



NANO Nuclear Energy Granted U.S. Department of Energy's GAIN Voucher Award in Collaboration with Idaho National Laboratory to Support the Novel 'ZEUS' Microreactor Heat Exchanger Design

September 25, 2024

The Gateway for Accelerated Innovation in Nuclear (GAIN) Program Voucher was Awarded to Support NANO Nuclear's Innovation and Application of Advanced Nuclear Technologies

New York, N.Y., Sept. 25, 2024 (GLOBE NEWSWIRE) -- NANO Nuclear Energy Inc. (NASDAQ: NNE) ("NANO Nuclear" or "the Company"), a leading advanced nuclear energy and technology company focused on developing portable, clean energy solutions, today announced that it has been granted the U.S. Department of Energy's (DOE) Gateway for Accelerated Innovation in Nuclear (GAIN) Nuclear Energy (NE) voucher award for the independent assessment of its novel heat exchanger concept for open-air Brayton cycle in collaboration with the Idaho National Laboratory (INL). The heat exchanger concept provides a turnkey solution for NANO Nuclear's patent-pending, proprietary and portable 'ZEUS' microreactor, currently in development.

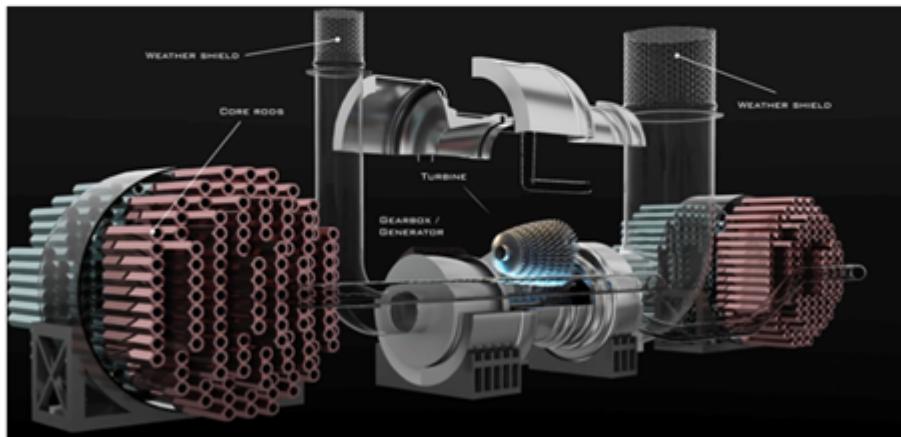


Figure 1 - NANO Nuclear Energy Inc. Awarded U.S. Department of Energy (DOE) GAIN Nuclear Energy Voucher for an Idaho National Laboratory-led Independent Assessment of its Novel, Turnkey Heat Exchanger Concept in its Advanced Portable Nuclear 'ZEUS' Microreactor (pictured rendering).

U.S. Department of Energy's GAIN Voucher Award can be found here: <https://gain.inl.gov/gain-announces-fourth-round-fy-2024-nuclear-energy-voucher-recipients/> and <https://www.energy.gov/ne/articles/4-gain-vouchers-awarded-advance-data-center-microreactor-deployment>

"It is truly an honor for us to be awarded a GAIN NE voucher to further validate and improve upon our novel heat exchanger concept," said **Prof. Massimiliano Fratoni, Ph.D., Senior Director and Head of Reactor Design of NANO Nuclear Energy**. "The heat exchanger is an enabling component of our patent-pending 'ZEUS' microreactor design, allowing us to keep the system size compact and simplifying its design to match our vision of developing portable, secure and reliable nuclear microreactors to benefit mankind. I look forward to working alongside the leading technical personnel at the Idaho National Laboratory to further refine and progress its design, and I anticipate that this partnership will be pivotal in the future deployment of our innovative microreactor solutions."

