

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Amendment No. 1 to

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

NANO NUCLEAR ENERGY INC.

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

4911

(Primary Standard Industrial
Classification Code Number)

88-0861977

(I.R.S. Employer
Identification Number)

**10 Times Square, 30th Floor
New York, NY 10018
Telephone: (212) 634-9206**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**James Walker
Chief Executive Officer
Nano Nuclear Energy Inc.
10 Times Square, 30th Floor
New York, NY 10018
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(Name, address, including zip code, and telephone number, including area code, of agent for service)

Please send a copy of all communications to:

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Approximate date of commencement proposed sale to the public: from time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus for the purpose of implementing a “shelf” registration process, which covers the offering, issuance and sale by us of up to \$620,000,000 of our common stock (including the \$400,000,000 “at-the-market” offering program as described below), preferred stock, purchase contracts, warrants, subscriptions rights, depositary shares, debt securities and/or units from time to time in one or more offerings; and
- a sales agreement prospectus for the purpose of implementing a \$400,000,000 “at-the-market” offering program under the shelf registration statement pursuant to a sales agreement with TD Securities (USA) LLC (“TD Cowen”), UBS Securities LLC and Piper Sandler & Co. (each a “Sales Agent” and together, the “Sales Agents”).

The base prospectus immediately follows after this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be set forth in one or more prospectus supplements to the base prospectus.

The sales agreement prospectus for the \$400,000,000 “at-the-market” offering program immediately follows after the base prospectus. The \$400,000,000 of common stock that may be offered, issued and sold by us under the sales agreement prospectus is included in the \$620,000,000 of securities that may be offered, issued and sold by us under the base prospectus. Upon termination of the sales agreement, any portion of the \$400,000,000 included in the sales agreement prospectus that is not sold pursuant to the sales agreement prospectus will be available for sale in other offerings pursuant to the base prospectus and corresponding prospectus supplements, and if no shares are sold under the sales agreement prospectus, the full \$620,000,000 of securities may be sold in other offerings pursuant to the base prospectus and any corresponding prospectus supplements.

The sales agreement prospectus includes the base prospectus, except that the sales agreement prospectus contains a different front and back cover page and sets forth additional information in the sections titled “About This Prospectus,” “The Offering,” “Risk Factors,” “Use of Proceeds,” “Dilution,” “Plan of Distribution” and “Legal Matters.”

The information contained in this preliminary prospectus is not complete and may be changed. No securities may be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities, in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION, DATED SEPTEMBER 9, 2025



\$620,000,000

**COMMON STOCK
PREFERRED STOCK
PURCHASE CONTRACTS
WARRANTS
SUBSCRIPTION RIGHTS
DEPOSITARY SHARES
DEBT SECURITIES
UNITS**

We may offer and sell from time to time, in one or more series, any one of the following securities of Nano Nuclear Energy Inc. (the “Company,” “we,” “us” or “our”), for total gross proceeds of up to \$620,000,000:

- common stock, par value \$0.0001 per share (“common stock”);
- preferred stock;
- purchase contracts;
- warrants to purchase our securities;
- subscription rights to purchase our securities;
- depositary shares;
- secured or unsecured debt securities consisting of notes, debentures or other evidences of indebtedness, which may include senior debt securities, senior subordinated debt securities or subordinated debt securities, each of which may be convertible into equity securities; or
- units comprised of, or other combinations of, the foregoing securities.

We may offer and sell these securities separately or together, in one or more series or classes and in amounts, at prices and on terms described in one or more offerings. We may offer securities through underwriting syndicates managed or co-managed by one or more underwriters or dealers, through agents, directly to purchasers or through a combination of these methods, on a continuous or delayed basis. If any underwriters, dealers or agents are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters, dealers or agents and any applicable fees, commissions, discounts or options to purchase additional shares to be provided to them will be set forth in a prospectus supplement. The prospectus supplement for each offering of securities will describe in detail the plan of distribution for that offering. The price to the public of such securities and the net proceeds we expect to receive from such a sale will also be set forth in the prospectus supplement. For general information about the distribution of securities offered, please see “Plan of Distribution” in this prospectus.

This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. Each time our securities are offered, we will provide a prospectus supplement containing more specific information about the particular offering and attach it to this prospectus. The prospectus supplements may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectuses, as well as any documents incorporated by reference, before purchasing any of the securities being offered.

This prospectus may not be used to offer or sell securities without a prospectus supplement that includes a description of the method and terms of the offering.

Our common stock is listed on the Capital Market tier of The Nasdaq Stock Market LLC (“Nasdaq”) under the symbol “NNE.” The last reported sale price of our common stock on September 8, 2025 was \$31.88 per share. Prospective purchasers of our securities are urged to obtain current information as to the market prices of our securities, where applicable.

If we decide to seek a listing of any preferred stock, purchase contracts, warrants, subscriptions rights, depositary shares, debt securities or units offered by this prospectus, the related prospectus supplement will disclose the exchange or market on which the securities will be listed, if any, or where we have applied for listing, if anywhere.

An investment in the securities offered through this prospectus is speculative and involves a high degree of risk. You should carefully consider the risk factors beginning on page 13 of this prospectus and the risk factors in our most recent Annual Report on Form 10-K, which is incorporated by reference herein, as well as the risk factors in our other recently filed quarterly and current reports incorporated by reference

herein, and in the relevant prospectus supplements. We urge you to carefully read this prospectus, the applicable prospectus supplements and any related free writing prospectuses, as well as any documents incorporated by reference in this prospectus or any prospectus amendments or supplements, before investing.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is [●], 2025.

TABLE OF CONTENTS

	Page
About This Prospectus	-ii-
Cautionary Note Regarding Forward-Looking Statements	-iii-
Industry and Market Data	-iv-
Trademarks	-iv-
Prospectus Summary	1
Risk Factors	13
Use of Proceeds	13
Description of Securities We May Offer	14
Forms of Securities	24
Plan of Distribution	26
Legal Matters	28
Experts	28
Where You Can Find More Information	28
Incorporation of Certain Information by Reference	28

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or SEC, employing a “shelf” registration process. Under this shelf registration process, we may offer and sell, either individually or in combination, in one or more offerings, any of the securities described in this prospectus, for total gross proceeds of up to \$620,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize may also add, update or change any of the information contained in this prospectus or in the documents that we have incorporated by reference in this prospectus. This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

We urge you to read carefully this prospectus, the applicable prospectus supplement and any related free writing prospectuses, as well as any documents incorporated by reference as described under the heading “Incorporation of Certain Information by Reference,” before investing in any of the securities being offered. You should rely only on the information contained in, or incorporated by reference in, this prospectus and any applicable prospectus supplement, along with the information contained in any related free writing prospectuses. We have not authorized anyone to provide you with different or additional information.

This prospectus is an offer to sell only the securities offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. The distribution of this prospectus and the offering of securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of securities and the distribution of this prospectus outside the United States.

The information appearing in this prospectus, any applicable prospectus supplement and any related free writing prospectuses is accurate only as of the date on the front of such document and any information we have incorporated by reference in this prospectus or any prospectus supplement is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates. To the extent there are inconsistencies between any prospectus supplement, this prospectus and any documents incorporated by reference, the document with the most recent date will control.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.” The representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

The information in this prospectus, any applicable prospectus supplement and any related free writing prospectuses, together with any information incorporated by reference in this prospectus and such prospectus supplement, contains “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical fact, including statements regarding our future operating results and financial position, our business strategy and plans, market growth, and our objectives for future operations, are forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

You can identify some of these forward-looking statements by words or phrases such as “may,” “will,” “could,” “would,” “expect,” “anticipate,” “aim,” “estimate,” “intend,” “plan,” “believe,” “is/are likely to,” “potential,” “project,” “target,” “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements may contain these words. Forward-looking statements are only predictions and are based largely on our current expectations and projections about future events and financial trends that we reasonably believe may affect our business, financial condition and results of operations. Although we believe that the expectations reflected in our forward-looking statements are reasonable, actual outcomes could differ materially from those projected or assumed in any of our forward-looking statements. Our future business, financial condition and results of operations, as well as any forward-looking statements, are subject to change given the inherent risks and uncertainties of market and industry conditions.

Forward-looking statements are neither predictions nor guarantees of future outcomes. Forward-looking statements present estimates and assumptions only as of the date on the cover of the document in which they are contained, and are subject to significant known and unknown risks, uncertainties and assumptions. Accordingly, you are cautioned not to place undue reliance on forward-looking statements, which speak only as of the dates on which they are made. Important factors that could cause actual outcomes to differ materially from those in the forward-looking statements include, but are not limited to, those summarized below:

- Our ability to design, develop, manufacture, demonstrate, obtain regulatory approval for and ultimately sell our proposed nuclear reactors or other products, technologies or services we are developing.
- Our ability to source or internally develop the necessary fuel supply chain to power our next generation of advanced nuclear reactors.
- Our ability to source or internally develop the required transportation capabilities to move our reactors, their fuel, and other special materials critical to the commercial deployment of our reactor systems.
- Our ability to build internally, and to externally provide, nuclear service support and consultation services for the expanding and resurgent nuclear energy industry, both domestically and internationally.
- Our ability to source, retain, and expand our technical and business staff to meet the demands of our expanding and diversifying business.
- Our ability to raise the substantial amount of additional funds that will be necessary for our business to succeed, which funds may not be available on acceptable terms or available at all.
- Assumptions relating to the size of the market for our nuclear reactors or other products, technologies or services we are developing.
- Our ability to navigate the complex and time-consuming nuclear regulatory regimes in the jurisdictions we operate, including unanticipated regulations or regulatory failures that could add barriers, time and cost to our business plans.
- Our estimates of future expenses, capital requirements, revenue potential and our needs for, or ability to obtain, additional financing.
- Our status as an early-stage pre-revenue company in a rapidly evolving and complex industry with a business model that is still being developed and is largely untested.
- Our ability to avoid a significant disruption in our information technology system, including security breaches, or our ability to implement new system and software successfully.
- Our ability to obtain and maintain intellectual property protection for our products.
- The other forward-looking statements regarding our company and its prospects included or incorporated by reference in this prospectus including, without limitation, those under “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business” as such factors may be updated from time to time in our other filings with the SEC.

The foregoing does not represent an exhaustive list of matters that may be covered by the forward-looking statements contained herein or risk factors that we are faced with. Forward-looking statements necessarily involve risks and uncertainties, and our actual results could differ materially from those anticipated in the forward-looking statements due to a number of factors, including those set forth under “Risk Factors” and elsewhere contained or incorporated by reference in this prospectus. All written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained above and throughout this prospectus. Prior to investing in our common stock, you should read this prospectus, our filings incorporated by reference herein and the documents we have filed as exhibits to this registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we currently expect.

Except as required by law, we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, after the date on which the statements are made or to reflect the occurrence of unanticipated events.

INDUSTRY AND MARKET DATA

Unless otherwise indicated, data concerning economic conditions, our industry, our markets and our competitive position are based on a variety of sources, including information from third-party industry analysts, publications, surveys and forecasts and our own estimates and research. These data involve a number of assumptions, estimates and limitations. Industry publications, surveys and forecasts and other public information generally indicate or suggest that their information has been obtained from sources believed to be reliable. None of the third-party industry data used in this prospectus were prepared on our behalf. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in “Risk Factors”. These and other factors could cause results to differ materially from those expressed in these data.

TRADEMARKS

We own or have rights to trademarks or trade names that we use in connection with the operation of our businesses, our corporate names, logos and websites. We may make references to our trademarks and service marks, and to those belonging to other entities. Solely for convenience, trademarks and trade names referred to may appear without ® or ™ or similar symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent possible under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies’ trade names, trademarks, or service marks to imply a relationship with, or an endorsement or sponsorship of us by, any other companies. All other trademarks and service marks are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights certain information appearing elsewhere or incorporated by reference in this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in the shares offered hereby and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere or incorporated by reference in this prospectus. This summary contains forward-looking statements that involve risks and uncertainties, such as statements about our plans, objectives, expectations, assumptions, or future events. These statements involve estimates, assumptions, known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from any future results, performances or achievements expressed or implied by the forward-looking statements. See “Cautionary Note Regarding Forward-Looking Statements” before you decide to invest in our common stock, you should also read the entire prospectus carefully, including “Risk Factors” beginning on page 13, “Summary of Consolidated Financial Information” beginning on page 9, and the financial statements and related notes included or incorporated by reference in this prospectus.

Unless the context indicates otherwise, as used in this prospectus, the terms “we,” “us,” “our,” “our company,” “Nano Nuclear” and “our business” refer to Nano Nuclear Energy Inc. and its consolidated subsidiaries.

Overview

We are an early-stage nuclear energy company, developing smaller, cheaper, and safer advanced clean energy solutions, utilizing proprietary reactor designs, intellectual property, and research methods, to contribute towards a sustainable future. Led by a world class scientific and management team, our business plan involves comprehensive engagement across every sector of the nuclear power and energy industry, traversing the path from sourcing raw materials through to developing cutting edge advanced nuclear microreactors. Our dedication extends further, encompassing ambitions within the commercial nuclear fuel transportation sector, the nuclear energy fuel supply chain, technology development, and nuclear consulting services.

Currently, we are in the pre-revenue stage and are principally focused on four business lines as part of our development strategy:

- **Nuclear Reactor Business.** We are developing the next generation of advanced nuclear microreactors, with our principal focus centered on our **KRONOS MMR™ Energy System**. This high technology readiness level (or TRL), high-temperature gas-cooled (or HTGR), Tristructural-Isotropic (or TRISO) fueled reactor is designed for both small- and large-scale operations, optimizing between size and output to allow for modularity and easier mass manufacturing, and efficient scalable energy generation.

Our portfolio of reactors also includes the **LOKI MMR™**, a portable nuclear reactor designed for versatility in application and deployment which is also a HTGR utilizing TRISO fuel, **ZEUS**, a portable modular solid core battery reactor, and **ODIN**, a portable modular low-pressure coolant reactor. Through the collaboration of our world-renowned nuclear scientists and engineers, the U.S. national nuclear laboratories, and government support, we believe our reactors will have the potential to impact the global energy landscape. Our goal is to commercially launch one of these products in the early 2030s.

On January 10, 2025, we closed the asset acquisition of the KRONOS MMR™ Energy System and the LOKI MMR™ from Ultra Safe Nuclear Corporation (“USNC”). These assets include certain contracts, intellectual property rights, prior demonstration projects, and pursuant to an arrangement with an affiliated entity described below, the equity interests of a Canadian entity, free and clear of any liens other than certain specified liabilities of USNC that were assumed, for a total purchase price of \$8.5 million in cash through an auction conducted pursuant to Section 363 of the U.S. Bankruptcy Code in connection with USNC’s pending Chapter 11 bankruptcy proceedings. We consider this purchase price to be advantageous for us as we believe based on publicly available information that USNC raised over \$120 million for the development of the KRONOS MMR™ Energy System and that a major data center operator had conducted due diligence on the project while it was being developed by USNC. On December 18, 2024, the United States Bankruptcy Court for the District of Delaware, the Bankruptcy Court overseeing USNC’s bankruptcy held a hearing where it approved the sale of the USNC Assets to us. The KRONOS and LOKI assets purchased from USNC included five contracts with third-party collaborators, 38 issued, pending or published patents, 16 registered, pending or published trademarks, and any other technology and intellectual property related to the acquired businesses, rights related to a demonstration project related to the KRONOS MMR™ Energy System in the United States and the business records of the acquired businesses and related confidentiality rights. We acquired these assets through two new wholly owned subsidiaries incorporated in Nevada.

The acquired assets also included certain Canadian assets (the “Canadian Assets”) relating to both the KRONOS MMR™ Energy System and certain intellectual property rights relating to the LOKI MMR™. The Canadian Assets include, among other assets: (i) three contracts with Canadian authorities, including a license application (the “Chalk River License Application”) with the Canadian Nuclear Safety Commission (“CNSC”) associated with a KRONOS MMR™ reactor demonstration project at Chalk River Laboratories located in Ontario, Canada (the “Chalk River Project”), (ii) the equity interests of a Canadian partnership that was believed to hold the Chalk River License Application (the “Canadian Partnership”) and (iii) rights related to Chalk River Project. The transfer of the Chalk River License Application required the consent of certain Canadian governmental entities, including the CNSC (the “Canadian Consents”). We established an escrow of \$250,000 deposited at the closing securing the Canadian Consents. If the Canadian Consents were not received within 90 days after the closing, we had the right to terminate the acquisition of the Canadian Assets and receive the return of \$250,000 held in escrow.

Given the very expedited timing of the USNC bankruptcy sale opportunity, and to enable our ability to continue diligence of the Canadian partnership and other Canadian Assets to ensure our company acquired the correct assets and did not assume any unknown liabilities, our disinterested directors unanimously approved the assignment of our rights to the Canadian Assets to Jay Jiang Yu, our founder, President, Secretary and Treasurer, and Chairman of the Board, and certain Canadian entities owned or controlled by Mr. Yu (the “Yu Entities”). In exchange, on January 10, 2025, the Company entered into an option agreement (“Yu Option Agreement”) with Mr. Yu and Yu Entities, pursuant to which we received an option back from Mr. Yu and the Yu Entities to acquire for nominal consideration, for a period of five years beginning with the receipt by the Yu Entities of the Canadian Assets upon receiving the Canadian Consents, any or all of the equity interests of the Yu Entities or the Canadian partnership, the other Canadian Assets or the material assets and business of the Canadian partnership. We believe this option arrangement was the most efficient and cost-effective structure for us to close the bankruptcy sale with respect to the Canadian Assets, while also preserving our ability to progress the KRONOS project in Canada and facilitate the Canadian Consents.

During 2025, we have sought Canadian Consents for the Canadian Assets (most notably, the Chalk River License Application). As part of our continuing due diligence, we learned that a USNC affiliate called Global First Power Ltd. (“GFPL”), and not the Canadian Partnership, was the holder of the Chalk River License Application. Further, we were informed by the CNSC that the Chalk River License Application could not be transferred and that only GFPL itself could complete the Chalk River License Application and obtain the license for the Chalk River Project or, alternatively, we or our subsidiaries or designees would need to file a new application with the CNSC. Accordingly, we determined that the most efficient course of action for our company to continue the Chalk River Project would be for us to acquire GFPL itself and thereby acquire the Chalk River License Application. Additionally, licensing for the Chalk River Project is subject to the CNSC’s approval, which we expect to seek after the acquisition of GFPL. As a result, on August 14, 2025, The RPWI Liquidating Trust, a Delaware liquidating trust created pursuant to USNC’s plan of liquidation in bankruptcy, GFPL, our company and our subsidiary Kronos MMR Inc. entered into a Purchase Agreement (the “GFPL Purchase Agreement”) pursuant to which Kronos MMR shall purchase all of the equity interests of GFPL and any other assets of GFPL that are specified in the GFPL Purchase Agreement (including the rights to the Chalk River License Application), free and clear of all liens, claims, encumbrances and other interests. The GFPL Purchase Agreement shall be subject to approval of the Bankruptcy Court, and a hearing related to such approval has been scheduled for September 4, 2025. On September 2, 2025, the GFPL Purchase Agreement and the transactions contemplated thereby were approved by the Bankruptcy Court, and such transactions are expected to be closed in the near future. In light of such closing, we now expect to assess: (i) if we require any further Canadian Assets, (ii) whether the Yu Option Agreement may be terminated, and (iii) what the final disposition of the above referenced escrow account will be.

The KRONOS MMR™ reactor is our lead reactor development project, and we are currently prioritizing this project over our other microreactors in development. It targets new markets beyond those targeted by our smaller microreactors, which are designed for more remote locations, such as island and remote communities, remote industry such as mining projects or oil and gas. The KRONOS MMR™ reactor will target larger population centers, industrial heat for larger industries, data and artificial intelligence centers for the tech industry. LOKI MMR™ will target multiple applications, including remote locations unsuitable for larger reactor systems, such as islands; remote industrial operations, such as mining and oil and gas projects; and extra-terrestrial applications that require consistent power.

On March 29, 2025, we executed a Sponsored Research Agreement Amendment No. 2 with The Board of Trustees of the University of Illinois (referred to for these purposes as “U of I”) that substituted our company as an assignee of the rights and obligations of USNC regarding the sponsored research relationship with The University of Illinois Urbana-Champaign (“UIUC”) for the KRONOS MMR™ project. Under the Sponsored Research Agreement and its amendments (the “UIUC Agreement”), our company, in collaboration with U of I, will construct, obtain regulatory approval for, and deploy a KRONOS MMR™ research and test reactor on the UIUC campus. The UIUC Agreement as entered into with U of I is effective January 1, 2022, and will terminate on February 28, 2027, unless terminated earlier, for convenience by either party by providing 30 days’ advance written notice, for material breach by either party that is uncured within 30 days after providing notice, or immediately upon notice, if (i) the parties cannot agree on an acceptable successor U of I principal investigator for the project (if either of the current U of I principal investigators become unable to perform), (ii) we are declared insolvent, cease (or threaten to cease) to carry on our business, or an administrator or receiver has been appointed over all or part of our assets; (iii) we fail to pay promptly research costs to U of I under a budget not to exceed approximately \$3.4 million; or (iv) either party is debarred or excluded from participating in any government program. Under the UIUC Agreement, each party owns the inventions it develops alone, and any inventions developed together are jointly owned. At our request and expense, U of I will file patent applications in the United States and foreign countries for any U of I or joint inventions. With U of I approval, we may control patent application filing, prosecution, and maintenance. We have also received a non-exclusive, non-transferable royalty-free license to practice each U of I invention for commercial purposes within the field of nuclear energy. In mid-April 2025, we launched a recruitment initiative focused on the Midwest region to support our ambitious plans to construct, demonstrate and gain regulatory approval for full-scale KRONOS MMR™ Energy System in both the United States and Canada.

