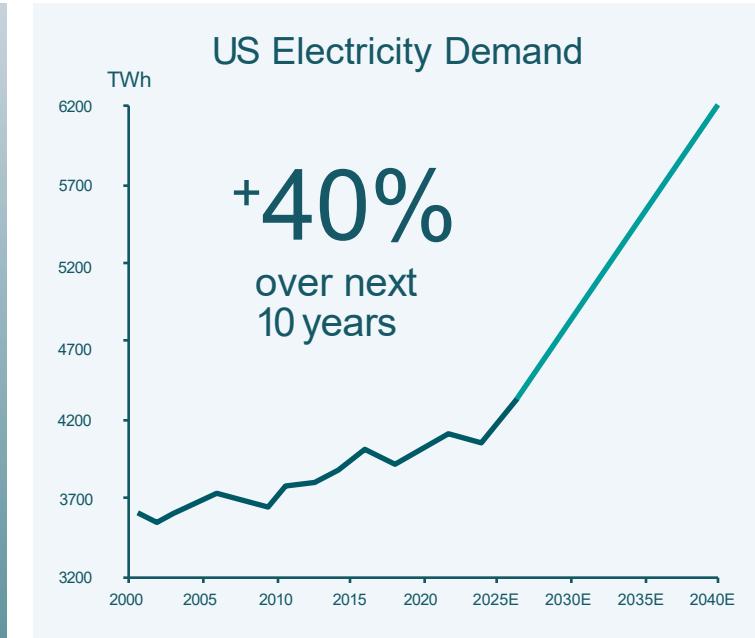
Demand is quickly surpassing supply due to the **surge in capital expenditure from AI-driven data centers and hyperscalers**. We are at a point where shortfalls in energy supply are becoming critical. Fast deployments of nuclear power with Deep Fission technology may provide a compelling low-cost solution and rapid build time.

By 2033, the U.S. energy transition market is projected to reach **\$1.18 trillion\***, and that number is likely to rise as demand continues to outpace supply. While the U.S. has the largest fleet of nuclear power plants, developing new reactors has proved extraordinarily difficult. **Only three new reactors have come online since 1996.\*\***

\*U.S. Energy Transition Market Size, Share & Trends Analysis Report, 2025 - 2033 (Grand View Research).

The energy transition market is the economic sector focused on shifting from fossil fuels to clean energy.

\*\*New York Times, after May 2025 Executive Orders announcement



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# Regulatory Advantage: Deep Fission selected as one of 10 companies for the U.S. Department of Energy Nuclear Reactor Pilot Program—

A fast-track initiative to design,  
build, and operate advanced test  
reactors, with the ambitious goal  
of reaching criticality by  
**July 4, 2026.**

## U.S. DEPARTMENT OF ENERGY ANNOUNCES INITIAL SELECTIONS FOR NEW REACTOR PILOT PROGRAM.

*August 12, 2025*

**WASHINGTON**—The U.S. Department of Energy (DOE) today officially kicked off President Trump's Nuclear Reactor Pilot Program, announcing DOE will initially work with 11 advanced reactor projects to move their technologies towards deployment. DOE will work with industry on these 11 projects, with the goal to construct, operate, and achieve criticality of at least three test reactors using the DOE authorization process by July 4, 2026. Today's initial selections represent an important step toward streamlining nuclear reactor testing and unleashes a new pathway toward fast-tracking commercial licensing activities. “President Trump's Reactor Pilot Program is a call to action,”

said Deputy Secretary of Energy James P. Danly. “These companies aim to all safely achieve criticality by Independence Day, and DOE will do everything we can to support their efforts.”

Seeking DOE authorization provided under the Atomic Energy Act will help today's selected companies— Aalo Atomics Inc., Antares Nuclear Inc., Atomic Alchemy Inc., Deep Fission Inc., Last Energy Inc., Oklo Inc., Natura Resources LLC, Radiant Industries Inc., Terrestrial Energy Inc., and Valar Atomics Inc.— unlock private funding and provide a fast-tracked approach to future commercial licensing activities.\*



1	<b>Speed up Reactor Licensing</b> <p>Creates expedited pathway to approve reactors tested by DoD and DOE. Establishes NRC deadline to license within 18 months.</p>	<p>Deep Fission's regulatory strategy aligns with DOE's streamlined authorization framework for reactor demonstration and supports commercial licensing by NRC.</p>
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# Regulatory Speed— Tailwinds from Executive Orders



