



NANO Nuclear Energy Files Provisional Patents to Secure its Newly Acquired Annular Linear Induction Pump Technology

July 23, 2024

The Annular Linear Induction Pump (ALIP) is a key enabling technology for NANO Nuclear's 'ODIN' microreactor in development and the broader advanced nuclear reactor industry.

New York, N.Y., July 23, 2024 (GLOBE NEWSWIRE) -- NANO Nuclear Energy Inc. (NASDAQ: NNE) ("NANO Nuclear"), a vertically integrated advanced nuclear energy and technology company developing portable clean energy solutions, today announced that it has filed a series of provisional patent applications with the United States Patent and Trademark Office (USPTO) to secure intellectual property rights for its recently acquired enabling annular linear induction pump (ALIP) technology.

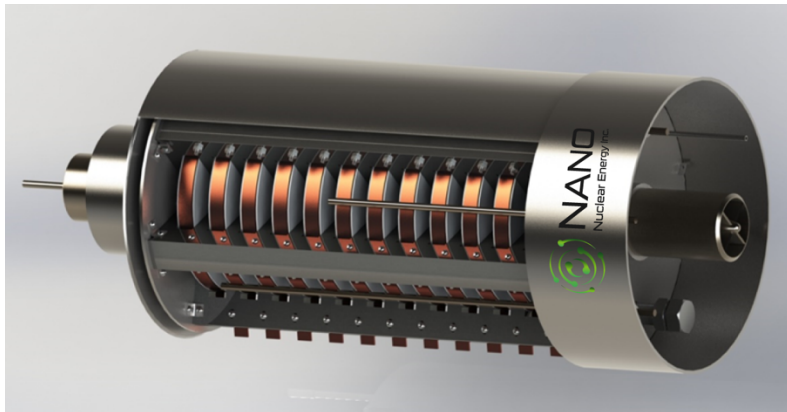


Figure 1 - The Annular Linear Induction Pump (ALIP) technology SBIR Phase III Program previously DOE funded \$1.37Million in grants to support technology is led by Renowned Physicist and Carlos O. Maidana, Ph.D.

ALIP was developed by noted physicist, research engineer and project manager Carlos O. Maidana, Ph.D., who now serves as NANO Nuclear's Principal Investigator for an SBIR Phase III program being funded by NANO Nuclear which is dedicated to advancing the development and potential commercialization of this innovative technology. Throughout prior SBR phases, the Department of Energy has cumulatively awarded over \$1.37 million in grants to date to support this technology. In June 2024, NANO Nuclear announced that it acquired the ALIP technology from Dr. Maidana.

"It is a pleasure to see my work find a home at NANO Nuclear," **said Dr. Carlos O. Maidana, CEO and Founder at Maidana Research.** "The leadership team has time and again proven their desire to innovate within the nuclear energy space and create cleaner and more sustainable energy future. I am delighted to be a part of this effort and I'm confident that the ALIP technology will play a key role in the modernization and optimization of nuclear reactors around the world."

The provisional patent applications announced today seek to secure formal intellectual property protection for the ALIP technology, which addresses challenges in high-efficiency thermal fluid management for clean energy and high-temperature industrial processes, offering numerous advantages over traditional pumps. These benefits make ALIP an enabling technology for NANO Nuclear's own 'ODIN' microreactor in development. Additionally, NANO Nuclear anticipates that, upon commercialization, the ALIP technology will have significant potential for widespread adoption within the broader nuclear reactor marketplace, particularly as a component for liquid metal and molten salt-based reactors.

"We are very pleased with the speed at which Dr. Maidana and the NANO Nuclear team have moved towards our goal of bringing this innovative technology to market," **said Jay Yu, Founder and Chairman of NANO Nuclear Energy.** "The provisional patent applications will enable us to secure and protect this important intellectual property. Furthermore, we believe these applications align with our company's ethos of maintaining transparency with both regulators and the public regarding our technology. ALIP represents a pivotal advancement for the entire nuclear industry, as well as our 'ODIN' microreactor, and we excited to take this next step on our path to commercialization."

The filing of these applications also underscores NANO Nuclear's commitment to developing advanced technologies aimed at optimizing and modernizing the nuclear energy landscape. ALIP is based on electromagnetic pumps, offering several advantages over mechanical pumps, including the absence of moving parts, low noise and vibration levels, simplicity in flow rate regulation, and ease of maintenance. These features make ALIP an efficient and logical choice for molten salt and liquid metal-cooled reactors. Its wide-ranging applications encompass the most advanced nuclear reactor designs, which utilize liquid metals and molten salts for cooling and heat transfer functions in both the fission and fusion energy industries. Additionally, ALIP holds significant potential in the advanced materials sector, space exploration, marine propulsion, and high-temperature industrial processes.

"The ALIP technology has a truly vast potential to modernize the nuclear energy industry and play a key role in the development of a fleet of advanced nuclear reactors," **said James Walker, Chief Executive Officer and Head of Reactor Development of NANO Nuclear Energy.** "The technology is applicable to many of the reactors already in operation, not to mention the reactors will which we believe must be built to meet the carbon-neutrality goals of the United States and the world. But the technology can potentially extend beyond traditional fission reactors, and the Company has already begun looking into applications within the fusion industry to move liquid metal to sweep up neutrons and transfer heat away from their reaction zones. That is why we are so optimistic about the promise of this technology, as it could enable NANO Nuclear to be the source of innovation for two industries. For our reactors and potentially other, it permits smaller, more optimized, and higher quality reactor construction, reducing costs in the long run and removing unnecessary parts and reducing costs upfront."

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

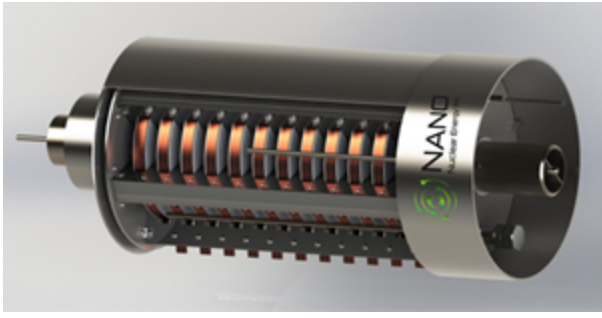
This news release and statements of NANO Nuclear's management in connection with this news release or related events contain or may contain "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. In this context, forward-looking statements mean statements related to future events (including the anticipated benefits of the provisional patents and the potential for development and commercialization of the ALIP technology, each as described herein), 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 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 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 and under the recently enacted ADVANCE Act; and 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. 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](#)



Figure 1



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Source: NANO Nuclear Energy Inc.