In late April 2025, the U.S. Nuclear Regulatory Commission (“NRC”) 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 KRONOS MMR™ Energy System. The FQM TR is a technical document that defines the analytical framework and testing approach by which irradiation data and fuel performance information will be evaluated to demonstrate that the KRONOS MMR™ fuel meets NRC safety and reliability requirements. Approval of the FQM TR does not in itself authorize construction or operation of the KRONOS MMR™ reactor; rather, it provides regulatory acceptance of the methodology that will be used to qualify the fuel in subsequent testing and licensing steps. This milestone is significant because it reduces licensing uncertainty by establishing NRC-endorsed criteria for demonstrating that the fuel will perform as intended under both normal operating and accident conditions. Within the broader licensing pathway, approval of a topical report such as the FQM TR is considered an early and foundational step. The next stages in the regulatory process include conducting the approved fuel qualification program, completing the associated safety and environmental analyses, and submitting an application for a construction permit or operating license for the KRONOS MMR™ reactor. We plan to submit the construction application for the KRONOS MMR™ reactor in early 2026 and anticipate receiving the approval in the first half of 2027, subject to the NRC’s review process. The duration of the NRC’s review depends on the scope and content of the application, and licensing for advanced reactors may extend over several years. The NRC’s approval of the FQM TR therefore marks the beginning of the staged regulatory process that we must complete in order to obtain authorization to construct and ultimately operate KRONOS reactors.

We believe that the diversity of our products in development positions us to capitalize on growing financial investment and societal momentum driving advanced nuclear energy technologies on a global scale across multiple different areas. We will leverage our world-class technical team to analyze and optimize these technologies, key components, and intellectual property, before integrating them into its operational frameworks and ongoing innovative efforts. We also intend to build upon and strengthen the extensive industry relationships that USNC established during its operations, including those with UIUC and the Canadian Government to build prototype reactors. Once operational in the future, our plan is to be able to sell a majority of the energy produced at the UIUC KRONOS MMR™ reactor, with UIUC retaining a portion for its own use.

Our LOKI MMR™ reactor directly benefits from the advancement and development of the KRONOS MMR™ reactor, as both share similar technological features. Accordingly, the development timeline of LOKI MMR™ reactor is expected to be analogous to that of KRONOS MMR™ reactor. The commercial deployment of the LOKI MMR™ reactor is expected to depend primarily on demonstrated market demand and customer interest, which may incentivize us to invest in the construction of a prototype or demonstration reactor and to initiate the licensing process with the NRC. We expect to commercially launch the LOKI MMR™ reactor in the 2030s.

Our ZEUS and ODIN microreactors have moved from the design stages to physical test work stages, with materials testing, irradiation testing, and initial rig construction currently underway, to ensure the accuracy of our modelled reactors and to optimize the dimensions and composition of the systems. We believe there is potential for these reactors to be commercially launched in the 2030s. We have conducted and completed external design audits on both the ZEUS and ODIN reactor designs to provide external validation for our designs. The design audits for the reactors were conducted and completed by the Idaho National Laboratory (“INL”). Currently, we are actively engaged in the engineering development and design optimization of ZEUS. We are evaluating the most effective means of tailoring our technology to address specific key markets, particularly military and remote applications that require smaller power outputs, for which we believe ZEUS is suited to supply. Upon the conclusion of these evaluations, we plan to accelerate our development of ZEUS, including expanding rig test work and collaborating with identified end users to advance a demonstration reactor for licensing. ODIN is currently undergoing irradiation testing to qualify its selected coolants in support of finalizing its design. Upon completion of these tests, we expect to seek formal coolant qualification and to advance to more extensive rig testing to generate the data necessary for future licensing submissions for ODIN. We have had informal meetings with the NRC, informing them of the status of our ZEUS and ODIN microreactor designs and the estimated internal timelines for our microreactor developments, with an understanding that definite timelines will be provided once available, to allow the NRC to arrange the necessary personnel to oversee the microreactor licensing process. We increased the size of the technical teams during 2024 and 2025 to expedite the development of the reactor systems, as well as recruiting former NRC personnel to oversee our regulatory licensing processes, and to engage directly with the NRC to facilitate the commercialization planning. In January 2025, we announced that we had contracted with Thermal Engineering International (TEi), a Babcock Power Inc.® company, to advance the design and fabrication of several heat exchangers for use in our ODIN microreactor in development. In March 2025, six additional professionals, including Radwan Nassim Kheroua, Dr. Andrew Steer, James Leybourn, Simon Boddington, Luke Godfrey, and Jake Miles joined our U.K.-based nuclear science and engineering partner Cambridge AtomWorks, led by Professors Ian Farnan and Eugene Shwageraus. Cambridge AtomWorks personnel are leading the development of our ODIN microreactor. In March 2025, we announced that we had assembled the first reactor core hardware of our ZEUS microreactor for initial non-nuclear testing.

Notwithstanding the progress made with ODIN to date, given our corporate emphasis on the KRONOS MMR™ reactor as our lead project, and the fact that all of our reactor designs, except for ODIN, are high-temperature gas-cooled reactors, we are considering strategic alternatives for ODIN. These alternatives are intended to monetize our investment in the project to date and enable us to allocate more time and resources to the KRONOS MMR™ reactor and our other designs and technologies.

In addition, in August 2024, we purchased a 14,000 sq. ft., 2-story building in Oak Ridge, Tennessee for \$1.7 million to house our Nuclear Technology Headquarters. Michael Norato, Ph.D., an INL and DOE veteran, was appointed as our Director of Nuclear Facilities and Infrastructure in December 2024. Dr. Norato will oversee the construction, development and licensing of our key facilities, including our recently acquired 14,000 sq. ft. Oak Ridge, Tennessee Nuclear Technology Headquarters and future test bed reactor sites for experiments related to our ZEUS and ODIN microreactors currently in development. He will also lead the establishment of deconversion and fuel processing facilities, helping to further our goal of being a vertically integrated leader in the U.S. nuclear fuel cycle. We expect to increase the number of personnel working at the facility over the next year and expect to ultimately employ up to 30 personnel at the facility. We are also currently undertaking approximately \$800,000 of renovation work on the facility as well.

In January 2025, we entered into a lease for a facility in Westchester County, New York where we have established a purpose-built facility to assemble and demonstrate the operation and viability of several non-nuclear parts and components of our nuclear microreactors in development. In February 2025, we engaged aRobotics Company, a leading innovator in robotics fabrication, inspection, engineering and testing, to oversee the multimillion dollar build out of this facility. aRobotics has also assisted us with the fabrication of key components for

the facility. We committed approximately \$3 million to retrofit this facility. In May 2025, we announced the completion of our retrofit of our demonstration facility and the commencement of operations there. Our demonstration facility is currently supporting ongoing work on our SBIR Phase III project for our Annular Linear Induction Pump (ALIP) technology, which has been assembled onto a test loop and integrated to a controllable test setup for variable design validation at the facility. We anticipate commercializing ALIP by the end of 2025 or in 2026.

In July 2025, we announced that we will provide critical engineering and environmental services for our planned construction and deployment activities at the UIUC for our KRONOS MMR™ Energy System. As part of this initiative, we have engaged AECOM, a global infrastructure leader, under a master services agreement to support site-specific engineering, environmental analysis and regulatory planning at UIUC. The agreement lays the groundwork for site-specific engineering in preparation for deploying the first KRONOS MMR™ at UIUC, a globally recognized hub for nuclear research and innovation. Planned activities include detailed environmental reviews, regulatory pathway planning, and site drilling to obtain the geological data required for submitting a construction permit application to the NRC. We anticipate submitting our construction permit application to the NRC towards the end of 2025, or early 2026, and receiving the construction permit later in 2026. However, there can be no assurance that we will be able to meet this anticipated timeline, as the submission is subject to the completion of ongoing technical, regulatory, and operational preparations, which may be affected by factors beyond our control. Notwithstanding the foregoing, this is expected to be the first construction permit for a microreactor issued in the United States. The permit application will not incur any government fees, as the KRONOS reactor, due to its location at UIUC, qualifies for a fee exemption under applicable regulations due to its use for research purposes.

In tandem with upcoming geological characterization work at the UIUC site, we have launched a recruitment initiative focused on the Midwest region to support our plans to construct, demonstrate and gain regulatory approval for full-scale KRONOS MMR™ in both the United States and Canada. This workforce build-out will consolidate the expertise and provide the personnel necessary to complete the construction permit application and begin construction of the first KRONOS prototype on the UIUC campus shortly thereafter. To support this effort, on July 30, 2025, we announced our acquisition of a 2.75-acre land and building package in Oak Brook, Illinois to serve as a regional demonstration and office facility to support the development of the KRONOS MMR™.

Significant capital will be needed to support our facility construction, licensing, fuel qualification testing, regulatory compliance, prototype construction, and workforce expansion for the development of our microreactors. We estimate that the capital costs needed to construct prototype KRONOS MMR™ reactors at the UIUC and Canada over the next several years could be around \$300 million to \$350 million per reactor. This range reflects inherent uncertainty in building a first-of-a-kind reactor due to several factors that can impact project costs, including site specific factors, the timing and scope of project development and regulatory licensing and supply chain considerations. The range also assumes what we believe are conservative cost estimates for our initial demonstration reactors. Subsequent reactors' capital costs are expected to decline substantially due to supply chain scaling for mass production of components, factory fabrication, modular assembly, and multiple deployments.

- **Fuel Processing Business.** Through our subsidiary, HALEU Energy Fuel Inc., and in coordination with the DOE, we are seeking to develop a domestic low-enriched uranium (LEU) and high-assay low-enriched uranium (HALEU) fuel supply chain to supply fuel not only for our own reactors but also to the broader advanced nuclear reactor industry. We have tentatively identified the site where we intend to construct the facilities and have begun to build the team to design and develop these facilities. However, as of the date of this prospectus, we have not yet commercially launched our fuel processing business. We expect to launch our fuel processing business in 2026.

The launch of this business can be established through multiple avenues, which are all currently under examination by management. We may consider investing in existing pilot conversion operations, where U_3O_8 is converted into uranium hexafluoride (UF_6). This UF_6 would then undergo an enrichment process before being deconverted and fabricated into nuclear fuel. Alternatively, we may pursue licensing existing conversion technologies to build our own conversion facility. Management is also examining the future acquisition of a uranium mining operation (although we have not entered into any material definitive agreements as of the date of this prospectus), any of which would signify progress in advancing our strategy to de-risk our fuel supply chain. We are actively evaluating existing pilot conversion facilities in which we may acquire an equity interest through investment in their development, and we are currently conducting the necessary due diligence, although as of the date of this prospectus, we have not entered into any definitive agreement for such acquisition. In parallel, we are exploring the collaboration opportunities with companies that license conversion technology to assess the potential for the longer-term construction of additional fuel facilities. We are also evaluating uranium mining prospects and considering the acquisition of assets that would support our long-term vertically integrated strategy, although we have not entered into any material definitive agreements as of the date of this prospectus. We have made a \$2 million strategic investment in, and entered into a collaboration with, a laser-based uranium enrichment technology company, LIS Technologies Inc. ("LIST") (which is a related party), to support the development of their technology. Through this investment and related collaboration, we aim to assist in advancing LIST's technologies to secure a reliable low enriched uranium fuel supply for our future operations and the broader nuclear energy industry. The parties intend that LIST will provide us with enriched uranium hexafluoride (UF_6) at no cost to be fabricated and sold to customers, with LIST to receive compensation as part of a profit-sharing arrangement to be agreed upon between the companies in the future. Through collaboration with LIST, we intend to construct the supporting facilities alongside LIST's enrichment facility, including the deconversion and fuel fabrication facilities, and conversion if necessary. We also leased 7,000 square feet of space at our Nuclear Technology Center in Oak Ridge, Tennessee to LIST. Our relationship with LIST is considered a related party transaction since certain of our executive directors and officers, including Jay Jiang Yu and Dr. Tsun Yee Law, also serve as directors and officers for LIST, and James Walker and Jaisun Garcha serve as consultants to LIST. Our investment in LIST was unanimously approved by all of our disinterested independent directors.

In December 2024, we announced that LIST and our company were selected by the DOE to participate as one of six contract awardees in the DOE's Low-Enriched Uranium (LEU) Enrichment Acquisition Program ("LEU Acquisition Program"). Under the contract awarded to LIST, LIST was selected as the prime contractor, with our company as the key subcontractor bringing our technical and regulatory expertise in advanced nuclear solutions to the collaboration. LIST will oversee the development of the primary uranium enrichment processes using its novel laser technology, while our company will contribute towards development in the areas of fuel deconversion, fuel fabrication, and fuel transportation. The total overall amount appropriated under the LEU Acquisition Program across all six contract awardees is anticipated to be \$3.4 billion, to be awarded by the DOE via agreed to task orders each having a minimum value of \$2 million. We believe that participation in the \$3.4 billion LEU Acquisition Program provides technical validation and potential federal contracts to support our operations.

Additionally, both NRC and DOE approvals will be required for fuel processing and handling of enriched uranium (including HALEU). We are evaluating the potential for the relevant state authority to assume primary licensing responsibilities, rather than the NRC. Under the Atomic Energy Act of 1954, as amended (the "Atomic Energy Act"), the NRC may enter into agreements with individual states (referred to as "Agreement States") to delegate regulatory authority over certain nuclear materials and related facilities. Agreement States are authorized to

regulate activities involving source material, byproduct material, and certain special nuclear material within their jurisdiction under NRC-approved regulatory frameworks. In practice, this includes the licensing and oversight of uranium mills, conversion facilities, and other facilities handling source material. Any such state-level regulation must remain consistent with NRC requirements and is subject to ongoing NRC review to ensure compliance with federal safety and environmental standards. As of the date of this prospectus, we have not submitted any applications for approvals from the relevant regulatory authorities with respect to our proposed fuel processing business. Prior to formally commencing operations, we intend to use commercially reasonable efforts to obtain all required approvals, licenses, and permits from NRC, the Agreement States, and DOE, as appropriate, before we formally launch our fuel processing business. We cannot commence commercial fuel processing activities until all such approvals have been granted, and there can be no assurance that the timing, scope, or outcome of the approval process will not affect the launch or development of our business.

Significant capital will be needed to support our facility design, licensing, and construction for our fuel processing business. In order to achieve our long-term strategy, we expect to raise additional capital (including through our \$400 million at-the-market offering program) or secure other sources of financing, in addition to the net proceeds of approximately \$200 million from the prior financings in both 2024 and 2025, to support our fuel processing business.

- **Fuel Transportation Business.** Our transportation business will build on existing work completed at INL, Oak Ridge National Laboratory (“ORNL”) and Pacific Northwest National Laboratory (“PNNL”), the world’s premier U.S.-backed nuclear research facilities. As of the date of this prospectus, we have not yet commercially launched our fuel transportation business. We expect to launch our fuel transportation business by 2028, however, the timeline of which could be impacted by progress in acquiring assets and businesses within the nuclear transport industry to possess our company with the capabilities to internally move the materials, reactors, and fuels inherent within a reactor deployment operation, and as of the date of this prospectus, we have not entered into any definitive agreements for such acquisition.

Our fuel transportation business is still at the development stage as of the date of this prospectus. We received an exclusive license for a high capacity HALEU fuel transportation basket design in April 2024, which will form the basis of a complete transportation system. This license grants us, as the licensee, exclusive rights for the use and development of the technology. In addition, the licensor is not permitted to license the technology to any other parties within the specified scope. We believe this technology is the most advanced concept in the United States for moving HALEU in commercial quantities. We are currently conducting work to modify the design to accommodate a variety of different fuel forms, so we are positioned to move fuel for both of our reactors and to enable us to provide transportation services to any nuclear company looking to move commercial quantities of fuel. In September 2024, we signed an agreement with GNS Gesellschaft für Nuklear-Service mbH (“GNS”) to undertake a wide-ranging project to produce an optimized HALEU transportation system solution based on our exclusively licensed fuel transportation basket design. The GNS agreement encompasses a study for the transport of multiple HALEU nuclear fuel types, including uranium oxide, TRISO particles, uranium-zirconium hydride, uranium mononitride, and salt fuel for molten salt reactors, thus optimizing the quantity of material that can be transported and developing a conceptual package design that will accommodate the new basket design. We also seek to acquire assets and existing businesses within the nuclear transportation industry to possess our company with the capabilities to internally move the materials, reactors, and fuels inherent within a reactor deployment operation, although we have not entered into any definitive agreements as of the date of this prospectus. We intend to obtain NRC certification for our high-capacity HALEU transportation system to move commercial quantities of HALEU fuel around North America and internationally, complete further engineering work to modify designs for multiple fuel types, including UO₂ (uranium dioxide), UN (uranium nitride), UzrH (uranium zirconium hydride), UF (uranium-fluoride based fuels), and TRISO (tristructural isotropic particle fuel). As of the date of this prospectus, we have adapted our initially licensed intellectual property to accommodate additional fuel forms and have also begun evaluating broader transportation system development that may ultimately enable us to offer an integrated package capable of transporting multiple types of fuel for our commercial partners. If this business is developed and commercialized, we believe this product will serve as the basis for a domestic HALEU transportation company capable of providing commercial quantities of HALEU fuel. We hope to put our fuel transportation business into operation by 2028. We have also brought on two former United Parcel Service (UPS) executives, one of which works for our fuel transportation subsidiary, with the other sitting on our Executive Advisory Board, to assist in growing the transportation business around our technology.

In June 2025, we announced the signing of a memorandum of understanding with the Namibia Industrial Development Agency (NIDA) to explore collaborative opportunities focused on developing the domestic nuclear fuel supply chain infrastructure within the Republic of Namibia. This memorandum represents a shared vision between us and NIDA to add significant value to Namibia’s uranium resources, support industrial development, and create new opportunities for Namibian citizens within the global nuclear energy market. Under the memorandum, we and NIDA will work together to evaluate opportunities related to the development of infrastructure, technology transfer, education, job creation, and local workforce development in support of Namibia’s national nuclear energy development goals. NIDA will help coordinate government and stakeholder engagement, while we will lead assessments related to industrial capability, fuel logistics, and potential international nuclear fuel supply contracts for NIDA.

In July 2025, we announced that we have signed a memorandum of understanding with UrAmerica Ltd. (“UrAmerica”), a private exploration company with a package of uranium and other critical metals licenses primarily in Chubut Province, Argentina. The newly signed memorandum formalizes the discussions that we initiated with UrAmerica to explore strategic development across Argentina’s uranium-fuel supply chain. We are currently working together to evaluate specific opportunities, ranging from mining and conversion to UF₆ feedstock supply, that could aid us in securing a dependable source of material for future supply chain options. Such evaluations may lead to the signing of definitive agreements between us and UrAmerica related to particular projects. Through this memorandum, we and UrAmerica aim to build the mining and milling capacities of the uranium supply chain in Argentina with the intention to be a part of the uranium fuel cycle exports into the U.S. Under the memorandum, we will pursue (i) favorable uranium offtake agreements, (ii) potential investments in mineral production and (iii) fuel-cycle infrastructure, and (iv) future joint ventures or related collaboration. One of our goals in entering into the memorandum is to help modernize Argentina’s nuclear sector while strengthening U.S. energy security by sourcing materials for nuclear fuel from a reliable partner.

Development and NRC certification of the transportation system will require funding for engineering and regulatory licensing preparation. We plan to raise additional capital, including through our \$400 million at-the-market offering program, to acquire logistics assets or companies to internalize transport capabilities, although as of the date of this prospectus, we have not entered into any definitive agreements for such acquisitions.

- **Nuclear Consultation Services.** We also plan on providing nuclear service support and consultation services for the expanding and resurgent nuclear energy industry, both domestically and internationally. Regulatory approval is not required to provide such services. This business opportunity represents our nearest term revenue generating opportunity. As of the date of this prospectus, we have not yet formally launched our nuclear consultation business, although we have generated a small amount of revenue from providing services to Digihost as described below. Our goal is to start providing nuclear service support and consultation services for the nuclear energy industry in 2026.

