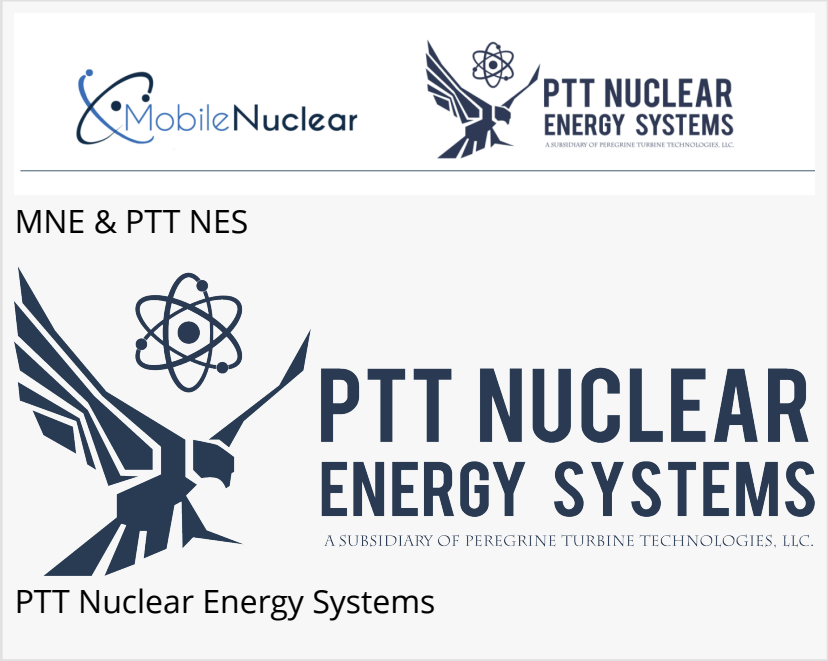
MOBILENUCLEAR ENERGY AND PTT NUCLEAR ENERGY SYSTEMS COLLABORATION ANNOUNCEMENT

PTT NES and MobileNuclear Energy Announce Teaming Initiative to Integrate PTT NES's sCO2 Energy Conversion Systems with MobileNuclear's MN-1 Mobile Microreactor



WISCASSET, MAINE, UNITED STATES, August 5, 2024 /EINPresswire.com/ -- MobileNuclear Energy (MNE) and Peregrine Turbine Technologies' Nuclear Energy System (PTT NES) subsidiary announced today their intent to collaborate on the integration of PTT NES' patented sCO2 Energy Conversion systems, Thermally Compliant Heat Exchanger technologies, and High Temperature Helium Blower and Magnetic Torque Coupling with MNE's MN-1 Mobile Microreactor system.

> It's a perfect marriage that will deliver the energy capacity that our customers need while maintaining the mobility that defines our microreactor system."
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> *Chris Pehrson*

Chris Pehrson, MNE CEO, stated, "MobileNuclear is excited to partner with PTT NES to integrate their sCO2 systems with our mobile microreactor. It's a perfect marriage that will deliver the energy capacity that our customers need while maintaining the mobility that defines our microreactor system." David Stapp, PTT NES CEO/CTO, added, "Advanced nuclear married to advanced sCO2 power conversion technology is a game-changer for large, distributed energy markets, both commercial and military. Peregrine's technology is right sized to match with MobileNuclear's advanced reactor technology. The combination delivers breakthrough performance and capability that is unmatched. We are excited to team with this capable company."

MNE's MN-1 is a nuclear microreactor intentionally designed for mobility. Its compact reactor core and design features are optimized for small size, light weight, efficient energy production, affordability, and safety. The MN-1 is a modular system, transportable by air, land, or sea, and can optionally be integrated to operate in transit to provide power for propulsion systems, directed energy weapons, or other high-power "on the move" applications.