With this voucher award, NANO Nuclear will collaborate with INL to conduct an independent evaluation of the heat exchanger design for the 'ZEUS' microreactor. Designed to fit within a 45-foot high-cube container, the patent-pending 'ZEUS' microreactor features a power conversion unit capable of generating 1 to 2 MW of electricity without the use of fluid coolant.

A key aspect of this design is its ability to dissipate heat from the reactor vessel using an open-air Brayton cycle. The collaboration with INL will involve

the development of a computational model to analyze and verify critical attributes of the heat exchanger essential to reactor operations, providing a comprehensive assessment of its performance.

"The Department of Energy's GAIN program is a major driver of nuclear innovation in the United States, and we are delighted to collaborate with the Idaho National Laboratory, with whom NANO Nuclear already maintains good relations, to further strengthen this critical component for our patent-pending 'ZEUS' microreactor design," said **Jay Yu, Founder and Chairman of NANO Nuclear Energy**. "Our prior experience with INL, where they conducted a pre-conceptual review of our 'ODIN' microreactor design, was extremely valuable to us, and we are eager to take the next step in advancing our technology in collaboration with one of the world's leading nuclear research institutions."

The U.S. Department of Energy Office of Nuclear Energy (DOE-NE) launched the GAIN program in 2016 to offer technical, regulatory, and financial support to help the nuclear industry advance innovative technologies toward commercialization. Since its launch, the program has awarded over 100 NE vouchers.

GAIN NE voucher recipients do not receive direct financial awards as the vouchers provide funding to DOE laboratories (in this case INL) to help businesses overcome critical technological and commercialization challenges. These vouchers thus grant innovators like NANO Nuclear access to the extensive nuclear research expertise and capabilities across the DOE national laboratory complex.

"The GAIN voucher gives us the opportunity to develop a model to simulate a critical part of the design in a timely and efficient manner," said **James Walker, Chief Executive Officer and Head of Reactor Development of NANO Nuclear Energy**. "It enables us to work alongside the world-class personnel at Idaho National Laboratory and leverage their expertise to model the behavior of this key design choice of our novel heat exchanger concept. This model will serve us well in the future as we integrate it with other design elements to optimize the design for real world applications."

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 four business lines: (i) cutting edge portable microreactor technology, (ii) nuclear fuel fabrication, (iii) nuclear fuel transportation and (iv) 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 products in technical development are **"ZEUS", a solid core battery reactor, and "ODIN", a low-pressure coolant reactor**, 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.

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

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Cautionary Note Regarding Forward Looking Statements

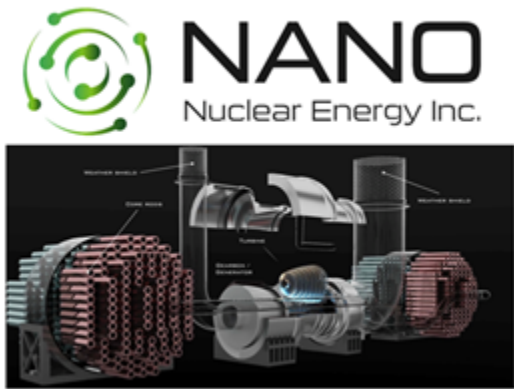
This news release and statements of NANO Nuclear's management in connection with this news release or related events contain or may contain "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. In this context, forward-looking statements mean statements (including the anticipated benefits of NANO Nuclear's collaboration with INL via the GAIN NE voucher award as described herein) 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. These 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") nuclear fuel manufacturing submission and the development of new or advanced technology, including difficulties with design and testing, cost overruns, development of competitive technology, (ii) our ability to obtain contracts and funding to be able to continue operations, (iii) risks related to uncertainty regarding our ability to technologically develop and commercially deploy a competitive advanced nuclear reactor technology, (iv) risks related to the impact of government regulation and policies including by the DoE and the U.S. Nuclear Regulatory Commission, including those associated with the recently enacted ADVANCE Act, and (v) similar risks and uncertainties associated with the business of a start-up business operating a highly regulated 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 the 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.