As part of our domestic initiatives, following our collaboration with Digihost Technology Inc. (“Digihost”) in December 2024, we provided consulting services to Digihost from April to June 2025, despite not having formally launched our consulting service offerings. Our consulting support contributed to the planning and execution of the Digihost project and included regulatory advice, site assessment, roadmap development, and stakeholder engagement. We are currently under discussion with Digihost about providing consulting services to them in future, but as of the date of this prospectus, we have not entered into any definitive agreement with them. We are also currently evaluating strategic acquisitions or collaborations to expand our business operations and formally establish our consulting services, and have commenced several material discussions with potential targets for such acquisitions or collaborations, but as of the date of this prospectus, we have not entered into any definitive agreements for such acquisitions or collaborations. In combination with our intention to acquire existing revenue generating consultancy businesses, we are focusing on building our own internal nuclear consultation business in coordination with certain

outside academic institutions, which we anticipate would require approximately \$2 million over the next twelve months to recruit additional staff and build corresponding infrastructure to be capable of providing these services both domestically and internationally. As of the date of this prospectus, we believe we have sufficient funds to support the development of our nuclear consultation services.

Our Mission

Our mission is to become a commercially focused, diversified and vertically integrated nuclear energy company that will capture market share in the very large and growing nuclear energy sector. To implement our plans, since our founding in 2022, our management has had constant communications with key U.S. government agencies, including the DOE, the INL and ORNL, which are a part of the DOE's national nuclear laboratory system. Our company also maintains important collaborations with leading researchers from the Cambridge Nuclear Energy Centre and The University of California, Berkeley.

Our Industry and Market

We believe that the U.S. domestic nuclear energy sector is undergoing a renaissance that we believe we can capitalize on. Strong demand signals and investment support from the Tech Industry, growing demand for clean energy sources to support climate mandates, combined with DOE programs intended to build back national nuclear infrastructure, have created positive market momentum and investor sentiment, which is further driving development and market forces within the nuclear energy industry.

We strongly support objectives of the DOE and the International Atomic Energy Agency (IAEA) for the peaceful use of nuclear energy, and we intend for our technology to form part of the U.S. foreign policy to advance the peaceful use of nuclear energy, science and technology, and drive new resources to projects and activities in developing countries with the greatest need. A key part of our business plan will seek to become a nuclear technology organization that can grow the U.S. global energy market engagement and concurrently support global market opportunities.

In 2021, the White House published a statement titled “*FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies.*” On May 23, 2025, President Trump signed a series of executive orders aimed at accelerating the development and deployment of nuclear energy in the United States. These directives set forth a national objective to quadruple nuclear energy capacity by 2050 and direct federal agencies, including the DOE and the NRC, to implement policy reforms supporting the restart of shuttered plants, expedited licensing of new reactors, and expanded investment in advanced nuclear technologies such as small modular reactors (SMRs). The orders also emphasized strengthening the domestic uranium supply chain and supporting workforce development initiatives. These policy measures are expected to significantly impact the regulatory environment, capital access, and strategic direction of the nuclear energy sector.

The United States has taken numerous steps in recent years to reduce its dependence on carbon-emitting energy sources. The U.S. had previously set a goal to reach a 100% carbon pollution-free electricity system by 2035, and President Biden set a target of a 50 to 52% reduction from 2005 levels in economy-wide net greenhouse gas pollution by 2030, underlining the Biden administration’s desire for new energy solutions which are at the core of our business plans. Additionally, the “net zero world” initiative signals the U.S.’s proactive stance in working with countries to lead a global transition to net zero emissions by 2050. While it remains unclear how the Trump administration will view the net world zero initiative, it has already voiced support for the advanced reactor industry and declared its intention to support the build back of the nuclear industry in the United States.

Our Vision, Market Opportunity and Key Government Support

We believe our achievements to date and our business plans are positioning our company to be a leading participant in the U.S. nuclear energy and technology industry through simultaneously rebuilding and introducing national capabilities to drive the resurgent nuclear energy industry. We further believe that our timing and approach into the industry have been optimal, with insight into national capability deficiencies and an understanding of the difficulties faced by other commercial nuclear energy, particularly microreactor, companies. Almost all microreactor companies have advanced using funds acquired from government grants or awards. Even with private funding, they have been stifled by lack of investor interest because of the long return timelines and high risks.

Despite the early stage of our company, we believe we are competitively differentiated in many ways.

- **Non-Dependent on Government Funding.** Most small modular reactor (SMR) and microreactor companies are reliant on government grants and financing to progress their concepts. Consequently, their progress may cease once government funding is not available. Conversely, we do not rely on government funding to sustain our business operations.
- **Technical Insight.** On the technical front, we have benefited from insight into the problems which affected earlier movers within the advanced reactor space. SMR companies have raised billions of dollars for development but have been stalled by needing to qualify fuel or coolants, or acquiring the fuel necessary to advance their reactors. This led to our investigations into de-risking our own fuel supply by pursuing development and investment into the fuel supply chain and examining our own fuel processing facility, as well as opting to use more conventional fuel with greater operational history. We believe we have identified certain problems affecting the industry and we are taking early action to surmount potential roadblocks.

- **Government Contacts.** Between 2024 and 2025, individuals with high placed government service and contacts joined our company. These include (i) John G. Vonglis, the former Chief Financial Officer of the DOE, who joined as our Executive Director of Global Government Affairs, (ii) Eric R. Oesterle, a former Branch Chief for Operating Reactor Licensing at the NRC, who joined as our Head of Microreactor Regulatory Licensing, (iii) David Tiktinsky, a forty year veteran of the NRC, who joined as our Head of Nuclear Regulatory Licensing and (iv) Dr. Seth Berl, a former Deputy Chief Data Officer at the DOE, who joined our board of directors. In addition, a number of former high-ranking military and government officials with significant experience in nuclear energy sit on our Executive Advisory Board. Our recruitment efforts were complemented by bringing in experts involved in every major part of the nuclear industry, from regulation to laboratories, to technical teams. We believe we will benefit from those government contacts as our company will be afforded access to highly skilled personnel possessing advanced expertise in the energy and nuclear sectors.
- **World Class Team.** Our technical team is world class, with simple and realizable reactor concepts that do not require exotic fuels, and who are aware of all the difficulties faced by almost every other reactor company who has chosen designs which have complicated development and licensing. Our team has a deep knowledge of applicable regulatory requirements surrounding safety, transportation, and decommissioning, and our designs have incorporated all these considerations from the outset.
- **Government Initiatives.** We believe that the U.S. government is increasingly showing strong support for nuclear energy through various initiatives aimed at advancing nuclear technology, all of which further our business plans and opportunities. This support has taken various forms, including legislation, grants, project funding and loan guarantees. Aside from the support for existing nuclear capabilities, all of these initiatives have the potential directly or indirectly to benefit and support our company.

Our Competitive Strengths

We believe we have the following competitive strengths relating to our various business lines:

Nuclear Reactor Business. Unlike other nuclear reactor companies, we are seeking to become a vertically integrated company with multiple streams of revenue, a diversified business to hedge against market changes, and greater control over industries supporting microreactor development, such as nuclear fuel and transportation. Our diversified business model will make us highly differentiated from other reactor companies. We believe we have an expertise advantage over other companies developing microreactors, as we can and have recruited some of the best scientists, engineers and professionals in the world from any country or institution, without being constrained by the available personnel located within certain academic and professional institutions. The technical personnel involved in the current design of our reactors have been involved with the design and development of dozens of different reactors.

Fuel Processing Business. We believe, based on our market research, that no SMR and microreactor company is currently developing an integrated fuel supply chain to produce the fuel for their reactors. Our strategy to develop fuel for our own reactors will also position us to supply fuel to the wider nuclear industry and other reactor manufacturers, addressing anticipated significant shortfalls in fuel supply.

Fuel Transportation Business. We identified a transportation concept which investigated a high capacity HALEU fuel transportation basket design, which was developed by INL, ORNL and PNNL, and funded by the DOE. The technology was pursued by DOE to create a full HALEU transportation package, which provided the most advanced solution to address the technological challenge of moving commercial quantities of HALEU fuel around North America. The development of this concept had not been continued by the DOE due to lack of funding. On April 3, 2024, we entered into the BEA License with BEA for this nuclear fuel transportation package, and have been working with the groups capable of aiding us in the development of the concept into an NRC certified and transportation package for the transportation of HALEU materials.

Our Challenges

We are a young company seeking to develop and launch an integrated nuclear energy business. Our efforts face and will continue to face many significant challenges, as our business involves complex nuclear technology, regulatory hurdles, and rapidly shifting market dynamics. These challenges include, but are not limited to, the following:

- Obtaining the necessary permits and licenses for nuclear reactors, facilities and transportation capabilities is time-consuming and expensive. Nuclear reactors must meet stringent safety and environmental standards, and gaining regulatory approval can be a lengthy endeavor. Additionally, ensuring the safety of a microreactor throughout its lifecycle is paramount. Developing, implementing, and maintaining robust safety systems and protocols are critical challenges. Implementing robust security measures to protect against theft, sabotage, or unauthorized access is also critical for both regulatory compliance and public safety.
- Building and operating a microreactor and our other nuclear energy-related technologies is very capital-intensive. Securing the necessary significant funding and managing costs, including but not limited to operational and maintenance costs, are ongoing challenges for our business. We estimate that the capital costs needed to construct prototype KRONOS MMR™ reactors at the UIUC and Canada over the next several years could be around \$300 million to \$350 million per reactor. This range reflects inherent uncertainty in building a first-of-a-kind reactor due to several factors that can impact project costs, including site specific factors, the timing and scope of project development and regulatory licensing and supply chain considerations. The range also assumes what we believe are conservative cost estimates for our initial demonstration reactors. Subsequent reactors' capital costs are expected to decline substantially due to supply chain scaling for mass production of components, factory fabrication, modular assembly, and multiple deployments.
- The political and regulatory landscape can change, impacting the stability and viability of nuclear projects. International agreements and geopolitical factors can also affect nuclear technology, access and export.

Competition

We face significant competition within our industry. Our competitors target similar power output ranges as we do and employ a range of technologies, including both adapted conventional technologies and novel nuclear reactor designs. In addition, we face competition outside the nuclear energy sector, including fossil fuel-based power generation, renewable energy sources, long duration energy storage solutions, and other nuclear reactor technologies. However, as described above in "Competitive Strengths", we believe we are positioned better than our competition to emerge as a leading supplier of carbon-free round the clock energy generation.

Intellectual Property

We have developed or acquired important intellectual property to protect our technologies.

As of the date of this prospectus, we have seven trademark applications pending before the U.S. Patent and Trademark Office (USPTO).

As of the date of this prospectus, we have six utility patent applications pending before the USPTO, and six corresponding utility patent applications filed under the Patent Cooperation Treaty (PCT) pending before the World Intellectual Property Organization (WIPO), directed to various aspects of the ZEUS microreactor and power plant design. We also have a total of nine patent applications related to our acquired ALIP technology for small nuclear reactor cooling, which include four U.S. provisional applications, four U.S. utility applications, and one international PCT application. The U.S. utility applications are pending and awaiting examination by the USPTO, and the PCT application is awaiting national entry in about 18 months. Of the provisional applications, one remains pending and will expire in December 2025.

We also have an exclusive license for our fuel transportation technology, and intellectual property acquired from USNC, including 38 issued, pending or published patents, nine (reduced from 16 as of January 10, 2025 as we voluntarily abandoned seven) registered, pending or published trademarks, and any other technology and intellectual property related to the acquired businesses, rights related to a demonstration project related to the KRONOS MMR™ Energy System in the United States and the business records of the acquired businesses and related confidentiality rights.

Arrangements with Our Executive Officers

All of our executive officers are presently engaged by us on an independent contractor basis, except for Jay Jiang Yu, our founder, President, Secretary and Treasurer, and Chairman of the Board, with whom we have an employment agreement, and they each have management, advisory or directorship positions with other companies and may allocate their time to other businesses, which may pose certain risks in fulfilling their obligations with us. Mr. Yu has concurrently served on the board and management team of several companies and currently allocates at least 15 hours per week to his roles at other companies. Mr. Yu also concurrently serves as the chief executive officer and chairman of the board of LIST. Mr. James Walker, our Chief Executive Officer, currently allocates at least five hours per week to support Ares Strategic Mining Inc. (or Ares), a Canadian-based company listed on the Canadian Stock Exchange under (Ticker: ARS) engaged in junior natural resource mining, where he is responsible for the construction of plants, purchases of land, operations, marketing, financing, safety regulation compliance, and shareholder relations. He is also concurrently serving on the board of directors of several small-cap publicly traded companies and a consultant to LIST. Jaisun Garcha, our Chief Financial Officer, is currently, and will continue to, work full time with us, and is currently also working as a part time consultant to LIST.

Our executive officers are not employees of our company (Mr. Yu excepted), instead, they serve as independent contractors and such relationship can be terminated by either party at any time. They may pursue any other activities and engagements during their terms of agreements with us. This independent contractor structure is an important element of our business model, as it enables us to attract highly experienced professionals with specialized expertise while maintaining a flexible cost structure that aligns with our current stage of development. However, the existing external commitments and any future commitments of our officers to other companies may potentially divert some of their time and attention away from the strategic and operational needs of our company. Their divided focus could lead to delays in decision-making, hinder effective communication within our organization, give rise to potential conflicts of interest, and introduce a divergence in priorities, consequently impacting the overall efficacy of leadership. Additionally, the potential for conflicting interests arising from commitments to multiple entities may pose challenges in aligning those officers' priorities with the long-term goals and interests of our company, thereby introducing an element of uncertainty and potential disruption to our

operations. It is essential to acknowledge and address these complexities to ensure that our officers can effectively balance their responsibilities and fulfill their commitments to our company while maintaining transparency and integrity in their various roles. Failure to do so may adversely affect our business, financial condition, and results of operations.

Corporate Information

We were incorporated under the laws of the State of Nevada on February 8, 2022. Our principal executive office is located at 10 Times Square, 30th Floor, New York, NY 10018, and our telephone number is (212) 634-9206. Our website is www.nanonuclearenergy.com. Information contained on, or available through, our website does not constitute part of, and is not deemed incorporated by reference into, this prospectus, and investors should not rely on such information in deciding whether to purchase shares of our common stock.

Summary of Consolidated Financial Information

The following table sets forth certain summary financial and other data for the periods ended and at the dates indicated below. Our summary financial information for the quarter ended June 30, 2025 has been derived from our unaudited condensed consolidated financial statements for such period incorporated by reference in this prospectus. Our summary financial information for the years ended September 30, 2024 and 2023 has been derived from our audited consolidated financial statements incorporated by reference in this prospectus. The financial data set forth below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the unaudited condensed consolidated financial statements and notes thereto included in our Quarterly Report on Form 10-Q for the period ended June 30, 2025, and the 2024 Annual Report (as defined below), each of which has been filed with the SEC and is incorporated by reference into this prospectus.

Statements of Operations

	Three Months Ended		Nine Months Ended	
	June 30, 2025	June 30, 2024	June 30, 2025	June 30, 2024
Operating expenses				
General and administrative	\$ 5,324,260	\$ 2,301,307	\$ 23,516,008	\$ 4,553,512
Research and development	3,666,513	2,019,812	11,283,979	2,830,367
Change in fair value of contingent consideration	401,500	385,500	1,004,000	385,500
Loss from operations	9,392,273	4,706,619	35,803,987	7,769,379
Other income	1,797,690	38,372	3,787,321	109,559
Net loss	\$ (7,594,583)	\$ (4,668,247)	\$ (32,016,666)	\$ (7,659,820)
Net loss per share of common stock:				
Basic	\$ (0.19)	\$ (0.17)	\$ (0.87)	\$ (0.31)
Diluted	\$ (0.19)	\$ (0.17)	\$ (0.87)	\$ (0.31)
Weighted-average shares of common stock outstanding:				
Basic	38,985,143	27,730,227	36,663,325	24,919,094
Diluted	38,985,143	27,730,227	36,663,325	24,919,094
			For the Year Ended September 30, 2024	For the Year Ended September 30, 2023
Operating expenses				
General and administrative			\$ 6,850,993	\$ 4,749,395
Research and development			3,725,565	1,534,000
Change in Fair Value of contingent consideration			(66,000)	-
Loss from operations			(10,510,558)	(6,283,395)
Other income			359,002	32,994
Net loss			\$ (10,151,556)	\$ (6,250,401)
Net loss per share of common stock:				
Basic			\$ (0.39)	\$ (0.28)
Diluted			\$ (0.39)	\$ (0.28)

Statements of Changes in Mezzanine Equity and Stockholders' Equity

For the Nine Months Ended June 30, 2025

	Common Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
Balance as of September 30, 2024	30,715,663	\$ 3,072	\$ 49,038,165	\$ (17,433,781)	\$ 31,607,456
Common stock issuances	8,824,183	883	206,399,132	-	206,400,015
Offering costs	-	-	(15,076,556)	-	(15,076,556)
Exercise of warrants	1,094,477	108	15,657,079	-	15,657,187
Exercise of stock options	904,000	91	2,284,409	-	2,284,500
Equity-based compensation	-	-	17,454,842	-	17,454,842
Net loss	-	-	-	(32,016,666)	(32,016,666)
Balance as of June 30, 2025	<u>41,538,323</u>	<u>\$ 4,154</u>	<u>\$ 275,757,071</u>	<u>\$ (49,450,447)</u>	<u>\$ 226,310,778</u>

For the Nine Months Ended June 30, 2024

	Mezzanine Equity		Common		Additional	Accumulated	Total
	Shares	Amount	Shares	Amount	Paid-in Capital	Deficit	Stockholders' Equity
Balance as of September 30, 2023	2,000,000	\$ 5,000,000	23,184,869	\$ 2,319	\$ 9,288,553	\$ (7,282,225)	\$ 2,008,647
Mezzanine equity conversion	(2,000,000)	(5,000,000)	2,000,000	200	4,999,800	-	5,000,000
Offering common stock issuances	-	-	3,769,019	376	14,253,561	-	14,253,937
Offering costs	-	-	-	-	(1,538,405)	-	(1,538,405)
Acquisition common stock issuances	-	-	50,000	5	786,495	-	786,500
Equity-based compensation	-	-	-	-	152,457	-	152,457
Net loss	-	-	-	-	-	(7,659,820)	(7,659,820)
Balance as of June 30, 2024	<u>-</u>	<u>\$ -</u>	<u>29,003,888</u>	<u>\$ 2,900</u>	<u>\$27,942,461</u>	<u>\$ (14,942,045)</u>	<u>\$ 13,003,316</u>

For the Year Ended September 30, 2024

	Mezzanine Equity		Permanent Equity				Total
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	
Balance as of September 30, 2023	2,000,000	\$ 5,000,000	23,184,869	\$ 2,319	\$ 9,288,553	\$ (7,282,225)	\$ 2,008,647
Mezzanine equity conversion	(2,000,000)	(5,000,000)	2,000,000	200	4,999,800	-	5,000,000
Common stock issuances	-	-	4,804,019	481	34,953,456	-	34,953,937
Offering costs	-	-	-	-	(3,629,829)	-	(3,629,829)
R&D acquisition common stock issuances	-	-	50,000	5	786,495	-	786,500
Exercise of warrants	-	-	63,775	6	1,275,494	-	1,275,500
Exercise of stock options	-	-	593,000	59	1,043,941	-	1,044,000
Equity-based compensation	-	-	20,000	2	320,255	-	320,257
Net loss	-	-	-	-	-	(10,151,556)	(10,151,556)
Balance as of September 30, 2024	<u>-</u>	<u>\$ -</u>	<u>30,715,663</u>	<u>\$ 3,072</u>	<u>\$49,038,165</u>	<u>\$ (17,433,781)</u>	<u>\$ 31,607,456</u>

For the Year Ended September 30, 2023

	Mezzanine Equity		Permanent Equity				
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	Total
Balance as of September 30, 2022	-	\$ -	20,501,500	\$ 2,050	\$ 3,139,450	\$ (1,031,824)	\$ 2,109,676
Common stock issuances	2,000,000	5,000,000	2,598,369	260	3,765,109	-	3,765,369
Equity-based compensation	-	-	85,000	9	2,383,994	-	2,384,003
Net loss	-	-	-	-	-	(6,250,401)	(6,250,401)
Balance as of September 30, 2023	<u>2,000,000</u>	<u>\$ 5,000,000</u>	<u>23,184,869</u>	<u>\$ 2,319</u>	<u>\$ 9,288,553</u>	<u>\$ (7,282,225)</u>	<u>\$ 2,008,647</u>