MobileNuclear Energy

The core power module is equivalent in size to a standard 20' ISO shipping container, populated with the nuclear microreactor and PTT's sCO2 turbine-generator as baseline capability. Add-on modules, also in 20' ISO form factor, can seamlessly integrate with the power module to provide atmospheric water generation, hydrogen-based fuel production, heating and cooling, and other mission-tailored capabilities. Additional features and specifications include:

- MN-1 core power module generates 1 MW thermal energy and 350kW electrical power
- Fully shielded, no in-ground site preparation or post-movement site cleanup required
- Full operating capacity within 2 hours of arrival on site, shut down in less than 4 hours
- Safe to operate and resilient to physical damage, ensuring non-catastrophic outcomes
- Ten-year service life between refueling

PTT NES's advanced conversion system has been developed over the past 12 years with support from the Air Force Research Laboratory (AFRL), the Office of Naval Research (ONR), the Maine Technology Institute (MTI) and in collaboration with Sandia National Laboratories' Brayton Laboratory team with an underlying intent to support the new generation of advanced nuclear reactors.

PTT NES's sCO2 systems are 1.5 X the efficiency of steam with less than 1/3rd the footprint, and 3+ X efficiency of Air Brayton conversion systems. The integrated MNE-PTT system solution will provide important and significant differentiation for MNE in its targeted DOD applications including:

- Smaller and lighter weight physical footprint
- No water required; No phase change (dry cooling)
- Black start capability
- Oil-free lubrication
- Higher Efficiency than alternative conversion technologies
- Modular construction at component and system levels

– Significantly fewer moving parts/wear parts (increased reliability/availability)

– Cartridge-style, field replaceable turbomachinery

o Benign Failure Heat Exchangers
o Increased load following capabilities

o PTT's helium (He) blower and heat exchangers with its proprietary magnetic torque coupling… "the" solution for He leakage.

ABOUT MOBILENUCLEAR ENERGY (MNE):

MobileNuclear Energy LLC is a Virginia-based company comprised of professionals with unmatched credentials in nuclear energy, national security, business growth, and government acquisition. The company's mission is to develop and deploy the first truly mobile, safe, sustainable, and affordable nuclear microreactor to provide the military and other government agencies with responsive, durable, and modular energy generation capability. With technology, vision, and leadership, MobileNuclear is committed to delivering the lightest, safest, and most mobile microreactor in the world.

Additional company information can be found at mobilenuclear.energy

ABOUT PTT NUCLEAR ENERGY SYSTEMS (PTT NES)

PTT NES is a wholly owned subsidiary of Peregrine Turbine Technologies, LLC. which is a privately held, Maine, limited liability company formed in April 2012, and focused on the development and deployment of advanced sCO2 (supercritical carbon dioxide) turbine power generation, energy storage, and propulsion systems.

The Company is in active system integration collaboration with several leading advanced nuclear companies. PTT also holds a long-term Cooperative Research and Development Agreement (CRADA) with Sandia National Laboratories for support in the development, testing, and de-risking of its patented sCO2 turbomachinery and heat exchangers, in advanced nuclear, concentrated solar power (CSP), long duration thermal energy storage (LDTES), and other transformational applications.

PTT NES is preparing for commercial demonstrations and entry in 2025 - 2027 and projects to exceed top market performance with mission critical capabilities not possible with current best available technologies.

Its sCO2 system is essentially a closed loop heat engine and is fuel agnostic, meaning that it can operate on any high-grade heat source such as nuclear and concentrated solar, as well as on all air combustible fuels Including sustainable biomass, biogas, refuse derived fuels (RDF), and

natural gas.

PTT’s senior leadership team collectively has over 250 years of successful, demonstrated management of complex technologies, systems, products, and operations with companies ranging from GE, Rolls Royce, Pratt and Whitney, Sundstrand, and Solar Turbines to Allied Signal, General Signal, Great Northern Paper Company, and American Capital.

The Company is built on the principles of agility, fact-based decision making and collective best thinking, providing it with a strong capacity and experience base to lead this emerging technology from concept through market penetration.

Additional company information can be found at peregrineturbine.com.

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