NANO Nuclear and University of Illinois Urbana-Champaign Receive Nuclear Regulatory Commission (NRC) Fuel Qualification Methodology Approval for KRONOS MMR™ Energy System

April 22, 2025

Safety Evaluation Issued by NRC Confirms Regulatory Acceptance of Fuel Qualification Methodology, Paving the Way for Eventual KRONOS Microreactor Deployment at University of Illinois Urbana-Champaign

New York, N.Y., April 22, 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, is pleased to announce that the U.S. Nuclear Regulatory Commission (NRC) has issued its final Safety Evaluation (SE) approving the Fuel Qualification Methodology Topical Report (FQM TR) for the advanced fuel design to be used in the NANO Nuclear's stationary **KRONOS MMR™ Energy System**

This important regulatory milestone marks the successful culmination of a rigorous review process and represents a major step toward deployment of the KRONOS reactor prototype at the University of Illinois Urbana-Champaign (U. of I.). The approved Fuel Qualification Methodology defines the regulatory framework and testing approach for the qualification of Fully Ceramic Microencapsulated (FCM®) fuel, which incorporates tri-structural isotropic (TRISO) fuel particles embedded in a silicon carbide matrix. With this latest regulatory breakthrough, NANO Nuclear is now positioned to submit its Construction Permit Application for the KRONOS reactor, with fuel qualification rapidly progressing. NANO Nuclear is advancing its vision to become a leader in small, clean energy technologies that address global energy security and decarbonization goals.

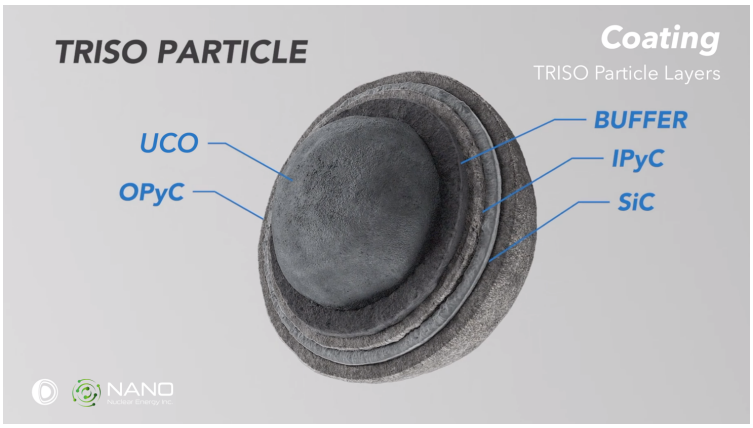


Figure 1 - NANO Nuclear and University of Illinois Urbana-Champaign Receive Nuclear Regulatory Commission (NRC) Fuel Qualification Methodology Approval for KRONOS MMR ™ Energy System

"This is a major victory for advanced nuclear energy and a transformative moment for NANO Nuclear, bringing us closer to turning the promise of KRONOS into a working reality at U. of I.," **said James Walker, Chief Executive Officer of NANO Nuclear.** "With the NRC's final approval of the FQM Topical Report, we now have the regulatory green light to move forward with the Construction Permit (CP) application for the prototype KRONOS. We thank the NRC for their thorough review. This milestone is a critical enabler for our entire reactor program and affirms the strength of our fuel strategy. The nuclear energy future is coming—and NANO Nuclear is at the center of it."

"Fuel is one of the biggest sources of uncertainty in any advanced nuclear project," **Illinois Grainger Engineering Associate Professor Caleb Brooks, Head of the Microreactor Demonstration Program at U. of I.** "This favorable regulatory outcome represents a significant reduction in that uncertainty for our project, and the SE establishes a common language between us and the regulator on how the fuel will be shown, with high assurance, to be safe and effective."

The FQM TR had previously undergone joint review by the NRC and the Canadian Nuclear Safety Commission (CNSC), with initial participation from the UK's Office for Nuclear Regulation (ONR) as an observer. NANO Nuclear believes that final approval of the FQM TR by the NRC demonstrates confidence in the methodology's scientific soundness and regulatory compliance, offering a repeatable pathway for advanced fuel qualification applicable to NANO Nuclear reactors.

"With this regulatory foundation in place, we are prepared to execute," **said Dr. Florent Heidet, Chief Technology Officer and Head of Reactor Development of NANO Nuclear.** "Our next steps include finalizing fuel fabrication timelines, preparing and submitting the construction permit this year, and completing early-stage site work at U. of I., including geotechnical drilling and environmental assessments. We will keep accelerating until the reactor is operating."



Figure 2 - Rendering of the KRONOS MMR ™ Energy System

The KRONOS MMR Energy System would be the first advanced microreactor built and operated on a U.S. university campus and will serve as a national platform for research, training, and demonstration. It would also become a centerpiece of U. of I.'s energy innovation initiatives, providing the university with clean, resilient energy while training the next generation of nuclear professionals.

"NANO Nuclear is doing what others are still planning—we are executing," **said Jay Yu, Founder and Chairman of NANO Nuclear Energy.** "The NRC's approval of the FQM TR is more than a regulatory milestone; it's a launchpad for reliable, deployable, and efficient nuclear power in the U.S. and beyond."

About The Grainger College of Engineering at U. of I.

The Grainger College of Engineering at the University of Illinois Urbana-Champaign is one of the world's top-ranked engineering institutions, and a globally recognized leader in engineering education, research and public engagement. With a diverse, tight-knit community of faculty, students and alumni, Grainger Engineering sets the standard for excellence in engineering, driving innovation in the economy and bringing revolutionary ideas to the world. Through robust research and discovery, our faculty, staff, students and alumni are changing our world and making advances once only dreamed about, including the MRI, LED, ILIAC, Mosaic, YouTube, flexible electronics, electric machinery, miniature batteries, imaging the black hole and flight on Mars. The world's brightest minds from The Grainger College of Engineering tackle today's toughest challenges. And they are building a better, cooler, safer tomorrow.

Visit https://grainger.illinois.edu for more information.

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 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" or "may" and other words of similar meaning. In this press release, forward-looking statement relate to the NANO Nuclear's development, demonstration, licensing and commercial plans for the KRONIS MMR, each as described herein. 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 fuel 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, the Canadian Nuclear Safety Commission (CNSC) and the U.S. Nuclear Regulatory Commission (NRC), 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

- NANO Nuclear Energy Inc.



NANO Nuclear Energy Inc.

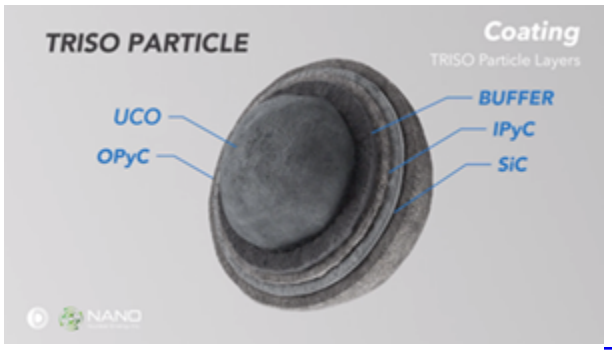


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Source: NANO Nuclear Energy Inc.