Statements of Cash Flows

	For the Nine Months Ended June 30, 2025	For the Nine Months Ended June 30, 2024
OPERATING ACTIVITIES		
Net loss	\$ (32,016,666)	\$ (7,659,820)
Adjustments to reconcile net loss to net cash used in operating activities:		
Equity-based compensation	17,454,842	152,457
Amortization of right-of-use assets	214,228	53,893
Depreciation	147,853	-
R&D acquisition paid in equity	-	786,500
Changes in fair value of contingent liability	1,004,000	-
Change in assets and liabilities:		
Prepaid expenses	(586,137)	(324,331)
Deposits	(384,000)	(235,235)
Accounts receivable	(250,000)	-
Accounts payable and accrued liabilities	(164,027)	41,606
Due to related parties	16,667	(35,000)
Lease liabilities	(150,269)	44,135
Contingent liability	-	1,222,000
Net cash used in operating activities	<u>(14,713,509)</u>	<u>(5,953,795)</u>
INVESTING ACTIVITIES		
In-process research and development	(9,075,045)	-
Additions to property, plant and equipment	(3,801,474)	-
Net cash used in investing activities	<u>(12,876,519)</u>	<u>-</u>
FINANCING ACTIVITIES		
Proceeds from common stock issuances	206,400,015	14,253,937
Offering costs	(15,076,556)	(1,408,405)
Proceeds from exercise of warrants	15,657,187	-
Proceeds from exercise of stock options	2,284,500	-
Proceeds from stock subscriptions	-	-
Payment of deferred offering costs	-	(55,000)
Net cash provided by financing activities	<u>209,265,146</u>	<u>12,790,532</u>
Net increase in cash and cash equivalents	181,675,118	6,836,737
Cash and cash equivalents, beginning of period	28,507,257	6,952,795
Cash and cash equivalents, end of period	<u>\$ 210,182,375</u>	<u>\$ 13,789,532</u>
Non-cash transactions:		
Conversion from Mezzanine Equity to Stockholders' Equity	\$ -	\$ (5,000,000)
Inception of Right-of-Use Asset / Lease Liability	\$ 1,026,348	\$ 1,926,656

	For the Year Ended September 30, 2024	For the Year Ended September 30, 2023
OPERATING ACTIVITIES		
Net loss	\$ (10,151,556)	\$ (6,250,401)
Adjustments to reconcile net loss to net cash used in operating activities:		
R&D acquisition paid in equity	786,500	-
Equity-based compensation	320,257	2,384,003
Amortization of right of use asset	96,532	-
Depreciation	10,393	-
Change in assets and liabilities:		
Prepaid expenses	(628,090)	(88,409)
Deposits	(235,235)	-
Accounts payable and accrued liabilities	571,474	87,234
Due to related parties	(10,000)	-
Lease liability	5,079	-
Contingent liability	770,500	-
Net cash used in operating activities	(8,464,146)	(3,867,573)
INVESTING ACTIVITIES		
Increase in long-term investments	(2,000,000)	-
Additions to property, plant and equipment	(1,700,000)	-
Net cash provided by financing activities	(3,700,000)	-
FINANCING ACTIVITIES		
Proceeds from common stock issuances	34,953,937	8,765,369
Offering costs	(3,554,829)	(75,000)
Proceeds from exercise of warrants	1,275,500	-
Proceeds from exercise of stock options	1,044,000	-
Net cash provided by financing activities	33,718,608	8,690,369
Net increase in cash	21,554,462	4,822,796
Cash and cash equivalents, beginning of year	6,952,795	2,129,999
Cash and cash equivalents, end of year	<u>\$ 28,507,257</u>	<u>\$ 6,952,795</u>
Non-Cash Supplemental Disclosures		
Right of use assets acquired in exchange for new operating lease liabilities	\$ 1,926,178	\$ -

RISK FACTORS

Investing in our securities is speculative and involves a high degree of risk. Before deciding whether to invest in our securities, you should carefully consider the risk factors included in our 2024 Annual Report on Form 10-K, subsequent Quarterly Reports on Form 10-Q and those that may be included in the prospectus, together with any applicable prospectus supplements and any related free writing prospectuses, as well as any documents incorporated by reference in this prospectus or such prospectus supplements. You should also carefully consider other information contained or incorporated by reference in this prospectus. The risks and uncertainties described in any applicable prospectus supplements and our other filings with the SEC incorporated by reference in this prospectus and such prospectus supplements are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently consider immaterial could also adversely affect us. If any of risks we describe occur, our business, financial condition or results of operations could be materially harmed. In such case, the value of our securities could decline and you may lose some or all of your investment. Please also carefully consider the section entitled “Cautionary Note Regarding Forward-Looking Statements.”

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we intend to use the net proceeds from these sales for the advancement and development of our technologies, particularly our KRONOS MMRTM reactor, general working capital and general corporate purposes. These purposes may include, from time to time, investing in or acquiring businesses, assets, or technologies that are complementary to our business strategy. As of the date of this prospectus, we have not entered into any definitive agreements or commitments with respect to any such acquisitions.

The amounts and timing of these expenditures, as well as the specific uses thereof, are not presently determinable and will depend on numerous factors, including the market price of our securities at the time of sale, actual proceeds received, the development of our current business initiatives and our evolving business needs. Our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus for any purpose. Pending use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities or in cash or money market funds.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future. The payment of dividends, if any, in the future is within the discretion of our board of directors and will depend on our earnings, capital requirements and financial condition and other relevant facts. We currently intend to retain all future earnings, if any, to finance the development and growth of our business.

DESCRIPTION OF SECURITIES WE MAY OFFER

General

This prospectus describes the general terms of our securities. The following description is not complete and may not contain all the information you should consider before investing in our securities. For a more detailed description of these securities, you should read the applicable provisions of Nevada law and our amended articles of incorporation, referred to herein as our charter, and our amended and restated bylaws, referred to herein as our bylaws. When we offer to sell a particular series of these securities, we will describe the specific terms of the series in a supplement to this prospectus. Accordingly, for a description of the terms of any series of securities, you must refer to both the prospectus supplement relating to that series and the description of the securities described in this prospectus. To the extent the information contained in the prospectus supplement differs from this summary description, you should rely on the information in the prospectus supplement.

Our authorized capital stock consists of 300,000,000 shares, par value \$0.0001 per share, consisting of: 275,000,000 shares of common stock and 25,000,000 shares of preferred stock, all of which are currently undesignated. Our authorized but unissued shares of common stock and preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded in the future.

We, directly or through agents, dealers or underwriters designated from time to time, may offer, issue and sell, together or separately, up to \$620,000,000 in the aggregate of:

- common stock;
- preferred stock;
- purchase contracts;
- warrants to purchase our securities;
- subscription rights to purchase our securities;
- depositary shares;
- secured or unsecured debt securities consisting of notes, debentures or other evidences of indebtedness, which may include senior debt securities, senior subordinated debt securities or subordinated debt securities, each of which may be convertible into equity securities; or
- units comprised of, or other combinations of, the foregoing securities.

We may issue the debt securities exchangeable for or convertible into shares of common stock, preferred stock or other securities that may be sold by us pursuant to this prospectus, or any combination of the foregoing. The preferred stock may also be exchangeable for or convertible into shares of common stock, another series of preferred stock or other securities that may be sold by us pursuant to this prospectus, or any combination of the foregoing. When a particular series of securities is offered, a supplement to this prospectus will be delivered with this prospectus, which will set forth the terms of the offering and sale of the offered securities.

Common Stock

As of August 28, 2025, there were 41,635,673 shares of common stock issued and outstanding. In addition, there were 3,228,904 shares of common stock issuable upon exercise of outstanding warrants, 3,774,000 shares of common stock issuable upon exercise of outstanding stock options, and 350,748 shares of common stock issuable upon vesting of restricted stock units.

Our charter provides that each holder of common stock shall have the right to one (1) vote per share of common stock held of record by such holder as of the applicable record date on all matters submitted to a vote at any meeting of stockholders. The holders of outstanding shares of common stock are entitled to receive dividends out of assets or funds legally available for the payment of dividends of such times and in such amounts as our board of directors from time to time may determine. Our common stock is not entitled to pre-emptive rights and is not subject to redemption. Upon liquidation, dissolution or winding up of our company, the assets legally available for distribution to stockholders are distributable ratably among the holders of our common stock after payment of liquidation preferences, if any, on any outstanding payment of other claims of creditors. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. Our common stock is listed on Nasdaq under the trading symbol "NNE." The transfer agent and registrar for our common stock is VStock Transfer, LLC, 18 Lafayette Place, Woodmere, NY 11598.

Preferred Stock

As of August 28, 2025, we had zero shares of preferred stock designated. Pursuant to our charter, our undesignated shares of preferred stock are "blank check" preferred stock, which means that our board of directors are authorized, without further action by the stockholders, to establish one or more class or series, and fix the relative rights and preferences of our undesignated preferred stock.

In connection with any offering of undesignated preferred stock, we will fix the rights, preferences, privileges and restrictions of the preferred stock of each series in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. This description will include any or all of the following, as required:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- any contractual limitations on our ability to declare, set aside or pay any dividends;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;

- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material or special United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

If we offer shares of preferred stock under this prospectus, after receipt of payment therefor, the shares will be fully paid and non-assessable.

Nevada corporation law provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights provided for in the applicable certificate of designation.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. Preferred stock could be issued quickly with terms designed to delay or prevent a change in control of our Company or make removal of management more difficult. Additionally, the issuance of preferred stock could have the effect of decreasing the market price of our common stock.

Purchase Contracts

We may issue purchase contracts, representing contracts obligating holders to purchase from us, and us to sell to the holders, a specific or varying number of common stock, preferred stock, warrants, subscription rights, depositary shares, debt securities, or any combination of the above, at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or varying number of common stock, preferred stock, warrants, subscription rights, depositary shares, debt securities, or any combination of the above. The price of the securities and other property subject to the purchase contracts may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula set forth in the purchase contracts. The purchase contracts may be issued separately or as a part of a unit that consists of (a) a purchase contract and (b) one or more of the other securities that may be sold by us pursuant to this prospectus or any combination of the foregoing, which may secure the holders' obligations to purchase the securities under the purchase contract. The purchase contracts may require us to make periodic payments to the holders or require the holders to make periodic payments to us. These payments may be unsecured or prefunded and may be paid on a current or on a deferred basis. The purchase contracts may require holders to secure their obligations under the contracts in a manner specified in the applicable prospectus supplement.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, forms of the purchase contracts and purchase contract agreements, if any. The applicable prospectus supplement will describe the terms of any purchase contracts in respect of which this prospectus is being delivered, including, to the extent applicable, the following:

- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid or not;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts; and
- whether the purchase contracts will be issued in fully registered or global form.

Warrants

We may issue warrants to purchase our securities or other rights, including rights to receive payment in cash or securities based on the value, rate or price of one or more specified commodities, currencies, securities or indices, or any combination of the foregoing. Warrants may be issued independently or together with any other securities that may be sold by us pursuant to this prospectus or any combination of the foregoing and may be attached to, or separate from, such securities. To the extent warrants that we issue are to be publicly traded, each series of such warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, forms of the warrants and warrant agreements, if any. The prospectus supplement relating to any warrants that we may offer will contain the specific terms of the warrants and a description of the material provisions of the applicable warrant agreement, if any. These terms may include the following:

- the title of the warrants;
- the price or prices at which the warrants will be issued;
- the designation, amount and terms of the securities or other rights for which the warrants are exercisable;
- the designation and terms of the other securities, if any, with which the warrants are to be issued and the number of warrants issued with each other security;
- the aggregate number of warrants;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;
- the price or prices at which the securities or other rights purchasable upon exercise of the warrants may be purchased;
- if applicable, the date on and after which the warrants and the securities or other rights purchasable upon exercise of the warrants will be separately transferable;
- a discussion of any material U.S. federal income tax considerations applicable to the exercise of the warrants;
- the date on which the right to exercise the warrants will commence, and the date on which the right will expire;
- the maximum or minimum number of warrants that may be exercised at any time;
- information with respect to book-entry procedures, if any; and
- any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Each warrant will entitle the holder of warrants to purchase the amount of securities or other rights, at the exercise price stated or determinable in the prospectus supplement for the warrants. Warrants may be exercised at any time up to the close of business on the expiration date shown in the applicable prospectus supplement, unless otherwise specified in such prospectus supplement. After the close of business on the expiration date, if applicable, unexercised warrants will become void. Warrants may be exercised in the manner described in the applicable prospectus supplement. When the warrant holder makes the payment and properly completes and signs the warrant certificate at the corporate trust office of the warrant agent, if any, or any other office indicated in the prospectus supplement, we will, as soon as possible, forward the securities or other rights that the warrant holder has purchased. If the warrant holder exercises less than all of the warrants represented by the warrant certificate, we will issue a new warrant certificate for the remaining warrants.

Subscription Rights

We may issue rights to purchase our securities. The rights may or may not be transferable by the persons purchasing or receiving the rights. In connection with any rights offering, we may enter into a standby underwriting or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to holders of our securities, a prospectus supplement will be distributed to such holders on the record date set by us for receiving rights in the rights offering.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, forms of the subscription rights, standby underwriting agreements or other agreements, if any. The prospectus supplement relating to any rights that we offer will include specific terms relating to the offering, including, among other matters:

- The record date for determining the security holders entitled to rights;
- the aggregate number of rights issued and the aggregate amount of securities purchasable upon exercise of the rights;
- the exercise price, if any;
- the conditions to completion of the rights offering;
- the date on which the right to exercise the rights will commence and the date on which the rights will expire; and
- any applicable federal income tax considerations.

Each right would entitle the holder of the rights to purchase the principal amount of securities at the exercise price, if any, set forth in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement. After the close of business on the expiration date, all unexercised rights will become void.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment, if any, and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent, if any, or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting arrangements, as described in the applicable prospectus supplement.

Depositary Shares

General. We may offer fractional shares of preferred stock, rather than full shares of preferred stock. If we decide to offer fractional shares of preferred stock, we will issue receipts for depositary shares. Each depositary share will represent a fraction of a share of a particular series of our preferred stock, and the applicable prospectus supplement will indicate that fraction. The shares of preferred stock represented by depositary shares will be deposited under a deposit agreement between us and a depositary that is a bank or trust company that meets certain requirements and is selected by us. The depositary will be specified in the applicable prospectus supplement. Each owner of a depositary share will be entitled to all of the rights and preferences of the preferred stock represented by the depositary share. The depositary shares will be evidenced by depositary receipts issued pursuant to the deposit agreement. Depositary receipts will be distributed to those persons purchasing the fractional shares of our preferred stock in accordance with the terms of the offering. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, forms of the deposit agreements, forms of the certificates of designation of the underlying preferred stock, forms of depositary receipts and any other related agreements.

Dividends and Other Distributions. The depositary will distribute all cash dividends or other cash distributions received by it in respect of the preferred stock to the record holders of depositary shares relating to such preferred shares in proportion to the numbers of depositary shares held on the relevant record date.

In the event of a distribution other than in cash, the depositary will distribute securities or property received by it to the record holders of depositary shares in proportion to the numbers of depositary shares held on the relevant record date, unless the depositary determines that it is not feasible to make such distribution. In that case, the depositary may make the distribution by such method as it deems equitable and practicable. One such possible method is for the depositary to sell the securities or property and then distribute the net proceeds from the sale as provided in the case of a cash distribution.

Redemption of Depositary Shares. Whenever we redeem the preferred stock, the depositary will redeem a number of depositary shares representing the same number of shares of preferred stock so redeemed. If fewer than all of the depositary shares are to be redeemed, the depositary shares to be redeemed will be selected by lot, pro rata or by any other equitable method as the depositary may determine.

Voting of Underlying Shares. Upon receipt of notice of any meeting at which the holders of our preferred stock of any series are entitled to vote, the depositary will mail the information contained in the notice of the meeting to the record holders of the depositary shares relating to that series of preferred stock. Each record holder of the depositary shares on the record date will be entitled to instruct the depositary as to the exercise of the voting rights represented by the number of shares of preferred stock underlying the holder's depositary shares. The depositary will endeavor, to the extent it is practical to do so, to vote the number of whole shares of preferred stock underlying such depositary shares in accordance with such instructions. We will agree to take all action that the depositary may deem reasonably necessary in order to enable the depositary to do so. To the extent the depositary does not receive specific instructions from the holders of depositary shares relating to such preferred shares, it will abstain from voting such shares of preferred stock.

Withdrawal of Shares. Upon surrender of depositary receipts representing any number of whole shares at the depositary's office, unless the related depositary shares previously have been called for redemption, the holder of the depositary shares evidenced by the depositary receipts will be entitled to delivery of the number of whole shares of the related series of preferred stock and all money and other property, if any, underlying such depositary shares. However, once such an exchange is made, the preferred stock cannot thereafter be re-deposited in exchange for depositary shares. Holders of depositary shares will be entitled to receive whole shares of the related series of preferred stock on the basis set forth in the applicable prospectus supplement. If the depositary receipts delivered by the holder evidence a number of depositary shares representing more than the number of whole shares of preferred stock of the related series to be withdrawn, the depositary will deliver to the holder at the same time a new depositary receipt evidencing the excess number of depositary shares.

Amendment and Termination of Depositary Agreement. The form of depositary receipt evidencing the depositary shares and any provision of the applicable depositary agreement may at any time be amended by agreement between us and the depositary. We may, with the consent of the depositary, amend the depositary agreement from time to time in any manner that we desire. However, if the amendment would materially and adversely alter the rights of the existing holders of depositary shares, the amendment would need to be approved by the holders of at least a majority of the depositary shares then outstanding.

The depositary agreement may be terminated by us or the depositary if:

- all outstanding depositary shares have been redeemed; or
- there has been a final distribution in respect of the shares of preferred stock of the applicable series in connection with our liquidation, dissolution or winding up and such distribution has been made to the holders of depositary receipts.

Resignation and Removal of Depositary. The depositary may resign at any time by delivering to us notice of its election to do so. We may remove a depositary at any time. Any resignation or removal will take effect upon the appointment of a successor depositary and its acceptance of appointment.

Charges of Depositary. We will pay all transfer and other taxes and governmental charges arising solely from the existence of any depositary arrangements. We will pay all charges of each depositary in connection with the initial deposit of the preferred shares of any series, the initial issuance of the depositary shares, any redemption of such preferred shares and any withdrawals of such preferred shares by holders of depositary shares. Holders of depositary shares will be required to pay any other transfer taxes.

Notices. Each depositary will forward to the holders of the applicable depositary shares all notices, reports and communications from us which are delivered to such depositary and which we are required to furnish the holders of the preferred stock represented by such depositary shares.

Miscellaneous. The depositary agreement may contain provisions that limit our liability and the liability of the depositary to the holders of depositary shares. Both the depositary and we are also entitled to an indemnity from the holders of the depositary shares prior to bringing, or defending against, any legal proceeding. We or any depositary may rely upon written advice of counsel or accountants, or information provided by persons presenting preferred shares for deposit, holders of depositary shares or other persons believed by us to be competent and on documents believed by us or them to be genuine.

Debt Securities

As used in this prospectus, the term “debt securities” means the debentures, notes, bonds and other evidences of indebtedness that we may issue from time to time. The debt securities will be either senior debt securities, senior subordinated debt securities or subordinated debt securities. We may also issue convertible debt securities. Debt securities may be issued under an indenture, which is a contract entered into between us and a trustee to be named therein. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, the indentures or other agreements, if any. We may issue debt securities and incur indebtedness other than through the offering of debt securities pursuant to this prospectus. Convertible debt securities may not be issued under an indenture.

The debt securities may be fully and unconditionally guaranteed on a secured or unsecured senior or subordinated basis by one or more guarantors, if any. The obligations of any guarantor under its guarantee will be limited as necessary to prevent that guarantee from constituting a fraudulent conveyance under applicable law. In the event that any series of debt securities will be subordinated to other indebtedness that we have outstanding or may incur, the terms of the subordination will be set forth in the prospectus supplement relating to the subordinated debt securities.

We may issue debt securities from time to time in one or more series, in each case with the same or various maturities, at par or at a discount. Unless indicated in a prospectus supplement, we may issue additional debt securities of a particular series without the consent of the holders of the debt securities of such series outstanding at the time of the issuance. Any such additional debt securities, together with all other outstanding debt securities of that series, will constitute a single series of debt securities under the applicable indenture and will be equal in ranking.

Should an indenture relate to unsecured indebtedness, in the event of a bankruptcy or other liquidation event involving a distribution of assets to satisfy our outstanding indebtedness or an event of default under a loan agreement relating to secured indebtedness of our company or its subsidiaries, the holders of such secured indebtedness, if any, would be entitled to receive payment of principal and interest prior to payments on the unsecured indebtedness.