2	<b>Add 300 GW by 2050</b> <p>Expands capacity to 400 GW by 2050, including 5 GW of uprates, LPO for reactor restarts, &amp; 10 new large-scale reactor builds.</p>	<p>The Gravity Reactor will allow quick scaling from megawatts to gigawatts equivalent to a large scale reactor build.</p>
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4	<b>Deploy for AI &amp; Military</b> <p>Directs DoD to build a reactor at a military installation within 3 years. Allows DOE to utilize authorities to authorize reactors for AI applications.</p>	<p>Gravity Reactor architecture is inherently modular and scalable, enabling compact area deployment preferable for military installations.</p>
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6	<b>Bolster U.S. Workforce</b> <p>Increases in apprenticeship and education opportunities. Increases access to R&amp;D infrastructure..</p>	<p>Deep Fission's leadership profile, company reputation and interdisciplinary engineering approach broadly increase talent development and cross-skilling opportunities.</p>
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3	<b>Faster Reactor Testing</b> <p>Launches new DOE pilot program to build and test three reactors by July 4, 2026.</p>	<p>On August 12, Deep Fission was selected as one of only 10 companies to participate, alongside notable companies such as Aalo Atomics and Oklo.</p>
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5	<b>Ramp Up Fuel Production</b> <p>Builds out U.S. nuclear fuel supply chain. Increases enrichment and deconversion services. Releases 20 metric tons of HALEU.</p>	<p>The novel approach of our reactor at-depth uses conventional LEU (not HALEU) and is more readily available than exotic alternative fuels (e.g., TRISO fuel).</p>
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7	<b>Spent Fuel Management</b> <p>Recommends national policy on spent fuel management and high-level waste that considers advanced fuel cycle.</p>	<p>Our deployment model encompasses safe interim storage pending identification of National, long-term storage solutions. Long-term isolation strategy is possible through proactive collaboration with Deep Isolation.</p>
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8	<b>Expand U.S. Exports</b> <p>Produces strategy to increase financing for U.S. projects and promote nuclear trade.</p>	<p>Our reactors are ready for seamless global scalability, as a result of the existing commercial availability and extensive operational history of our requisite technologies—drilling, geothermal, and PWR (using LEU fuel).</p>
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# Credibility, cost & complexity are barriers— We are in a race against time.

The Department of Energy has declared a nuclear fast-track with a target of at least three test reactors achieving criticality by July 4, 2026. Deep Fission believes it has a plan and path to be one of those three.

## Traditional/Surface Level Reactors

Credible, safe solutions that take decades to build, maximize “not-in-my-backyard” pushback, and often amplify costs to the point of cancellation.

## Next-Gen SMRs

Small modular reactors are hindered by their ability to produce cost-effective electricity in the near term.

## Novel Reactor Startups

New solutions pose high risk with unproven upside—iterative, untested technology as concepts advance through early engineering and validation stages.

Deep Fission is designed for rapid deployment, leveraging established technology, and engineered for economic transformation.



## Landmark Partnership With Endeavour

Deep Fission is partnering with Endeavour, a sustainable data center infrastructure company, to co-develop 2 GW of nuclear energy, supporting sales to major cloud providers.

This partnership creates a direct commercial pathway for Deep Fission reactors in one of the fastest-growing electricity demand sectors, leveraging its unique ability to deliver reliable, zero-carbon baseload power at scale.

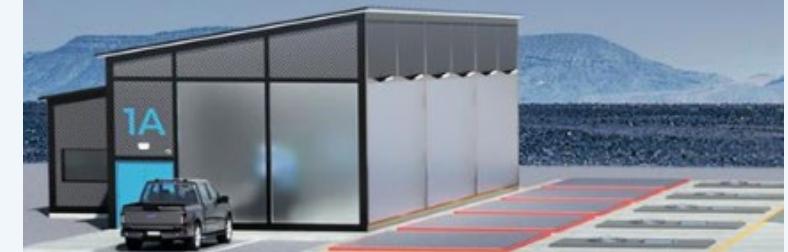
[World Nuclear News](#)

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Full Endeavour Portfolio:



# ENDEAVOUR



# Commercial Roadmap— Rapid Scale from First Reactor to First Focus: Data Centers





## The Fastest Path to Scale Nuclear Power

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