NANO Nuclear Completes Assembly of its Proprietary Annular Linear Induction Pump Technology Prototype for Critical Test Loop Validation in SBIR Phase III Program

July 23, 2025

Milestone demonstrates NANO Nuclear's ability to bring advanced nuclear technology from initial design to construction and demonstration

New York, N.Y., July 23, 2025 (GLOBE NEWSWIRE) -- NANO Nuclear Energy Inc. (NASDAQ: NNE) ("NANO Nuclear" or "the Company"), a leading advanced nuclear energy and technology company focused on developing clean energy solutions, today announced that its proprietary, patent pending Annular Linear Induction Pump (ALIP) technology for nuclear reactors has been assembled onto a test loop and integrated to a controllable test setup for variable design validation at NANO Nuclear's Demonstration Facility in Westchester County, New York.

As NANO Nuclear continues progress with its microreactor programs, including its lead **KRONOS MMR^{TM} Energy System** project, the ALIP assembly milestone demonstrates NANO Nuclear's leadership in advanced nuclear energy technology and its ability to move technology from initial design to construction and demonstration. NANO Nuclear hopes to be able to start commercial sales activities for ALIP by the end of this year or next year. This milestone also underscores the utility of NANO Nuclear's Westchester Demonstration Facility, which became operational earlier this year.

"This initial milestone with ALIP shows in a small but very promising way what we can do as a company in the real world," **said James Walker, Chief Executive Officer of NANO Nuclear**. "ALIP is an enabling technology that supports the development of next-generation reactors utilizing molten salts or liquid metals, and advancing ALIP through the SBIR Phase III process has allowed us to mature the system extensively, refining its design, validating key performance metrics, and preparing it for integration into demonstration-scale platforms at our custom-built Westchester facility. This progress not only enhances the technology's readiness for deployment but also opens a clear pathway toward revenue generating activities for NANO Nuclear as we progress work on our broader portfolio of advanced nuclear technologies."

The ALIP technology is a thermal management and distribution system within NANO Nuclear's suite of advanced nuclear energy technologies. It operates using electromagnetic, in place of mechanical, pumps and could serve as a critical component in the development of advanced molten-salt and liquid-metal nuclear reactors. As previously announced, earlier this year, NANO Nuclear collaborated with aRobotics Company, a leading innovator in robotics fabrication, inspection, engineering and testing, to support NANO Nuclear's ongoing SBIR Phase III program for ALIP, which was previously funded by the U.S Department of Energy. Data from the test and validation work being done will be leveraged to support the SBIR Phase III program.

Figure 1 - NANO Nuclear Energy 's ALIP Technology (center) integrated on the Test Loop inside Custom-Engineered Thermal Chamber at the Demonstration Facility in Westchester County, New York.

"Developing the first iteration of NANO Nuclear's ALIP and its adjacent test instrumentation enables us to collect crucial data and advance this project towards its ultimate goal of commercialization," **said Jay Yu, Founder and Chairman of NANO Nuclear** "With the support of aRobotics Company, we plan to steadily develop and test additional generations of ALIP as we improve the technology's readiness for the market."

Figure 2 - ALIP's Integrated Data Acquisition System & Control Panel (ALIP pump seen at left of image)

"We believe ALIP will have a number of applications upon development including in the space and defense sectors," **said Akaash Kancharla, CEO of aRobotics Company.** "The procedural knowledge and material science advanced by this work will have implications far beyond this useful product."

By utilizing a time-varying magnetic field, ALIPs enable the movement of conductive fluids without mechanical components, reducing wear and maintenance requirements while increasing efficiency. Current efforts at the NANO Nuclear Demonstration Facility are geared towards the development of the first operational ALIP prototype and a custom designed test loop for research data collection, alongside a magnetic field mapping system, for the collection of manufacturing and performance data.

Future work will include testing and characterizing pump performance with different working fluids, simulating component failure scenarios, and material testing.

Figure 3 – ALIP (seen at center of image) Assembled Inside NANO Nuclear Energy's Custom-Engineered Thermal Chamber at the Demonstration Facility in Westchester County, New York.

About NANO Nuclear Energy Inc.

NANO Nuclear Energy Inc. (NASDAQ: NNE) is an advanced technology-driven nuclear energy company seeking to become a commercially focused, diversified, and vertically integrated company across five business lines: (i) cutting edge portable and other microreactor technologies, (ii) nuclear fuel fabrication, (iii) nuclear fuel transportation, (iv) nuclear applications for space and (v) nuclear industry consulting services. NANO Nuclear believes it is the first portable nuclear microreactor company to be listed publicly in the U.S.