Each prospectus supplement will describe the terms relating to the specific series of debt securities. These terms will include some or all of the following:

- the title of debt securities and whether the debt securities are senior or subordinated;
- any limit on the aggregate principal amount of debt securities of such series;
- the percentage of the principal amount at which the debt securities of any series will be issued;
- the ability to issue additional debt securities of the same series;
- the purchase price for the debt securities and the denominations of the debt securities;
- the specific designation of the series of debt securities being offered;
- the maturity date or dates of the debt securities and the date or dates upon which the debt securities are payable and the rate or rates at which the debt securities of the series shall bear interest, if any, which may be fixed or variable, or the method by which such rate shall be determined;
- the basis for calculating interest;
- the date or dates from which any interest will accrue or the method by which such date or dates will be determined;
- the duration of any deferral period, including the period during which interest payment periods may be extended;
- whether the amount of payments of principal of (and premium, if any) or interest on the debt securities may be determined with reference to any index, formula or other method, such as one or more currencies, commodities, equity indices or other indices, and the manner of determining the amount of such payments;
- the dates on which we will pay interest on the debt securities and the regular record date for determining who is entitled to the interest payable on any interest payment date;
- the place or places where the principal of (and premium, if any) and interest on the debt securities will be payable, where any securities may be surrendered for registration of transfer, exchange or conversion, as applicable, and notices and demands may be delivered to or upon us pursuant to the applicable indenture;
- the rate or rates of amortization of the debt securities;
- any terms for the attachment to the debt securities of warrants, options or other rights to purchase or sell our securities;

- if the debt securities will be secured by any collateral and, if so, a general description of the collateral and the terms and provisions of such collateral security, pledge or other agreements;
- if we possess the option to do so, the periods within which and the prices at which we may redeem the debt securities, in whole or in part, pursuant to optional redemption provisions, and the other terms and conditions of any such provisions;
- our obligation or discretion, if any, to redeem, repay or purchase debt securities by making periodic payments to a sinking fund or through an analogous provision or at the option of holders of the debt securities, and the period or periods within which and the price or prices at which we will redeem, repay or purchase the debt securities, in whole or in part, pursuant to such obligation, and the other terms and conditions of such obligation;
- the terms and conditions, if any, regarding the option or mandatory conversion or exchange of debt securities;
- the period or periods within which, the price or prices at which and the terms and conditions upon which any debt securities of the series may be redeemed, in whole or in part at our option and, if other than by a board resolution, the manner in which any election by us to redeem the debt securities shall be evidenced;
- any restriction or condition on the transferability of the debt securities of a particular series;
- the portion, or methods of determining the portion, of the principal amount of the debt securities which we must pay upon the acceleration of the maturity of the debt securities in connection with any event of default;
- the currency or currencies in which the debt securities will be denominated and in which principal, any premium and any interest will or may be payable or a description of any units based on or relating to a currency or currencies in which the debt securities will be denominated;
- provisions, if any, granting special rights to holders of the debt securities upon the occurrence of specified events;
- any deletions from, modifications of or additions to the events of default or our covenants with respect to the applicable series of debt securities, and whether or not such events of default or covenants are consistent with those contained in the applicable indenture;
- any limitation on our ability to incur debt, redeem stock, sell our assets or other restrictions;
- the application, if any, of the terms of the applicable indenture relating to defeasance and covenant defeasance (which terms are described below) to the debt securities;
- what subordination provisions will apply to the debt securities;
- the terms, if any, upon which the holders may convert or exchange the debt securities into or for our securities or property;
- whether we are issuing the debt securities in whole or in part in global form;
- any change in the right of the trustee or the requisite holders of debt securities to declare the principal amount thereof due and payable because of an event of default;
- the depository for global or certificated debt securities, if any;

- any material federal income tax consequences applicable to the debt securities, including any debt securities denominated and made payable, as described in the prospectus supplements, in foreign currencies, or units based on or related to foreign currencies;
- any right we may have to satisfy, discharge and defease our obligations under the debt securities, or terminate or eliminate restrictive covenants or events of default in the indenture, by depositing money or U.S. government obligations with the trustee;
- the names of any trustees, depositories, authenticating or paying agents, transfer agents or registrars or other agents with respect to the debt securities;
- to whom any interest on any debt security shall be payable, if other than the person in whose name the security is registered, on the record date for such interest, the extent to which, or the manner in which, any interest payable on a temporary global debt security will be paid;
- if the principal of or any premium or interest on any debt securities is to be payable in one or more currencies or currency units other than as stated, the currency, currencies or currency units in which it shall be paid and the periods within and terms and conditions upon which such election is to be made and the amounts payable (or the manner in which such amount shall be determined);
- the portion of the principal amount of any debt securities which shall be payable upon declaration of acceleration of the maturity of the debt securities pursuant to the applicable indenture;
- if the principal amount payable at the stated maturity of any debt security of the series will not be determinable as of any one or more dates prior to the stated maturity, the amount which shall be deemed to be the principal amount of such debt securities as of any such date for any purpose, including the principal amount thereof which shall be due and payable upon any maturity other than the stated maturity or which shall be deemed to be outstanding as of any date prior to the stated maturity (or, in any such case, the manner in which such amount deemed to be the principal amount shall be determined); and
- any other specific terms of the debt securities, including any modifications to the events of default under the debt securities and any other terms which may be required by or advisable under applicable laws or regulations.

Unless otherwise specified in the applicable prospectus supplement, we do not anticipate the debt securities will be listed on any securities exchange. Holders of the debt securities may present registered debt securities for exchange or transfer in the manner described in the applicable prospectus supplement. Except as limited by the applicable indenture, we will provide these services without charge, other than any tax or other governmental charge payable in connection with the exchange or transfer.

Debt securities may bear interest at a fixed rate or a variable rate as specified in the prospectus supplement. In addition, if specified in the prospectus supplement, we may sell debt securities bearing no interest or interest at a rate that at the time of issuance is below the prevailing market rate, or at a discount below their stated principal amount. We will describe in the applicable prospectus supplement any special federal income tax considerations applicable to these discounted debt securities.

We may issue debt securities with the principal amount payable on any principal payment date, or the amount of interest payable on any interest payment date, to be determined by referring to one or more currency exchange rates, commodity prices, equity indices or other factors. Holders of such debt securities may receive a principal amount on any principal payment date, or interest payments on any interest payment date, that are greater or less than the amount of principal or interest otherwise payable on such dates, depending upon the value on such dates of applicable currency, commodity, equity index or other factors. The applicable prospectus supplement will contain information as to how we will determine the amount of principal or interest payable on any date, as well as the currencies, commodities, equity indices or other factors to which the amount payable on that date relates and certain additional tax considerations.

Units

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we may issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent, if any, may be a bank or trust company that we select. We will indicate the name and address of the unit agent, if any, in the applicable prospectus supplement relating to a particular series of units. Specific unit agreements, if any, will contain additional important terms and provisions. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report that we file with the SEC, the form of unit and the form of each unit agreement, if any, relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other material terms of the units and their constituent securities.

FORMS OF SECURITIES

Each security may be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, warrants or units represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker-dealer, bank, trust company or other representative, as we explain more fully below.

Registered Global Securities

We may issue the securities in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depositary for the registered global security, the nominees of the depositary or any successors of the depositary or those nominees.

The specific terms of the depositary arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a registered global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary, or its nominee, is the registered owner of a registered global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture, warrant agreement or unit agreement.

Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture, warrant agreement or unit agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, warrant agreement or unit agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture, warrant agreement or unit agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Payments to holders with respect to securities represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of the Company, the trustees, the warrant agents, the unit agents or any other agent of the Company, agent of the trustees, the warrant agents or unit agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium, interest or other payment or distribution to holders of that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in "street name," and will be the responsibility of those participants.

If the depository for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

PLAN OF DISTRIBUTION

We may sell the securities from time to time to or through underwriters or dealers, through agents or directly to one or more purchasers. A distribution of the securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation warrants, subscription rights or depository shares. In addition, the manner in which we may sell some or all of the securities covered by this prospectus includes, without limitation, through:

- a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block as principal in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account; or
- ordinary brokerage transactions and transactions in which a broker solicits purchasers.

A prospectus supplement or supplements with respect to each series of securities will describe the terms of the offering, including, to the extent applicable:

- the types and terms of the securities being offered;
- the name or names of the underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them, if any;
- the public offering price or purchase price of the securities or other consideration therefor, and the proceeds to be received by us from the sale;
- any delayed delivery requirements;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

The offer and sale of the securities described in this prospectus by us, the underwriters or the third parties described above may be effected from time to time in one or more transactions, including privately negotiated transactions, either:

- at a fixed price or prices, which may be changed;
- in an "at-the-market" offering within the meaning of Rule 415(a)(4) of the Securities Act of 1933, as amended, or the Securities Act;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Only underwriters named in a prospectus supplement will be underwriters of the securities offered by such prospectus supplement.

Underwriters and Agents; Direct Sales

If underwriters are used in a sale, they will acquire the offered securities for their own account and may resell the offered securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate.

Unless the prospectus supplement states otherwise, the obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities, and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, any agent will act on a best-efforts basis for the period of its appointment.

Dealers

We may sell the offered securities to dealers as principals. The dealer may then resell such securities to the public either at varying prices to be determined by the dealer or at a fixed offering price agreed to with us at the time of resale.

Institutional Purchasers

We may authorize agents, dealers or underwriters to solicit certain institutional investors to purchase offered securities on a delayed delivery basis pursuant to delayed delivery contracts providing for payment and delivery on a specified future date. The applicable prospectus supplement or other offering materials, as the case may be, will provide the details of any such arrangement, including the offering price and commissions payable for the solicitations.

We will enter into such delayed contracts only with institutional purchasers that we approve. These institutions may include commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions.

Indemnification; Other Relationships

We may provide agents, underwriters, dealers and remarketing firms with indemnification against certain civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents, underwriters, dealers and remarketing firms, and their affiliates, may engage in transactions with, or perform services for, us in the ordinary course of business. These may include commercial banking and investment banking transactions, among other services.

Market-Making; Stabilization and Other Transactions

There is currently no market for any of the offered securities, other than our common stock, which is quoted on Nasdaq. If the offered securities are traded after their initial issuance, they may trade at a discount from their initial offering price, depending upon prevailing interest rates, the market for similar securities and other factors. While it is possible that an underwriter could inform us that it intends to make a market in the offered securities, such underwriter would not be obligated to do so, and any such market-making could be discontinued at any time without notice. Therefore, no assurance can be given as to whether an active trading market will develop for the offered securities. We have no current plans for listing of any debt securities, preferred stock, warrants or subscription rights on any securities exchange or quotation system; any such listing with respect to any particular debt securities, preferred stock, warrants or subscription rights will be described in the applicable prospectus supplement or other offering materials, as the case may be.

Any underwriter may engage in over-allotment, stabilizing transactions, syndicate-covering or other short-covering transactions and penalty bids in accordance with Regulation M under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum price. Syndicate-covering or other short-covering transactions involve purchases of the securities, either through exercise of the over-allotment option or in the open market after the distribution is completed, to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of these activities at any time.

Any underwriters or agents that are qualified market makers on Nasdaq may engage in passive market making transactions in our common stock on Nasdaq in accordance with Regulation M under the Exchange Act, during the business day prior to the pricing of the offering, before the commencement of offers or sales of our common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Fees and Commissions

If 5% or more of the net proceeds of any offering of securities made under this prospectus will be received by a FINRA member participating in the offering or affiliates or associated persons of such FINRA member, the offering will be conducted in accordance with FINRA Rule 5121.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of certain of the securities offered by this prospectus is being passed upon for us by Parsons Behle & Latimer, Reno, Nevada. The validity of certain other securities offered by this prospectus is being passed upon for us by Ellenoff Grossman & Schole LLP, New York, New York. If legal matters in connection with offerings made by this prospectus are passed on by counsel for the underwriters, dealers or agents, if any, then such counsel will be named in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of Nano Nuclear Energy, Inc. and its consolidated subsidiaries, as of and for the fiscal years ended September 30, 2024 and 2023, incorporated in this prospectus by reference to our Annual Report on Form 10-K for the fiscal year ended September 30, 2024, have been so incorporated in reliance on the report of WithumSmith+Brown, PC, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 that we have filed with the SEC under the Securities Act and does not contain all the information set forth or incorporated by reference in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement, or to the exhibits to the reports or other documents incorporated by reference in this prospectus, for a copy of such contract, agreement or other document. We file annual, quarterly and periodic reports, proxy statements and other information with the SEC, using its EDGAR system. The SEC provides free public access, through its website, to items publicly filed in the EDGAR system, including our items. The address of the SEC's website is <http://www.sec.gov>.

We also maintain a website at www.nanonuclearenergy.com. You may access these materials at our website free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained in, or that can be accessed through, our website is not a part of, and is not incorporated into, this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We are "incorporating by reference" in this prospectus certain documents we have filed or will file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of the initial registration statement, as amended, and prior to effectiveness of the registration statement, and (2) after the date of this prospectus and prior to the termination of this offering, from their respective filing dates (other than any portions thereof, which under the Exchange Act, and applicable SEC rules, are not deemed "filed" under the Exchange Act). Such information will automatically update and supersede the information contained in this prospectus and the documents listed below:

1. Our Annual Report on [Form 10-K](#) for the fiscal year ended September 30, 2024, filed with the SEC on December 30, 2024 (the "2024 Annual Report");
2. Our Quarterly Reports on Form 10-Q for the quarters ended December 31, 2024, March 31, 2025 and June 30, 2025, respectively, filed with the SEC on [February 13, 2025](#), [May 15, 2025](#), and [August 14, 2025](#), respectively (the "Quarterly Reports");
3. Our Definitive Proxy Statement filed with the SEC on [February 28, 2025](#) and our Proxy Statement Supplement filed with the SEC on [March 26, 2025](#);
4. Our Current Reports on Form 8-K filed with the SEC on [October 18, 2024](#), [October 25, 2024](#), [October 30, 2024](#), [November 27, 2024](#), [December 26, 2024](#), [January 14, 2025](#), [March 12, 2025](#), [April 24, 2025](#), [May 29, 2025](#), [June 5, 2025](#), [June 10, 2025](#) and [August 20, 2025](#), respectively (excluding any information therein disclosed under Items 2.02 or 7.01 or any corresponding information furnished under Item 9.01 or included as an exhibit); and
5. The description of our shares of common stock contained in the our registration statement on [Form 8-A](#), filed with the SEC on May 6, 2024.

In addition, all documents and/or reports that we file with the SEC pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act subsequent to the date of the registration statement of which this prospectus is a part, and prior to the termination or completion of any applicable offering of securities under this prospectus or the filing of a post-effective amendment to such registration statement that indicates that all securities offered under this prospectus have been sold, or that deregisters all securities then remaining unsold, will be deemed to be incorporated herein by reference and to be a part hereof from the date of filing of such documents.

Notwithstanding the foregoing, none of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K, or any corresponding information furnished under Item 9.01 or included as an exhibit, that we may from time to time furnish to the SEC, will be incorporated by reference in, or otherwise included in, this prospectus, except as otherwise expressly set forth in the relevant document. Subject to the foregoing, all information appearing in this prospectus is qualified in its entirety by the information appearing in the documents incorporated by reference.

You may request, orally or in writing, a copy of the documents we incorporate by reference, which will be provided to you at no cost (other than exhibits, unless such exhibits are specifically incorporated by reference), by contacting our Secretary, c/o Nano Nuclear Energy Inc. at 10 Times Square, 30th Floor, New York, NY 10018. Our telephone number is (212) 634-9206.



\$620,000,000

**COMMON STOCK
PREFERRED STOCK
PURCHASE CONTRACTS
WARRANTS
SUBSCRIPTION RIGHTS
DEPOSITARY SHARES
DEBT SECURITIES
UNITS**

PRELIMINARY PROSPECTUS

[•], 2025

The information contained in this preliminary prospectus is not complete and may be changed. No securities may be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities, in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION, DATED SEPTEMBER 9, 2025



Up to \$400,000,000 of Shares of Common Stock

Nano Nuclear Energy, Inc. (the “Company,” “we,” “us” or “our”) has entered into a sales agreement (the “Agreement”) with TD Securities (USA) LLC (“TD Cowen”), UBS Securities LLC and Piper Sandler & Co. (each a “Sales Agent” and together, the “Sales Agents”), relating to the sale of shares of our common stock, par value \$0.0001 per share (our “common stock”), offered by this prospectus (including the base prospectus contained within the Registration Statement on Form S-3 of which this prospectus forms a part) (referred to herein as the “prospectus”). In accordance with the terms of the Agreement, we may offer and sell up to \$400,000,000 of shares of our common stock from time to time through or to the Sales Agents acting as agents or principals.

Our common stock is listed on the Capital Market tier of The Nasdaq Stock Market LLC (“Nasdaq”) under the symbol “NNE.” The last reported sale price of our common stock on September 8, 2025 was \$31.88 per share.

Sales of our common stock, if any, under this prospectus may be made in negotiated transactions, including block trades, or transactions that are deemed to be “at-the-market” offerings as defined in Rule 415 under the Securities Act of 1933, as amended, or the Securities Act, including sales made by means of ordinary brokers’ transactions, including directly on Nasdaq, or sales made to or through a market maker other than on an exchange, at prevailing market prices, at prices related to prevailing market prices, at negotiated prices or by any other method permitted by law. The Sales Agents are not required to sell any specific dollar amount of shares but will use commercially reasonable efforts to sell on our behalf all of the shares requested to be sold by us, consistent with their normal trading and sales practices, on mutually agreed terms between us and the Sales Agents. There is no arrangement for funds to be received in any escrow, trust or similar arrangement. The Sales Agents may also purchase shares of our common stock as principals.

The compensation to the Sales Agents for sales of common stock sold pursuant to the Agreement will be an amount up to 3% of the gross proceeds of any shares of common stock sold under the Agreement. In connection with the sale of our common stock on our behalf, the Sales Agents shall be deemed to be “underwriters” within the meaning of the Securities Act, and the compensation of the Sales Agents shall be deemed to be underwriting discounts or commissions. See “Plan of Distribution” beginning on page S-20 for additional information regarding underwriting compensation. We have also agreed to provide indemnification and contribution to the Sales Agents with respect to certain liabilities, including liabilities under the Securities Act.

An investment in the securities offered through this prospectus is speculative and involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” beginning on page S-15 of this prospectus and in the documents incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission (“SEC”) nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

TD Cowen

UBS Investment Bank

Piper Sandler

The date of this prospectus is [●], 2025.

TABLE OF CONTENTS

	Page
About This Prospectus	S-ii
Cautionary Note Regarding Forward Looking Statements	S-iii
Prospectus Summary	S-1
The Offering	S-14
Risk Factors	S-15
Use of Proceeds	S-17
Dilution	S-18
Description of Securities We Are Offering	S-19
Plan of Distribution	S-20
Legal Matters	S-21
Experts	S-21
Where You Can Find More Information	S-21
Incorporation of Certain Information by Reference	S-21

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or SEC, employing a “shelf” registration process. Under this prospectus, we may offer and sell shares of our common stock having an aggregate offering price of up to \$400,000,000 from time to time at prices and on terms to be determined by market conditions at the time of offering.

You should assume that the information contained in this prospectus and the documents incorporated by reference in this prospectus is accurate only as of the respective dates of those documents. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference in this prospectus that was filed with the SEC before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in this prospectus that was filed with the SEC after the date of this prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.” The representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We urge you to read carefully this prospectus, as well as any documents incorporated by reference as described under the heading “Incorporation of Certain Information by Reference,” before investing in any of the securities being offered. You should rely only on the information contained in, or incorporated by reference in, this prospectus. We have not, and the Sales Agents have not, authorized anyone to provide you with information that is in addition to or different from the information included or incorporated by reference in this prospectus.

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

The information in this prospectus and any related free writing prospectuses, together with any information incorporated by reference in this prospectus, contains “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical fact, including statements regarding our future operating results and financial position, our business strategy and plans, market growth, and our objectives for future operations, are forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

You can identify some of these forward-looking statements by words or phrases such as “may,” “will,” “could,” “would,” “expect,” “anticipate,” “aim,” “estimate,” “intend,” “plan,” “believe,” “is/are likely to,” “potential,” “project,” “target,” “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements may contain these words. Forward-looking statements are only predictions and are based largely on our current expectations and projections about future events and financial trends that we reasonably believe may affect our business, financial condition and results of operations. Although we believe that the expectations reflected in our forward-looking statements are reasonable, actual outcomes could differ materially from those projected or assumed in any of our forward-looking statements. Our future business, financial condition and results of operations, as well as any forward-looking statements, are subject to change given the inherent risks and uncertainties of market and industry conditions.

Forward-looking statements are neither predictions nor guarantees of future outcomes. Forward-looking statements present estimates and assumptions only as of the date on the cover of the document in which they are contained, and are subject to significant known and unknown risks, uncertainties and assumptions. Accordingly, you are cautioned not to place undue reliance on forward-looking statements, which speak only as of the dates on which they are made. Important factors that could cause actual outcomes to differ materially from those in the forward-looking statements include, but are not limited to, those summarized below:

- Our ability to design, develop, manufacture, demonstrate, obtain regulatory approval for and ultimately sell our proposed nuclear reactors or other products, technologies or services we are developing.
- Our ability to source or internally develop the necessary fuel supply chain to power our next generation of advanced nuclear reactors.
- Our ability to source or internally develop the required transportation capabilities to move our reactors, their fuel, and other special materials critical to the commercial deployment of our reactor systems.
- Our ability to build internally, and to externally provide, nuclear service support and consultation services for the expanding and resurgent nuclear energy industry, both domestically and internationally.
- Our ability to source, retain, and expand our technical and business staff to meet the demands of our expanding and diversifying business.
- Our ability to raise the substantial amount of additional funds that will be necessary for our business to succeed, which funds may not be available on acceptable terms or available at all.
- Assumptions relating to the size of the market for our nuclear reactors or other products, technologies or services we are developing.
- Our ability to navigate the complex and time-consuming nuclear regulatory regimes in the jurisdictions we operate, including unanticipated regulations or regulatory failures that could add barriers, time and cost to our business plans.
- Our estimates of future expenses, capital requirements, revenue potential and our needs for, or ability to obtain, additional financing.

