



General Atomics Tactical Energy System

RESILIENT POWER WHERE THE MISSION REQUIRES

Built on more than 70 years of nuclear reactor and fuel innovation, the **General Atomics Tactical Energy System (GA-TES)**, an inherently safe microreactor, carries forward the operating legacy of globally deployed TRIGA® reactors and the self-regulating behavior of uranium-zirconium-hydride (UZrH) fuel. GA-TES integrates reactor and plant design, nuclear systems engineering, and fuel development and fabrication to deliver resilient energy for mission-critical operations.

GA-TES sets a new standard for continuous, resilient baseload power for defense installations and infrastructure, supporting sensing, communications, command and control, and other capabilities essential to mission continuity in remote, austere and contested environments. Inherently safe fuel, pump-free natural-circulation cooling and passive decay heat removal eliminate the need for active safety systems and safety-related AC power.

Scalable, resilient baseload power

Pump-free natural-circulation cooling

Self-regulating UZrH fuel response

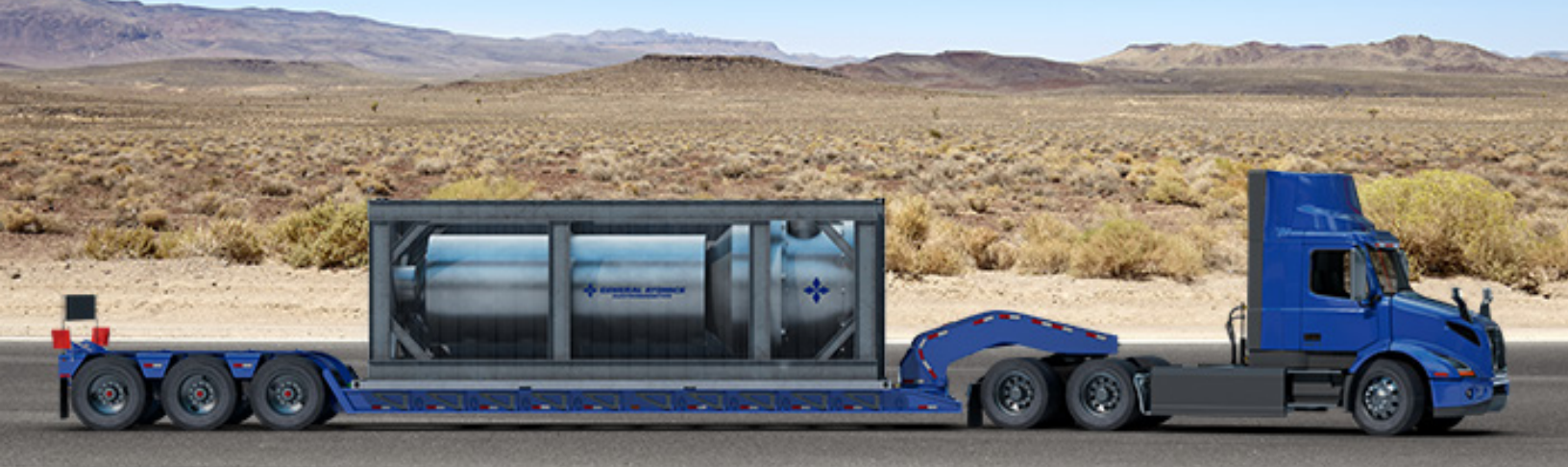
Passive shutdown and decay heat removal

Modular transport and installation

Long-life core and simplified operations

No large cooling-water infrastructure

Flexible siting



GA-TES' modular design enables transport of components by truck or rail for rapid on-site deployment at military installations and critical infrastructure sites. The non-water coolant and air-cooled condenser eliminate the need for large cooling-water systems, expanding potential siting options to include semiarid regions, Arctic environments and remote islands.

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Flexible Deployment and Siting

Combines a modular, plug-and-play architecture with a skid-mounted power-conversion system using a superheated steam cycle to simplify transport and installation.

Assured Energy Resilience

Supports critical operations during grid disruptions, while passive systems maintain safe fuel and coolant temperatures during station blackout without operator action or safety-related AC power for shutdown cooling.

Inherent Safety at Scale

Scales from ~5 MWe net in the baseline configuration to ~20 MWe without changing the inherent and passive approach.

Integrated Shielding and Security

Combines a below-grade reactor vessel and deep lead pool to provide substantial radiation attenuation within a secure, compact footprint.

TECHNICAL SPECIFICATIONS	
Reactivity Response	Strong prompt negative temperature feedback inherent to UZrH fuel reduces reactor power as fuel temperature rises
Primary Cooling	Low-pressure, pool-type lead system uses natural circulation during normal operation and shutdown; no primary pumps or external primary piping
Passive Station-Blackout Safety	Passive systems maintain safe fuel and coolant temperatures without operator action or safety-related AC power for shutdown cooling
Primary System	No coolant pumps; natural circulation provides heat transport during normal operation and shutdown
Decay Heat Removal	Fully passive air cooling around reactor vessel rejects decay heat to the atmosphere
Coolant Behavior	High-thermal-conductivity lead distributes heat to mitigate localized freezing; supplemental internal and external heaters support cold-start and low-afterheat conditions
Fuel	UZrH using high-assay low-enriched uranium (HALEU)
Core Life	Up to five-years of continuous operation in the baseline configuration
Plant Design Life	Up to 40 years
Operating Concept & Controls	Digital instrumentation and controls support plant monitoring, oxygen control and lead transfer for minimally attended operation
Operating Mode	Continuous baseload operation



CONTACT INFORMATION
ntm.info@ga.com

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