Led by a world-class nuclear engineering team, NANO Nuclear's reactor products in development include patented **KRONOS MMR™ Energy System**, a stationary high-temperature gas-cooled reactor that is in construction permit pre-application engagement U.S. Nuclear Regulatory Commission (NRC) in collaboration with University of Illinois Urbana-Champaign (U. of I.), "**ZEUS"**, a solid core battery reactor, and "**ODIN"**, a low-pressure coolant reactor, and the space focused, portable **LOKI MMR™**, each representing advanced developments in clean energy solutions that are portable, on-demand capable, advanced nuclear microreactors.

Advanced Fuel Transportation Inc. (AFT), a NANO Nuclear subsidiary, is led by former executives from the largest transportation company in the world aiming to build a North American transportation company that will provide commercial quantities of HALEU fuel to small modular reactors, microreactor companies, national laboratories, military, and DOE programs. Through NANO Nuclear, AFT is the exclusive licensee of a patented high-capacity HALEU fuel transportation basket developed by three major U.S. national nuclear laboratories and funded by the Department of Energy. Assuming development and commercialization, AFT is expected to form part of the only vertically integrated nuclear fuel business of its kind in North America.

HALEU Energy Fuel Inc. (HEF), a NANO Nuclear subsidiary, is focusing on the future development of a domestic source for a High-Assay, Low-Enriched Uranium (HALEU) fuel fabrication pipeline for NANO Nuclear's own microreactors as well as the broader advanced nuclear reactor industry.

NANO Nuclear Space Inc. (NNS), a NANO Nuclear subsidiary, is exploring the potential commercial applications of NANO Nuclear's developing micronuclear reactor technology in space. NNS is focusing on applications such as the **LOKI MMR** ™ system and other power systems for extraterrestrial projects and human sustaining environments, and potentially propulsion technology for long haul space missions. NNS' initial focus will be on cis-lunar applications, referring to uses in the space region extending from Earth to the area surrounding the Moon's surface.

For more corporate information please visit: https://NanoNuclearEnergy.com/

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Cautionary Note Regarding Forward Looking Statements

This news release and statements of NANO Nuclear's management and collaborators in connection with this news release contain or may contain "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. In this context, forward-looking statements mean statements related to future events, which may impact our expected future business and financial performance, and often contain words such as "expects", "anticipates", "intends", "plans", "believes", "potential", "will", "should", "could", "would," "seek," "hope, "may" and other words of similar meaning. In this press release, forward-looking statements include those related to NANO Nuclear's development and commercialization plans for the ALIP technology. These and other forward-looking statements are based on information available to us as of the date of this news release and represent management's current views and assumptions. Forward-looking statements are not guarantees of future performance, events or results and involve significant known and unknown risks, uncertainties and other factors, which may be beyond our control. For NANO Nuclear, particular risks and uncertainties that could cause our actual future results to differ materially from those expressed in our forward-looking statements include but are not limited to the following: (i) risks related to our U.S. Department of Energy ("DOE") or related state or non- U.S. nuclear licensing submissions, (ii) risks related the development of new or advanced technology and the acquisition of complimentary technology or businesses, including difficulties with design and testing, cost overruns, regulatory delays, integration issues and the development of competitive technology, (iii) our ability to obtain contracts and funding to be able to continue operations, (iv) risks related to uncertainty regarding our ability to technologically develop and commercially deploy a competitive advanced nuclear reactor or other technology in the timelines we anticipate, if ever, (v) risks related to the impact of U.S. and non-U.S. government regulation, policies and licensing requirements, including by the DOE and the U.S. Nuclear Regulatory Commission, including those associated with the recently enacted ADVANCE Act and the May 23, 2025 Executive Orders seeking to streamline nuclear regulation, and (vi) similar risks and uncertainties associated with the operating an early stage business a highly regulated and rapidly evolving industry. Readers are cautioned not to place undue reliance on these forward-looking statements, which apply only as of the date of this news release. These factors may not constitute all factors that could cause actual results to differ from those discussed in any forward-looking statement, and NANO Nuclear therefore encourages investors to review other factors that may affect future results in its filings with the SEC, which are available for review at www.sec.gov and at https://ir.nanonuclearenergy.com/financial-information/sec-filings. Accordingly, forward-looking statements should not be relied upon as a predictor of actual results. We do not undertake to update our forward-looking statements to reflect events or circumstances that may arise after the date of this news release, except as required by law.

Attachment

- Figure 1

Source: NANO Nuclear Energy Inc.

Figure 1

NANO Nuclear Energy ‘s ALIP Technology (center)