- Our status as an early-stage pre-revenue company in a rapidly evolving and complex industry with a business model that is still being developed and is largely untested.
- Our ability to avoid a significant disruption in our information technology system, including security breaches, or our ability to implement new system and software successfully.
- Our ability to obtain and maintain intellectual property protection for our products.
- The other forward-looking statements regarding our company and its prospects included or incorporated by reference in this prospectus including, without limitation, those under “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business” as such factors may be updated from time to time in our other filings with the SEC.

The foregoing does not represent an exhaustive list of matters that may be covered by the forward-looking statements contained herein or risk factors that we are faced with. Forward-looking statements necessarily involve risks and uncertainties, and our actual results could differ materially from those anticipated in the forward-looking statements due to a number of factors, including those set forth under “Risk Factors” and elsewhere contained or incorporated by reference in this prospectus. All written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained above and throughout this prospectus. Prior to investing in our common stock, you should read this prospectus, our filings incorporated by reference herein and the documents we have filed as exhibits to this registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we currently expect.

Except as required by law, we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, after the date on which the statements are made or to reflect the occurrence of unanticipated events.

INDUSTRY AND MARKET DATA

Unless otherwise indicated, data concerning economic conditions, our industry, our markets and our competitive position are based on a variety of sources, including information from third-party industry analysts, publications, surveys and forecasts and our own estimates and research. These data involve a number of assumptions, estimates and limitations. Industry publications, surveys and forecasts and other public information generally indicate or suggest that their information has been obtained from sources believed to be reliable. None of the third-party industry data used in this prospectus were prepared on our behalf. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in “Risk Factors”. These and other factors could cause results to differ materially from those expressed in these data.

TRADEMARKS

We own or have rights to trademarks or trade names that we use in connection with the operation of our businesses, our corporate names, logos and websites. We may make references to our trademarks and service marks, and to those belonging to other entities. Solely for convenience, trademarks and trade names referred to may appear without ® or ™ or similar symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent possible under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies’ trade names, trademarks, or service marks to imply a relationship with, or an endorsement or sponsorship of us by, any other companies. All other trademarks and service marks are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights certain information appearing elsewhere or incorporated by reference in this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in the shares offered hereby and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere or incorporated by reference in this prospectus. This summary contains forward-looking statements that involve risks and uncertainties, such as statements about our plans, objectives, expectations, assumptions, or future events. These statements involve estimates, assumptions, known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from any future results, performances or achievements expressed or implied by the forward-looking statements. See “Cautionary Note Regarding Forward-Looking Statements” before you decide to invest in our common stock, you should also read the entire prospectus carefully, including “Risk Factors” beginning on page S-15, “Summary of Consolidated Financial Information” beginning on page S-10, and the financial statements and related notes included or incorporated by reference in this prospectus.

Unless the context indicates otherwise, as used in this prospectus, the terms “we,” “us,” “our,” “our company,” “Nano Nuclear” and “our business” refer to Nano Nuclear Energy Inc. and its consolidated subsidiaries.

Overview

We are an early-stage nuclear energy company, developing smaller, cheaper, and safer advanced clean energy solutions, utilizing proprietary reactor designs, intellectual property, and research methods, to contribute towards a sustainable future. Led by a world class scientific and management team, our business plan involves comprehensive engagement across every sector of the nuclear power and energy industry, traversing the path from sourcing raw materials through to developing cutting edge advanced nuclear microreactors. Our dedication extends further, encompassing ambitions within the commercial nuclear fuel transportation sector, the nuclear energy fuel supply chain, technology development, and nuclear consulting services.

Currently, we are in the pre-revenue stage and are principally focused on four business lines as part of our development strategy:

- **Nuclear Reactor Business.** We are developing the next generation of advanced nuclear microreactors, with our principal focus centered on our **KRONOS MMR™ Energy System**. This high technology readiness level (or TRL), high-temperature gas-cooled (or HTGR), Tristructural-Isotropic (or TRISO) fueled reactor is designed for both small- and large-scale operations, optimizing between size and output to allow for modularity and easier mass manufacturing, and efficient scalable energy generation.

Our portfolio of reactors also includes the **LOKI MMR™**, a portable nuclear reactor designed for versatility in application and deployment which is also a HTGR utilizing TRISO fuel, **ZEUS**, a portable modular solid core battery reactor, and **ODIN**, a portable modular low-pressure coolant reactor. Through the collaboration of our world-renowned nuclear scientists and engineers, the U.S. national nuclear laboratories, and government support, we believe our reactors will have the potential to impact the global energy landscape. Our goal is to commercially launch one of these products in the early 2030s.

On January 10, 2025, we closed the asset acquisition of the KRONOS MMR™ Energy System and the LOKI MMR™ from Ultra Safe Nuclear Corporation (“USNC”). These assets include certain contracts, intellectual property rights, prior demonstration projects, and pursuant to an arrangement with an affiliated entity described below, the equity interests of a Canadian entity, free and clear of any liens other than certain specified liabilities of USNC that were assumed, for a total purchase price of \$8.5 million in cash through an auction conducted pursuant to Section 363 of the U.S. Bankruptcy Code in connection with USNC’s pending Chapter 11 bankruptcy proceedings. We consider this purchase price to be advantageous for us as we believe based on publicly available information that USNC raised over \$120 million for the development of the KRONOS MMR™ Energy System and that a major data center operator had conducted due diligence on the project while it was being developed by USNC. On December 18, 2024, the United States Bankruptcy Court for the District of Delaware, the Bankruptcy Court overseeing USNC’s bankruptcy held a hearing where it approved the sale of the USNC Assets to us. The KRONOS and LOKI assets purchased from USNC included five contracts with third-party collaborators, 38 issued, pending or published patents, 16 registered, pending or published trademarks, and any other technology and intellectual property related to the acquired businesses, rights related to a demonstration project related to the KRONOS MMR™ Energy System in the United States and the business records of the acquired businesses and related confidentiality rights. We acquired these assets through two new wholly owned subsidiaries incorporated in Nevada.

The acquired assets also included certain Canadian assets (the “Canadian Assets”) relating to both the KRONOS MMR™ Energy System and certain intellectual property rights relating to the LOKI MMR™. The Canadian Assets include, among other assets: (i) three contracts with Canadian authorities, including a license application (the “Chalk River License Application”) with the Canadian Nuclear Safety Commission (“CNSC”) associated with a KRONOS MMR™ reactor demonstration project at Chalk River Laboratories located in Ontario, Canada (the “Chalk River Project”), (ii) the equity interests of a Canadian partnership that was believed to hold the Chalk River License Application (the “Canadian Partnership”) and (iii) rights related to Chalk River Project. The transfer of the Chalk River License Application required the consent of certain Canadian governmental entities, including the CNSC (the “Canadian Consents”). We established an escrow of \$250,000 deposited at the closing securing the Canadian Consents. If the Canadian Consents were not received within 90 days after the closing, we had the right to terminate the acquisition of the Canadian Assets and receive the return of \$250,000 held in escrow.

Given the very expedited timing of the USNC bankruptcy sale opportunity, and to enable our ability to continue diligence of the Canadian partnership and other Canadian Assets to ensure our company acquired the correct assets and did not assume any unknown liabilities, our disinterested directors unanimously approved the assignment of our rights to the Canadian Assets to Jay Jiang Yu, our founder, President, Secretary and Treasurer, and Chairman of the Board, and certain Canadian entities owned or controlled by Mr. Yu (the “Yu Entities”). In exchange, on January 10, 2025, the Company entered into an option agreement (“Yu Option Agreement”) with Mr. Yu and Yu Entities, pursuant to which we received an option back from Mr. Yu and the Yu Entities to acquire for nominal consideration, for a period of five years beginning with the receipt by the Yu Entities of the Canadian Assets upon receiving the Canadian Consents, any or all of the equity interests of the Yu Entities or the Canadian partnership, the other Canadian Assets or the material assets and business of the Canadian partnership. We believe this option arrangement was the most efficient and cost-effective structure for us to close the bankruptcy sale with respect to the Canadian Assets, while also preserving our ability to progress the KRONOS project in Canada and facilitate the Canadian Consents.

During 2025, we have sought Canadian Consents for the Canadian Assets (most notably, the Chalk River License Application). As part of our continuing due diligence, we learned that a USNC affiliate called Global First Power Ltd. (“GFPL”), and not the Canadian Partnership, was the holder of the Chalk River License Application. Further, we were informed by the CNSC that the Chalk River License Application could not be transferred and that only GFPL itself could complete the Chalk River License Application and obtain the license for the Chalk River Project or, alternatively, we or our subsidiaries or designees would need to file a new application with the CNSC. Accordingly, we determined that the most efficient course of action for our company to continue the Chalk River Project would be for us to acquire GFPL itself and thereby acquire the Chalk River License Application. Additionally, licensing for the Chalk River Project is subject to the CNSC’s approval, which we expect to seek after the acquisition of GFPL. As a result, on August 14, 2025, The RPWI Liquidating Trust, a Delaware liquidating trust created pursuant to USNC’s plan of liquidation in bankruptcy, GFPL, our company and our subsidiary Kronos MMR Inc. entered into a Purchase Agreement (the “GFPL Purchase Agreement”) pursuant to which Kronos MMR shall purchase all of the equity interests of GFPL and any other assets of GFPL that are specified in the GFPL Purchase Agreement (including the rights to the Chalk River License Application), free and clear of all liens, claims, encumbrances and other interests. The GFPL Purchase Agreement shall be subject to approval of the Bankruptcy Court, and a hearing related to such approval has been scheduled for September 4, 2025. On September 2, 2025, the GFPL Purchase Agreement and the transactions contemplated thereby were approved by the Bankruptcy Court, and such transactions are expected to be closed in the near future. In light of such closing, we now expect to assess: (i) if we require any further Canadian Assets, (ii) whether the Yu Option Agreement may be terminated, and (iii) what the final disposition of the above referenced escrow account will be.

The KRONOS MMR™ reactor is our lead reactor development project, and we are currently prioritizing this project over our other microreactors in development. It targets new markets beyond those targeted by our smaller microreactors, which are designed for more remote locations, such as island and remote communities, remote industry such as mining projects or oil and gas. The KRONOS MMR™ reactor will target larger population centers, industrial heat for larger industries, data and artificial intelligence centers for the tech industry. LOKI MMR™ will target multiple applications, including remote locations unsuitable for larger reactor systems, such as islands; remote industrial operations, such as mining and oil and gas projects; and extra-terrestrial applications that require consistent power.

On March 29, 2025, we executed a Sponsored Research Agreement Amendment No. 2 with The Board of Trustees of the University of Illinois (referred to for these purposes as “U of I”) that substituted our company as an assignee of the rights and obligations of USNC regarding the sponsored research relationship with The University of Illinois Urbana-Champaign (“UIUC”) for the KRONOS MMR™ project. Under the Sponsored Research Agreement and its amendments (the “UIUC Agreement”), our company, in collaboration with U of I, will construct, obtain regulatory approval for, and deploy a KRONOS MMR™ research and test reactor on the UIUC campus. The UIUC Agreement as entered into with U of I is effective January 1, 2022, and will terminate on February 28, 2027, unless terminated earlier, for convenience by either party by providing 30 days’ advance written notice, for material breach by either party that is uncured within 30 days after providing notice, or immediately upon notice, if (i) the parties cannot agree on an acceptable successor U of I principal investigator for the project (if either of the current U of I principal investigators become unable to perform), (ii) we are declared insolvent, cease (or threaten to cease) to carry on our business, or an administrator or receiver has been appointed over all or part of our assets; (iii) we fail to pay promptly research costs to U of I under a budget not to exceed approximately \$3.4 million; or (iv) either party is debarred or excluded from participating in any government program. Under the UIUC Agreement, each party owns the inventions it develops alone, and any inventions developed together are jointly owned. At our request and expense, U of I will file patent applications in the United States and foreign countries for any U of I or joint inventions. With U of I approval, we may control patent application filing, prosecution, and maintenance. We have also received a non-exclusive, non-transferable royalty-free license to practice each U of I invention for commercial purposes within the field of nuclear energy. In mid-April 2025, we launched a recruitment initiative focused on the Midwest region to support our ambitious plans to construct, demonstrate and gain regulatory approval for full-scale KRONOS MMR™ Energy System in both the United States and Canada.

In late April 2025, the U.S. Nuclear Regulatory Commission (“NRC”) 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 KRONOS MMR™ Energy System. The FQM TR is a technical document that defines the analytical framework and testing approach by which irradiation data and fuel performance information will be evaluated to demonstrate that the KRONOS MMR™ fuel meets NRC safety and reliability requirements. Approval of the FQM TR does not in itself authorize construction or operation of the KRONOS MMR™ reactor; rather, it provides regulatory acceptance of the methodology that will be used to qualify the fuel in subsequent testing and licensing steps. This milestone is significant because it reduces licensing uncertainty by establishing NRC-endorsed criteria for demonstrating that the fuel will perform as intended under both normal operating and accident conditions. Within the broader licensing pathway, approval of a topical report such as the FQM TR is considered an early and foundational step. The next stages in the regulatory process include conducting the approved fuel qualification program, completing the associated safety and environmental analyses, and submitting an application for a construction permit or operating license for the KRONOS MMR™ reactor. We plan to submit the construction application for the KRONOS MMR™ reactor in early 2026 and anticipate receiving the approval in the first half of 2027, subject to the NRC’s review process. The duration of the NRC’s review depends on the scope and content of the application, and licensing for advanced reactors may extend over several years. The NRC’s approval of the FQM TR therefore marks the beginning of the staged regulatory process that we must complete in order to obtain authorization to construct and ultimately operate KRONOS reactors.

We believe that the diversity of our products in development positions us to capitalize on growing financial investment and societal momentum driving advanced nuclear energy technologies on a global scale across multiple different areas. We will leverage our world-class technical team to analyze and optimize these technologies, key components, and intellectual property, before integrating them into its operational frameworks and ongoing innovative efforts. We also intend to build upon and strengthen the extensive industry relationships that USNC established during its operations, including those with UIUC and the Canadian Government to build prototype reactors. Once operational in the future, our plan is to be able to sell a majority of the energy produced at the UIUC KRONOS MMR™ reactor, with UIUC retaining a portion for its own use.

Our LOKI MMR™ reactor directly benefits from the advancement and development of the KRONOS MMR™ reactor, as both share similar technological features. Accordingly, the development timeline of LOKI MMR™ reactor is expected to be analogous to that of KRONOS MMR™ reactor. The commercial deployment of the LOKI MMR™ reactor is expected to depend primarily on demonstrated market demand and customer interest, which may incentivize us to invest in the construction of a prototype or demonstration reactor and to initiate the licensing process with the NRC. We expect to commercially launch the LOKI MMR™ reactor in the 2030s.

Our ZEUS and ODIN microreactors have moved from the design stages to physical test work stages, with materials testing, irradiation testing, and initial rig construction currently underway, to ensure the accuracy of our modelled reactors and to optimize the dimensions and composition of the systems. We believe there is potential for these reactors to be commercially launched in the 2030s. We have conducted and completed external design audits on both the ZEUS and ODIN reactor designs to provide external validation for our designs. The design audits for the reactors were conducted and completed by the Idaho National Laboratory (“INL”). Currently, we are actively engaged in the engineering development and design optimization of ZEUS. We are evaluating the most effective means of tailoring our technology to address specific key markets, particularly military and remote applications that require smaller power outputs, for which we believe ZEUS is suited to supply. Upon the conclusion of these evaluations, we plan to accelerate our development of ZEUS, including expanding rig test work and collaborating with identified end users to advance a demonstration reactor for licensing. ODIN is currently undergoing irradiation testing to qualify its selected coolants in support of finalizing its design. Upon completion of these tests, we expect to seek formal coolant qualification and to advance to more extensive rig testing to generate the data necessary for future licensing submissions for ODIN. We have had informal meetings with the NRC, informing them of the status of our ZEUS and ODIN microreactor designs and the estimated internal timelines for our microreactor developments, with an understanding that definite timelines will be provided once available, to allow the NRC to arrange the necessary personnel to oversee the microreactor licensing process. We increased the size of the technical teams during 2024 and 2025 to expedite the development of the reactor systems, as well as recruiting former NRC personnel to oversee our regulatory licensing processes,

and to engage directly with the NRC to facilitate the commercialization planning. In January 2025, we announced that we had contracted with Thermal Engineering International (TEi), a Babcock Power Inc.[®] company, to advance the design and fabrication of several heat exchangers for use in our ODIN microreactor in development. In March 2025, six additional professionals, including Radwan Nassim Kheroua, Dr. Andrew Steer, James Leybourn, Simon Boddington, Luke Godfrey, and Jake Miles joined our U.K.-based nuclear science and engineering partner Cambridge AtomWorks, led by Professors Ian Farnan and Eugene Shwageraus. Cambridge AtomWorks personnel are leading the development of our ODIN microreactor. In March 2025, we announced that we had assembled the first reactor core hardware of our ZEUS microreactor for initial non-nuclear testing.

Notwithstanding the progress made with ODIN to date, given our corporate emphasis on the KRONOS MMR[™] reactor as our lead project, and the fact that all of our reactor designs, except for ODIN, are high-temperature gas-cooled reactors, we are considering strategic alternatives for ODIN. These alternatives are intended to monetize our investment in the project to date and enable us to allocate more time and resources to the KRONOS MMR[™] reactor and our other designs and technologies.

In addition, in August 2024, we purchased a 14,000 sq. ft., 2-story building in Oak Ridge, Tennessee for \$1.7 million to house our Nuclear Technology Headquarters. Michael Norato, Ph.D., an INL and DOE veteran, was appointed as our Director of Nuclear Facilities and Infrastructure in December 2024. Dr. Norato will oversee the construction, development and licensing of our key facilities, including our recently acquired 14,000 sq. ft. Oak Ridge, Tennessee Nuclear Technology Headquarters and future test bed reactor sites for experiments related to our ZEUS and ODIN microreactors currently in development. He will also lead the establishment of deconversion and fuel processing facilities, helping to further our goal of being a vertically integrated leader in the U.S. nuclear fuel cycle. We expect to increase the number of personnel working at the facility over the next year and expect to ultimately employ up to 30 personnel at the facility. We are also currently undertaking approximately \$800,000 of renovation work on the facility as well.

In January 2025, we entered into a lease for a facility in Westchester County, New York where we have established a purpose-built facility to assemble and demonstrate the operation and viability of several non-nuclear parts and components of our nuclear microreactors in development. In February 2025, we engaged aRobotics Company, a leading innovator in robotics fabrication, inspection, engineering and testing, to oversee the multimillion dollar build out of this facility. aRobotics has also assisted us with the fabrication of key components for the facility. We committed approximately \$3 million to retrofit this facility. In May 2025, we announced the completion of our retrofit of our demonstration facility and the commencement of operations there. Our demonstration facility is currently supporting ongoing work on our SBIR Phase III project for our Annular Linear Induction Pump (ALIP) technology, which has been assembled onto a test loop and integrated to a controllable test setup for variable design validation at the facility. We anticipate commercializing ALIP by the end of 2025 or in 2026.

In July 2025, we announced that we will provide critical engineering and environmental services for our planned construction and deployment activities at the UIUC for our KRONOS MMR™ Energy System. As part of this initiative, we have engaged AECOM, a global infrastructure leader, under a master services agreement to support site-specific engineering, environmental analysis and regulatory planning at UIUC. The agreement lays the groundwork for site-specific engineering in preparation for deploying the first KRONOS MMR™ at UIUC, a globally recognized hub for nuclear research and innovation. Planned activities include detailed environmental reviews, regulatory pathway planning, and site drilling to obtain the geological data required for submitting a construction permit application to the NRC. We anticipate submitting our construction permit application to the NRC towards the end of 2025, or early 2026, and receiving the construction permit later in 2026. However, there can be no assurance that we will be able to meet this anticipated timeline, as the submission is subject to the completion of ongoing technical, regulatory, and operational preparations, which may be affected by factors beyond our control. Notwithstanding the foregoing, this is expected to be the first construction permit for a microreactor issued in the United States. The permit application will not incur any government fees, as the KRONOS reactor, due to its location at UIUC, qualifies for a fee exemption under applicable regulations due to its use for research purposes.

In tandem with upcoming geological characterization work at the UIUC site, we have launched a recruitment initiative focused on the Midwest region to support our plans to construct, demonstrate and gain regulatory approval for full-scale KRONOS MMR™ in both the United States and Canada. This workforce build-out will consolidate the expertise and provide the personnel necessary to complete the construction permit application and begin construction of the first KRONOS prototype on the UIUC campus shortly thereafter. To support this effort, on July 30, 2025, we announced our acquisition of a 2.75-acre land and building package in Oak Brook, Illinois to serve as a regional demonstration and office facility to support the development of the KRONOS MMR™.

Significant capital will be needed to support our facility construction, licensing, fuel qualification testing, regulatory compliance, prototype construction, and workforce expansion for the development of our microreactors. We estimate that the capital costs needed to construct prototype KRONOS MMR™ reactors at the UIUC and Canada over the next several years could be around \$300 million to \$350 million per reactor. This range reflects inherent uncertainty in building a first-of-a-kind reactor due to several factors that can impact project costs, including site specific factors, the timing and scope of project development and regulatory licensing and supply chain considerations. The range also assumes what we believe are conservative cost estimates for our initial demonstration reactors. Subsequent reactors' capital costs are expected to decline substantially due to supply chain scaling for mass production of components, factory fabrication, modular assembly, and multiple deployments.

- **Fuel Processing Business.** Through our subsidiary, HALEU Energy Fuel Inc., and in coordination with the DOE, we are seeking to develop a domestic low-enriched uranium (LEU) and high-assay low-enriched uranium (HALEU) fuel supply chain to supply fuel not only for our own reactors but also to the broader advanced nuclear reactor industry. We have tentatively identified the site where we intend to construct the facilities and have begun to build the team to design and develop these facilities. However, as of the date of this prospectus, we have not yet commercially launched our fuel processing business. We expect to launch our fuel processing business in 2026.

The launch of this business can be established through multiple avenues, which are all currently under examination by management. We may consider investing in existing pilot conversion operations, where U_3O_8 is converted into uranium hexafluoride (UF_6). This UF_6 would then undergo an enrichment process before being deconverted and fabricated into nuclear fuel. Alternatively, we may pursue licensing existing conversion technologies to build our own conversion facility. Management is also examining the future acquisition of a uranium mining operation (although we have not entered into any material definitive agreements as of the date of this prospectus), any of which would signify progress in advancing our strategy to de-risk our fuel supply chain. We are actively evaluating existing pilot conversion facilities in which we may acquire an equity interest through investment in their development, and we are currently conducting the necessary due diligence, although as of the date of this prospectus, we have not entered into any definitive agreement for such acquisition. In parallel, we are exploring the collaboration opportunities with companies that license conversion technology to assess the potential for the longer-term construction of additional fuel facilities. We are also evaluating uranium mining prospects and considering the acquisition of assets that would support our long-term vertically integrated strategy, although we have not entered into any material definitive agreements as of the date of this prospectus. We have made a \$2 million strategic investment in, and entered into a collaboration with, a laser-based uranium enrichment technology company, LIS Technologies Inc. ("LIST") (which is a related party), to support the development of their technology. Through this investment and related collaboration, we aim to assist in advancing LIST's technologies to secure a reliable low enriched uranium fuel supply for our future operations and the broader nuclear energy industry. The parties intend that LIST will provide us with enriched uranium hexafluoride (UF_6) at no cost to be fabricated and sold to customers, with LIST to receive compensation as part of a profit-sharing arrangement to be agreed upon between the companies in the future. Through collaboration with LIST, we intend to construct the supporting facilities alongside LIST's enrichment facility, including the deconversion and fuel fabrication facilities, and conversion if necessary. We also leased 7,000 square feet of space at our Nuclear Technology Center in Oak Ridge, Tennessee to LIST. Our relationship with LIST is considered a related party

transaction since certain of our executive directors and officers, including Jay Jiang Yu and Dr. Tsun Yee Law, also serve as directors and officers for LIST, and James Walker and Jaisun Garcha serve as consultants to LIST. Our investment in LIST was unanimously approved by all of our disinterested independent directors.

In December 2024, we announced that LIST and our company were selected by the DOE to participate as one of six contract awardees in the DOE's Low-Enriched Uranium (LEU) Enrichment Acquisition Program ("LEU Acquisition Program"). Under the contract awarded to LIST, LIST was selected as the prime contractor, with our company as the key subcontractor bringing our technical and regulatory expertise in advanced nuclear solutions to the collaboration. LIST will oversee the development of the primary uranium enrichment processes using its novel laser technology, while our company will contribute towards development in the areas of fuel deconversion, fuel fabrication, and fuel transportation. The total overall amount appropriated under the LEU Acquisition Program across all six contract awardees is anticipated to be \$3.4 billion, to be awarded by the DOE via agreed to task orders each having a minimum value of \$2 million. We believe that participation in the \$3.4 billion LEU Acquisition Program provides technical validation and potential federal contracts to support our operations.

Additionally, both NRC and DOE approvals will be required for fuel processing and handling of enriched uranium (including HALEU). We are evaluating the potential for the relevant state authority to assume primary licensing responsibilities, rather than the NRC. Under the Atomic Energy Act of 1954, as amended (the "Atomic Energy Act"), the NRC may enter into agreements with individual states (referred to as "Agreement States") to delegate regulatory authority over certain nuclear materials and related facilities. Agreement States are authorized to regulate activities involving source material, byproduct material, and certain special nuclear material within their jurisdiction under NRC-approved regulatory frameworks. In practice, this includes the licensing and oversight of uranium mills, conversion facilities, and other facilities handling source material. Any such state-level regulation must remain consistent with NRC requirements and is subject to ongoing NRC review to ensure compliance with federal safety and environmental standards. As of the date of this prospectus, we have not submitted any applications for approvals from the relevant regulatory authorities with respect to our proposed fuel processing business. Prior to formally commencing operations, we intend to use commercially reasonable efforts to obtain all required approvals, licenses, and permits from NRC, the Agreement States, and DOE, as appropriate, before we formally launch our fuel processing business. We cannot commence commercial fuel processing activities until all such approvals have been granted, and there can be no assurance that the timing, scope, or outcome of the approval process will not affect the launch or development of our business.

Significant capital will be needed to support our facility design, licensing, and construction for our fuel processing business. In order to achieve our long-term strategy, we expect to raise additional capital (including through our \$400 million at-the-market offering program) or secure other sources of financing, in addition to the net proceeds of approximately \$200 million from the prior financings in both 2024 and 2025, to support our fuel processing business.

- **Fuel Transportation Business.** Our transportation business will build on existing work completed at INL, Oak Ridge National Laboratory ("ORNL") and Pacific Northwest National Laboratory ("PNNL"), the world's premier U.S.-backed nuclear research facilities. As of the date of this prospectus, we have not yet commercially launched our fuel transportation business. We expect to launch our fuel transportation business by 2028, however, the timeline of which could be impacted by progress in acquiring assets and businesses within the nuclear transport industry to possess our company with the capabilities to internally move the materials, reactors, and fuels inherent within a reactor deployment operation, and as of the date of this prospectus, we have not entered into any definitive agreements for such acquisition.

Our fuel transportation business is still at the development stage as of the date of this prospectus. We received an exclusive license for a high capacity HALEU fuel transportation basket design in April 2024, which will form the basis of a complete transportation system. This license grants us, as the licensee, exclusive rights for the use and development of the technology. In addition, the licensor is not permitted to license the technology to any other parties within the specified scope. We believe this technology is the most advanced concept in the United States for moving HALEU in commercial quantities. We are currently conducting work to modify the design to accommodate a variety of different fuel forms, so we are positioned to move fuel for both of our reactors and to enable us to provide transportation services to any nuclear company looking to move commercial quantities of fuel. In September 2024, we signed an agreement with GNS Gesellschaft für Nuklear-Service mbH ("GNS") to undertake a wide-ranging project to produce an optimized HALEU transportation system solution based on our exclusively licensed fuel transportation basket design. The GNS agreement encompasses a study for the transport of multiple HALEU nuclear fuel types, including uranium oxide, TRISO particles, uranium-zirconium hydride, uranium mononitride, and salt fuel for molten salt reactors, thus optimizing the quantity of material that can be transported and developing a conceptual package design that will accommodate the new basket design. We also seek to acquire assets and existing businesses within the nuclear transportation industry to possess our company with the capabilities to internally move the materials, reactors, and fuels inherent within a reactor deployment operation, although we have not entered into any definitive agreements as of the date of this prospectus. We intend to obtain NRC certification for our high-capacity HALEU transportation system to move commercial quantities of HALEU fuel around North America and internationally, complete further engineering work to modify designs for multiple fuel types, including UO₂ (uranium dioxide), UN (uranium nitride), UzrH (uranium zirconium hydride), UF (uranium-fluoride based fuels), and TRISO (tristructural isotropic particle fuel). As of the date of this prospectus, we have adapted our initially licensed intellectual property to accommodate additional fuel forms and have also begun evaluating broader transportation system development that may ultimately enable us to offer an integrated package capable of transporting multiple types of fuel for our commercial partners. If this business is developed and commercialized, we believe this product will serve as the basis for a domestic HALEU transportation company capable of providing commercial quantities of HALEU fuel. We hope to put our fuel transportation business into operation by 2028. We have also brought on two former United Parcel Service (UPS) executives, one of which works for our fuel transportation subsidiary, with the other sitting on our Executive Advisory Board, to assist in growing the transportation business around our technology.

In June 2025, we announced the signing of a memorandum of understanding with the Namibia Industrial Development Agency (NIDA) to explore collaborative opportunities focused on developing the domestic nuclear fuel supply chain infrastructure within the Republic of Namibia. This memorandum represents a shared vision between us and NIDA to add significant value to Namibia's uranium resources, support industrial development, and create new opportunities for Namibian citizens within the global nuclear energy market. Under the memorandum, we and NIDA will work together to evaluate opportunities related to the development of infrastructure, technology transfer, education, job creation, and local workforce development in support of Namibia's national nuclear energy development goals. NIDA will help coordinate government and stakeholder engagement, while we will lead assessments related to industrial capability, fuel logistics, and potential international nuclear fuel supply contracts for NIDA.

In July 2025, we announced that we have signed a memorandum of understanding with UrAmerica Ltd. ("UrAmerica"), a private exploration company with a package of uranium and other critical metals licenses primarily in Chubut Province, Argentina. The newly signed memorandum formalizes the discussions that we initiated with UrAmerica to explore strategic development across Argentina's uranium-fuel supply chain. We are currently working together to evaluate specific opportunities, ranging from mining and conversion to UF₆ feedstock supply, that could aid us in securing a dependable source of material for future supply chain options. Such evaluations may lead to the signing of definitive agreements between us and UrAmerica related to particular projects. Through this memorandum, we and UrAmerica aim to build the mining and milling capacities of the uranium supply chain in Argentina with the intention to be a part of the uranium fuel cycle exports into the U.S. Under the memorandum, we will pursue (i) favorable uranium offtake agreements, (ii) potential investments in mineral production and (iii) fuel-cycle infrastructure, and (iv) future joint ventures or related collaboration. One of our goals in entering into the memorandum is to help modernize Argentina's nuclear sector while strengthening U.S. energy security by sourcing materials for nuclear fuel from a reliable partner.

Development and NRC certification of the transportation system will require funding for engineering and regulatory licensing preparation. We plan to raise additional capital, including through our \$400 million at-the-market offering program, to acquire logistics assets or companies to internalize transport capabilities, although as of the date of this prospectus, we have not entered into any definitive agreements for such acquisitions.

- **Nuclear Consultation Services.** We also plan on providing nuclear service support and consultation services for the expanding and resurgent nuclear energy industry, both domestically and internationally. Regulatory approval is not required to provide such services. This business opportunity represents our nearest term revenue generating opportunity. As of the date of this prospectus, we have not yet formally launched our nuclear consultation business, although we have generated a small amount of revenue from providing services to Digihost as described below. Our goal is to start providing nuclear service support and consultation services for the nuclear energy industry in 2026.

As part of our domestic initiatives, following our collaboration with Digihost Technology Inc. ("Digihost") in December 2024, we provided consulting services to Digihost from April to June 2025, despite not having formally launched our consulting service offerings. Our consulting support contributed to the planning and execution of the Digihost project and included regulatory advice, site assessment, roadmap development, and stakeholder engagement. We are currently under discussion with Digihost about providing consulting services to them in future, but as of the date of this prospectus, we have not entered into any definitive agreement with them. We are also currently evaluating strategic acquisitions or collaborations to expand our business operations and formally establish our consulting services, and have commenced several material discussions with potential targets for such acquisitions or collaborations, but as of the date of this prospectus, we have not entered into any definitive agreements for such acquisitions or collaborations. In combination with our intention to acquire existing revenue generating consultancy businesses, we are focusing on building our own internal nuclear consultation business in coordination with certain outside academic institutions, which we anticipate would require approximately \$2 million over the next twelve months to recruit additional staff and build corresponding infrastructure to be capable of providing these services both domestically and internationally. As of the date of this prospectus, we believe we have sufficient funds to support the development of our nuclear consultation services.

Our Mission

Our mission is to become a commercially focused, diversified and vertically integrated nuclear energy company that will capture market share in the very large and growing nuclear energy sector. To implement our plans, since our founding in 2022, our management has had constant communications with key U.S. government agencies, including the DOE, the INL and ORNL, which are a part of the DOE's national nuclear laboratory system. Our company also maintains important collaborations with leading researchers from the Cambridge Nuclear Energy Centre and The University of California, Berkeley.

Our Industry and Market

We believe that the U.S. domestic nuclear energy sector is undergoing a renaissance that we believe we can capitalize on. Strong demand signals and investment support from the Tech Industry, growing demand for clean energy sources to support climate mandates, combined with DOE programs intended to build back national nuclear infrastructure, have created positive market momentum and investor sentiment, which is further driving development and market forces within the nuclear energy industry.

We strongly support objectives of the DOE and the International Atomic Energy Agency (IAEA) for the peaceful use of nuclear energy, and we intend for our technology to form part of the U.S. foreign policy to advance the peaceful use of nuclear energy, science and technology, and drive new resources to projects and activities in developing countries with the greatest need. A key part of our business plan will seek to become a nuclear technology organization that can grow the U.S. global energy market engagement and concurrently support global market opportunities.

In 2021, the White House published a statement titled “*FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies.*” On May 23, 2025, President Trump signed a series of executive orders aimed at accelerating the development and deployment of nuclear energy in the United States. These directives set forth a national objective to quadruple nuclear energy capacity by 2050 and direct federal agencies, including the DOE and the NRC, to implement policy reforms supporting the restart of shuttered plants, expedited licensing of new reactors, and expanded investment in advanced nuclear technologies such as small modular reactors (SMRs). The orders also emphasized strengthening the domestic uranium supply chain and supporting workforce development initiatives. These policy measures are expected to significantly impact the regulatory environment, capital access, and strategic direction of the nuclear energy sector.

The United States has taken numerous steps in recent years to reduce its dependence on carbon-emitting energy sources. The U.S. had previously set a goal to reach a 100% carbon pollution-free electricity system by 2035, and President Biden set a target of a 50 to 52% reduction from 2005 levels in economy-wide net greenhouse gas pollution by 2030, underlining the Biden administration’s desire for new energy solutions which are at the core of our business plans. Additionally, the “net zero world” initiative signals the U.S.’s proactive stance in working with countries to lead a global transition to net zero emissions by 2050. While it remains unclear how the Trump administration will view the net world zero initiative, it has already voiced support for the advanced reactor industry and declared its intention to support the build back of the nuclear industry in the United States.

Our Vision, Market Opportunity and Key Government Support

We believe our achievements to date and our business plans are positioning our company to be a leading participant in the U.S. nuclear energy and technology industry through simultaneously rebuilding and introducing national capabilities to drive the resurgent nuclear energy industry. We further believe that our timing and approach into the industry have been optimal, with insight into national capability deficiencies and an understanding of the difficulties faced by other commercial nuclear energy, particularly microreactor, companies. Almost all microreactor companies have advanced using funds acquired from government grants or awards. Even with private funding, they have been stifled by lack of investor interest because of the long return timelines and high risks.

Despite the early stage of our company, we believe we are competitively differentiated in many ways.

- **Non-Dependent on Government Funding.** Most small modular reactor (SMR) and microreactor companies are reliant on government grants and financing to progress their concepts. Consequently, their progress may cease once government funding is not available. Conversely, we do not rely on government funding to sustain our business operations.
- **Technical Insight.** On the technical front, we have benefited from insight into the problems which affected earlier movers within the advanced reactor space. SMR companies have raised billions of dollars for development but have been stalled by needing to qualify fuel or coolants, or acquiring the fuel necessary to advance their reactors. This led to our investigations into de-risking our own fuel supply by pursuing development and investment into the fuel supply chain and examining our own fuel processing facility, as well as opting to use more conventional fuel with greater operational history. We believe we have identified certain problems affecting the industry and we are taking early action to surmount potential roadblocks.

- **Government Contacts.** Between 2024 and 2025, individuals with high placed government service and contacts joined our company. These include (i) John G. Vonglis, the former Chief Financial Officer of the DOE, who joined as our Executive Director of Global Government Affairs, (ii) Eric R. Oesterle, a former Branch Chief for Operating Reactor Licensing at the NRC, who joined as our Head of Microreactor Regulatory Licensing, (iii) David Tiktinsky, a forty year veteran of the NRC, who joined as our Head of Nuclear Regulatory Licensing and (iv) Dr. Seth Berl, a former Deputy Chief Data Officer at the DOE, who joined our board of directors. In addition, a number of former high-ranking military and government officials with significant experience in nuclear energy sit on our Executive Advisory Board. Our recruitment efforts were complemented by bringing in experts involved in every major part of the nuclear industry, from regulation to laboratories, to technical teams. We believe we will benefit from those government contacts as our company will be afforded access to highly skilled personnel possessing advanced expertise in the energy and nuclear sectors.
- **World Class Team.** Our technical team is world class, with simple and realizable reactor concepts that do not require exotic fuels, and who are aware of all the difficulties faced by almost every other reactor company who has chosen designs which have complicated development and licensing. Our team has a deep knowledge of applicable regulatory requirements surrounding safety, transportation, and decommissioning, and our designs have incorporated all these considerations from the outset.
- **Government Initiatives.** We believe that the U.S. government is increasingly showing strong support for nuclear energy through various initiatives aimed at advancing nuclear technology, all of which further our business plans and opportunities. This support has taken various forms, including legislation, grants, project funding and loan guarantees. Aside from the support for existing nuclear capabilities, all of these initiatives have the potential directly or indirectly to benefit and support our company.

Our Competitive Strengths

We believe we have the following competitive strengths relating to our various business lines:

Nuclear Reactor Business. Unlike other nuclear reactor companies, we are seeking to become a vertically integrated company with multiple streams of revenue, a diversified business to hedge against market changes, and greater control over industries supporting microreactor development, such as nuclear fuel and transportation. Our diversified business model will make us highly differentiated from other reactor companies. We believe we have an expertise advantage over other companies developing microreactors, as we can and have recruited some of the best scientists, engineers and professionals in the world from any country or institution, without being constrained by the available personnel located within certain academic and professional institutions. The technical personnel involved in the current design of our reactors have been involved with the design and development of dozens of different reactors.

Fuel Processing Business. We believe, based on our market research, that no SMR and microreactor company is currently developing an integrated fuel supply chain to produce the fuel for their reactors. Our strategy to develop fuel for our own reactors will also position us to supply fuel to the wider nuclear industry and other reactor manufacturers, addressing anticipated significant shortfalls in fuel supply.

Fuel Transportation Business. We identified a transportation concept which investigated a high capacity HALEU fuel transportation basket design, which was developed by INL, ORNL and PNNL, and funded by the DOE. The technology was pursued by DOE to create a full HALEU transportation package, which provided the most advanced solution to address the technological challenge of moving commercial quantities of HALEU fuel around North America. The development of this concept had not been continued by the DOE due to lack of funding. On April 3, 2024, we entered into the BEA License with BEA for this nuclear fuel transportation package, and have been working with the groups capable of aiding us in the development of the concept into an NRC certified and transportation package for the transportation of HALEU materials.

Our Challenges

We are a young company seeking to develop and launch an integrated nuclear energy business. Our efforts face and will continue to face many significant challenges, as our business involves complex nuclear technology, regulatory hurdles, and rapidly shifting market dynamics. These challenges include, but are not limited to, the following:

- Obtaining the necessary permits and licenses for nuclear reactors, facilities and transportation capabilities is time-consuming and expensive. Nuclear reactors must meet stringent safety and environmental standards, and gaining regulatory approval can be a lengthy endeavor. Additionally, ensuring the safety of a microreactor throughout its lifecycle is paramount. Developing, implementing, and maintaining robust safety systems and protocols are critical challenges. Implementing robust security measures to protect against theft, sabotage, or unauthorized access is also critical for both regulatory compliance and public safety.
- Building and operating a microreactor and our other nuclear energy-related technologies is very capital-intensive. Securing the necessary significant funding and managing costs, including but not limited to operational and maintenance costs, are ongoing challenges for our business. We estimate that the capital costs needed to construct prototype KRONOS MMRTM reactors at the UIUC and Canada over the next several years could be around \$300 million to \$350 million per reactor. This range reflects inherent uncertainty in building a first-of-a-kind reactor due to several factors that can impact project costs, including site specific factors, the timing and scope of project development and regulatory licensing and supply chain considerations. The range also assumes what we believe are conservative cost estimates for our initial demonstration reactors. Subsequent reactors' capital costs are expected to decline substantially due to supply chain scaling for mass production of components, factory fabrication, modular assembly, and multiple deployments.
- The political and regulatory landscape can change, impacting the stability and viability of nuclear projects. International agreements and geopolitical factors can also affect nuclear technology, access and export.

Competition

We face significant competition within our industry. Our competitors target similar power output ranges as we do and employ a range of technologies, including both adapted conventional technologies and novel nuclear reactor designs. In addition, we face competition outside the nuclear energy sector, including fossil fuel-based power generation, renewable energy sources, long duration energy storage solutions, and other nuclear reactor technologies. However, as described above in “Competitive Strengths”, we believe we are positioned better than our competition to emerge as a leading supplier of carbon-free round the clock energy generation.

Intellectual Property

We have developed or acquired important intellectual property to protect our technologies.

As of the date of this prospectus, we have seven trademark applications pending before the U.S. Patent and Trademark Office (USPTO).

As of the date of this prospectus, we have six utility patent applications pending before the USPTO, and six corresponding utility patent applications filed under the Patent Cooperation Treaty (PCT) pending before the World Intellectual Property Organization (WIPO), directed to various aspects of the ZEUS microreactor and power plant design. We also have a total of nine patent applications related to our acquired ALIP technology for small nuclear reactor cooling, which include four U.S. provisional applications, four U.S. utility applications, and one international PCT application. The U.S. utility applications are pending and awaiting examination by the USPTO, and the PCT application is awaiting national entry in about 18 months. Of the provisional applications, one remains pending and will expire in December 2025.

We also have an exclusive license for our fuel transportation technology, and intellectual property acquired from USNC, including 38 issued, pending or published patents, nine (reduced from 16 as of January 10, 2025 as we voluntarily abandoned seven) registered, pending or published trademarks, and any other technology and intellectual property related to the acquired businesses, rights related to a demonstration project related to the KRONOS MMR™ Energy System in the United States and the business records of the acquired businesses and related confidentiality rights.

Arrangements with Our Executive Officers

All of our executive officers are presently engaged by us on an independent contractor basis, except for Jay Jiang Yu, our founder, President, Secretary and Treasurer, and Chairman of the Board, with whom we have an employment agreement, and they each have management, advisory or directorship positions with other companies and may allocate their time to other businesses, which may pose certain risks in fulfilling their obligations with us. Mr. Yu has concurrently served on the board and management team of several companies and currently allocates at least 15 hours per week to his roles at other companies. Mr. Yu also concurrently serves as the chief executive officer and chairman of the board of LIST. Mr. James Walker, our Chief Executive Officer, currently allocates at least five hours per week to support Ares Strategic Mining Inc. (or Ares), a Canadian-based company listed on the Canadian Stock Exchange under (Ticker: ARS) engaged in junior natural resource mining, where he is responsible for the construction of plants, purchases of land, operations, marketing, financing, safety regulation compliance, and shareholder relations. He is also concurrently serving on the board of directors of several small-cap publicly traded companies and a consultant to LIST. Jaisun Garcha, our Chief Financial Officer, is currently, and will continue to, work full time with us, and is currently also working as a part time consultant to LIST.

Our executive officers are not employees of our company (Mr. Yu excepted), instead, they serve as independent contractors and such relationship can be terminated by either party at any time. They may pursue any other activities and engagements during their terms of agreements with us. This independent contractor structure is an important element of our business model, as it enables us to attract highly experienced professionals with specialized expertise while maintaining a flexible cost structure that aligns with our current stage of development. However, the existing external commitments and any future commitments of our officers to other companies may potentially divert some of their time and attention away from the strategic and operational needs of our company. Their divided focus could lead to delays in decision-making, hinder effective communication within our organization, give rise to potential conflicts of interest, and introduce a divergence in priorities, consequently impacting the overall efficacy of leadership. Additionally, the potential for conflicting interests arising from commitments to multiple entities may pose challenges in aligning those officers' priorities with the long-term goals and interests of our company, thereby introducing an element of uncertainty and potential disruption to our operations. It is essential to acknowledge and address these complexities to ensure that our officers can effectively balance their responsibilities and fulfill their commitments to our company while maintaining transparency and integrity in their various roles. Failure to do so may adversely affect our business, financial condition, and results of operations.

Corporate Information

We were incorporated under the laws of the State of Nevada on February 8, 2022. Our principal executive office is located at 10 Times Square, 30th Floor, New York, NY 10018, and our telephone number is (212) 634-9206. Our website is www.nanonuclearenergy.com. Information contained on, or available through, our website does not constitute part of, and is not deemed incorporated by reference into, this prospectus, and investors should not rely on such information in deciding whether to purchase shares of our common stock.

Summary of Consolidated Financial Information

The following table sets forth certain summary financial and other data for the periods ended and at the dates indicated below. Our summary financial information for the quarter ended June 30, 2025 has been derived from our unaudited condensed consolidated financial statements for such period incorporated by reference in this prospectus. Our summary financial information for the years ended September 30, 2024 and 2023 has been derived from our audited consolidated financial statements incorporated by reference in this prospectus. The financial data set forth below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the unaudited condensed consolidated financial statements and notes thereto included in our Quarterly Report on Form 10-Q for the period ended June 30, 2025, and the 2024 Annual Report (as defined below), each of which has been filed with the SEC and is incorporated by reference into this prospectus.

Statements of Operations

	Three Months Ended		Nine Months Ended	
	June 30, 2025	June 30, 2024	June 30, 2025	June 30, 2024
Operating expenses				
General and administrative	\$ 5,324,260	\$ 2,301,307	\$ 23,516,008	\$ 4,553,512
Research and development	3,666,513	2,019,812	11,283,979	2,830,367
Change in fair value of contingent consideration	401,500	385,500	1,004,000	385,500
Loss from operations	9,392,273	4,706,619	35,803,987	7,769,379
Other income	1,797,690	38,372	3,787,321	109,559
Net loss	\$ (7,594,583)	\$ (4,668,247)	\$ (32,016,666)	\$ (7,659,820)
Net loss per share of common stock:				
Basic	\$ (0.19)	\$ (0.17)	\$ (0.87)	\$ (0.31)
Diluted	\$ (0.19)	\$ (0.17)	\$ (0.87)	\$ (0.31)
Weighted-average shares of common stock outstanding:				
Basic	38,985,143	27,730,227	36,663,325	24,919,094
Diluted	38,985,143	27,730,227	36,663,325	24,919,094
			For the Year Ended September 30, 2024	For the Year Ended September 30, 2023
Operating expenses				
General and administrative			\$ 6,850,993	\$ 4,749,395
Research and development			3,725,565	1,534,000
Change in Fair Value of contingent consideration			(66,000)	-
Loss from operations			(10,510,558)	(6,283,395)
Other income			359,002	32,994
Net loss			\$ (10,151,556)	\$ (6,250,401)
Net loss per share of common stock:				
Basic			\$ (0.39)	\$ (0.28)
Diluted			\$ (0.39)	\$ (0.28)

Statements of Changes in Mezzanine Equity and Stockholders' Equity

For the Nine Months Ended June 30, 2025

	Common Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
Balance as of September 30, 2024	30,715,663	\$ 3,072	\$ 49,038,165	\$ (17,433,781)	\$ 31,607,456
Common stock issuances	8,824,183	883	206,399,132	-	206,400,015
Offering costs	-	-	(15,076,556)	-	(15,076,556)
Exercise of warrants	1,094,477	108	15,657,079	-	15,657,187
Exercise of stock options	904,000	91	2,284,409	-	2,284,500
Equity-based compensation	-	-	17,454,842	-	17,454,842
Net loss	-	-	-	(32,016,666)	(32,016,666)
Balance as of June 30, 2025	<u>41,538,323</u>	<u>\$ 4,154</u>	<u>\$ 275,757,071</u>	<u>\$ (49,450,447)</u>	<u>\$ 226,310,778</u>

For the Nine Months Ended June 30, 2024

	Mezzanine Equity		Common		Additional	Accumulated	Total
	Shares	Amount	Shares	Amount	Paid-in Capital	Deficit	Stockholders' Equity
Balance as of September 30, 2023	2,000,000	\$ 5,000,000	23,184,869	\$ 2,319	\$ 9,288,553	\$ (7,282,225)	\$ 2,008,647
Mezzanine equity conversion	(2,000,000)	(5,000,000)	2,000,000	200	4,999,800	-	5,000,000
Offering common stock issuances	-	-	3,769,019	376	14,253,561	-	14,253,937
Offering costs	-	-	-	-	(1,538,405)	-	(1,538,405)
Acquisition common stock issuances	-	-	50,000	5	786,495	-	786,500
Equity-based compensation	-	-	-	-	152,457	-	152,457
Net loss	-	-	-	-	-	(7,659,820)	(7,659,820)
Balance as of June 30, 2024	<u>-</u>	<u>\$ -</u>	<u>29,003,888</u>	<u>\$ 2,900</u>	<u>\$27,942,461</u>	<u>\$ (14,942,045)</u>	<u>\$ 13,003,316</u>

For the Year Ended September 30, 2024

	Mezzanine Equity		Permanent Equity				
	Shares	Amount	Shares	Amount	Additional	Accumulated	Total
					paid-in capital		
Balance as of September 30, 2023	2,000,000	\$ 5,000,000	23,184,869	\$ 2,319	\$ 9,288,553	\$ (7,282,225)	\$ 2,008,647
Mezzanine equity conversion	(2,000,000)	(5,000,000)	2,000,000	200	4,999,800	-	5,000,000
Common stock issuances	-	-	4,804,019	481	34,953,456	-	34,953,937
Offering costs	-	-	-	-	(3,629,829)	-	(3,629,829)
R&D acquisition common stock issuances	-	-	50,000	5	786,495	-	786,500
Exercise of warrants	-	-	63,775	6	1,275,494	-	1,275,500
Exercise of stock options	-	-	593,000	59	1,043,941	-	1,044,000
Equity-based compensation	-	-	20,000	2	320,255	-	320,257
Net loss	-	-	-	-	-	(10,151,556)	(10,151,556)
Balance as of September 30, 2024	<u>-</u>	<u>\$ -</u>	<u>30,715,663</u>	<u>\$ 3,072</u>	<u>\$49,038,165</u>	<u>\$ (17,433,781)</u>	<u>\$ 31,607,456</u>

For the Year Ended September 30, 2023

	Mezzanine Equity		Permanent Equity				
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	Total
Balance as of September 30, 2022	-	\$ -	20,501,500	\$ 2,050	\$ 3,139,450	\$ (1,031,824)	\$ 2,109,676
Common stock issuances	2,000,000	5,000,000	2,598,369	260	3,765,109	-	3,765,369
Equity-based compensation	-	-	85,000	9	2,383,994	-	2,384,003
Net loss	-	-	-	-	-	(6,250,401)	(6,250,401)
Balance as of September 30, 2023	<u>2,000,000</u>	<u>\$ 5,000,000</u>	<u>23,184,869</u>	<u>\$ 2,319</u>	<u>\$ 9,288,553</u>	<u>\$ (7,282,225)</u>	<u>\$ 2,008,647</u>

Statements of Cash Flows

	For the Nine Months Ended June 30, 2025	For the Nine Months Ended June 30, 2024
OPERATING ACTIVITIES		
Net loss	\$ (32,016,666)	\$ (7,659,820)
Adjustments to reconcile net loss to net cash used in operating activities:		
Equity-based compensation	17,454,842	152,457
Amortization of right-of-use assets	214,228	53,893
Depreciation	147,853	-
R&D acquisition paid in equity	-	786,500
Changes in fair value of contingent liability	1,004,000	-
Change in assets and liabilities:		
Prepaid expenses	(586,137)	(324,331)
Deposits	(384,000)	(235,235)
Accounts receivable	(250,000)	-
Accounts payable and accrued liabilities	(164,027)	41,606
Due to related parties	16,667	(35,000)
Lease liabilities	(150,269)	44,135
Contingent liability	-	1,222,000
Net cash used in operating activities	<u>(14,713,509)</u>	<u>(5,953,795)</u>
INVESTING ACTIVITIES		
In-process research and development	(9,075,045)	-
Additions to property, plant and equipment	(3,801,474)	-
Net cash used in investing activities	<u>(12,876,519)</u>	<u>-</u>
FINANCING ACTIVITIES		
Proceeds from common stock issuances	206,400,015	14,253,937
Offering costs	(15,076,556)	(1,408,405)
Proceeds from exercise of warrants	15,657,187	-
Proceeds from exercise of stock options	2,284,500	-
Proceeds from stock subscriptions	-	-
Payment of deferred offering costs	-	(55,000)
Net cash provided by financing activities	<u>209,265,146</u>	<u>12,790,532</u>
Net increase in cash and cash equivalents	<u>181,675,118</u>	<u>6,836,737</u>
Cash and cash equivalents, beginning of period	28,507,257	6,952,795
Cash and cash equivalents, end of period	<u>\$ 210,182,375</u>	<u>\$ 13,789,532</u>
Non-cash transactions:		
Conversion from Mezzanine Equity to Stockholders' Equity	\$ -	\$ (5,000,000)
Inception of Right-of-Use Asset / Lease Liability	\$ 1,026,348	\$ 1,926,656

	For the Year Ended September 30, 2024	For the Year Ended September 30, 2023
OPERATING ACTIVITIES		
Net loss	\$ (10,151,556)	\$ (6,250,401)
Adjustments to reconcile net loss to net cash used in operating activities:		
R&D acquisition paid in equity	786,500	-
Equity-based compensation	320,257	2,384,003
Amortization of right of use asset	96,532	-
Depreciation	10,393	-
Change in assets and liabilities:		
Prepaid expenses	(628,090)	(88,409)
Deposits	(235,235)	-
Accounts payable and accrued liabilities	571,474	87,234
Due to related parties	(10,000)	-
Lease liability	5,079	-
Contingent liability	770,500	-
Net cash used in operating activities	<u>(8,464,146)</u>	<u>(3,867,573)</u>
INVESTING ACTIVITIES		
Increase in long-term investments	(2,000,000)	-
Additions to property, plant and equipment	(1,700,000)	-
Net cash provided by financing activities	<u>(3,700,000)</u>	<u>-</u>
FINANCING ACTIVITIES		
Proceeds from common stock issuances	34,953,937	8,765,369
Offering costs	(3,554,829)	(75,000)
Proceeds from exercise of warrants	1,275,500	-
Proceeds from exercise of stock options	1,044,000	-
Net cash provided by financing activities	<u>33,718,608</u>	<u>8,690,369</u>
Net increase in cash	21,554,462	4,822,796
Cash and cash equivalents, beginning of year	6,952,795	2,129,999
Cash and cash equivalents, end of year	<u>\$ 28,507,257</u>	<u>\$ 6,952,795</u>
Non-Cash Supplemental Disclosures		
Right of use assets acquired in exchange for new operating lease liabilities	\$ 1,926,178	\$ -

THE OFFERING

Common stock offered by us:	Shares of our common stock having an aggregate offering price of up to \$400,000,000.
Manner of offering	“At the market offering” that may be made from time to time through our Sales Agents. See “Plan of Distribution” on page S-20 in this prospectus.
Use of proceeds	We intend to use the net proceeds from these sales for the advancement and development of our technologies, particularly our KRONOS MMR TM reactor, general corporate purposes, which may include investing in or acquiring synergistic or complementary businesses, assets or technologies, and working capital. See “Use of Proceeds” on page S-17 in this prospectus.
Risk factors	<i>Investing in our securities is speculative and involves a high degree of risk.</i> See “Risk Factors” beginning on page S-15 of this prospectus and in the documents referred to therein and incorporated by reference in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Nasdaq symbol	“NNE”

RISK FACTORS

Investing in our securities is speculative and involves a high degree of risk. Before deciding whether to invest in our securities, you should carefully consider the risk factors we describe in this prospectus, in addition to the risks and uncertainties discussed above under “Cautionary Note Regarding Forward-Looking Statements,” together with the risk factors described in our Annual Report on Form 10-K for the fiscal year ended September 30, 2024, our Quarterly Reports on Form 10-Q for the quarters ended December 31, 2024, March 31, 2025 and June 30, 2025, respectively, and all other documents incorporated by reference in this prospectus. Additional risks and uncertainties not presently known to us or that we currently consider immaterial could also adversely affect us. In addition, you should consider the following risks relevant to this offering.

Risks Related to This Offering

It is not possible to predict the actual number of shares we will sell under the Agreement, nor the gross proceeds resulting from those sales.

Subject to certain limitations in the Agreement and compliance with applicable law, we have the discretion to deliver a placement notice to the Sales Agents at any time throughout the term of the Agreement. The number of shares that are sold through the Sales Agents after delivering a placement notice will fluctuate based on a number of factors, including the market price of the common stock during the sales period, the limits we set with the Selling Sales Agent (as defined below) in any applicable placement notice and the demand for our common stock during the sales period. Because the price per share of each share sold will fluctuate during the sales period, it is not currently possible to predict the number of shares that will be sold or the gross proceeds to be raised in connection with those sales, if any.

The common stock offered hereby will be sold in “at-the-market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so they may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices and numbers of shares sold in this offering. In addition, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

We have broad discretion in the use of the net proceeds from this offering and our existing cash and may invest or spend the proceeds in ways with which you do not agree and in ways that may not yield a return on your investment.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will be relying on the judgment of our management regarding such application. You will not have the opportunity, as part of your investment decision, to assess whether the net proceeds are being used appropriately. Our management might not apply the net proceeds or our existing cash in ways that ultimately increase the value of your investment. If we do not invest or apply the net proceeds from this offering or our existing cash and cash equivalents in ways that enhance stockholder value, we may fail to achieve expected business and financial results, which could cause our stock price to decline. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders.

If you purchase our common stock in this offering, you may experience immediate and substantial dilution.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of \$400,000,000 of shares of our common stock are sold in this offering at a price of \$34.50 per share, the last reported sale price of our common stock on Nasdaq on August 28, 2025, for aggregate net proceeds of approximately \$388 million after deducting commissions and estimated aggregate offering expenses payable by us, and after giving effect to the receipt, after June 30, 2025, of (a) \$977,650 upon exercise of warrants, and (b) \$120,000 upon exercise of options, you will experience immediate dilution of \$22.98 per share. See “Dilution” on page S-18. The actual amount of dilution to investors in this offering will depend on the sales price at which we sell stock and our net tangible book value per share at the of any sale. See the section entitled “Dilution” below for a more detailed illustration of the dilution you may incur if you participate in this offering.

If we issue equity securities in the future, your ownership in us could be diluted.

Any issuance of equity we may undertake in the future to raise additional capital could cause the price of our common stock to decline and result in significant dilution for holders of our common stock. For example, from October 1, 2024 through June 30, 2025, we have issued 8,824,183 shares of common stock through equity financings, 1,094,477 shares of our common stock related to warrant exercises and 904,000 shares of our common stock related to stock option exercises. In addition, the vesting of restricted stock units and the exercise of outstanding stock options and warrants may result in further dilution of your investment.

We do not anticipate declaring any cash dividends on our common stock, which may adversely impact the market price of our stock.

We have never declared or paid any cash dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future. The payment of dividends, if any, in the future is within the discretion of our board of directors and will depend on our earnings, capital requirements and financial condition and other relevant facts. We currently intend to retain all future earnings, if any, to finance the development and growth of our business. If we do not pay dividends, our stock may be less valuable to you because a return on your investment will only occur if our stock price appreciates.

Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock.

Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur as a result of our utilization of a universal shelf registration statement, our Agreement with the Sales Agents or otherwise could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We cannot predict the effect that future sales of our common stock or the market perception that we are permitted to sell a significant number of our securities would have on the market price of our common stock.

We have a limited number of authorized shares of our common stock available for issuance which may limit our ability to issue securities in connection with capital raises, including this offering, for acquisitions or strategic partnerships or as compensation to our employees and directors in the future, unless we obtain stockholder approval to amend our amended articles of incorporation, referred to herein as our charter. Our inability to issue shares of our common stock could materially adversely affect our business and strategy.

We have historically used our shares of common stock to raise capital, consummate acquisitions and compensate our employees and directors. We are currently authorized to issue 300,000,000 shares of common stock. As of August 28, 2025, 41,635,673 shares of common stock were outstanding. Additionally, as of August 28, 2025, there were 3,228,904 shares of common stock issuable upon exercise of outstanding warrants, 3,774,000 shares of common stock issuable upon exercise of outstanding stock options, and 350,748 shares of common stock issuable upon vesting of restricted stock units. We may not be able to offer and sell the total amount under the Agreement and this prospectus, nor be able to continue issuing securities to meet our business objectives, unless we increase the number of shares we are authorized to issue. There can be no assurance that we will elect to seek stockholder approval to increase our authorized shares of common stock under our charter or, if we do, that we will be able to secure the necessary stockholder approval to increase our authorized shares of common stock under our charter. Our inability to issue shares of our common stock could materially adversely affect our business and strategy.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sale proceeds of up to \$400,000,000 from time to time. The amount of proceeds from this offering will depend on the number of shares of our common stock sold in this offering and the price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the Agreement with the Sales Agents as a source of financing. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We intend to use the net proceeds of this offering, if any, for the advancement and development of our technologies, particularly our KRONOS MMRTM reactor, general working capital and general corporate purposes. These purposes may include, from time to time, investing in or acquiring businesses, assets, or technologies that are complementary to our business strategy. As of the date of this prospectus, we have not entered into any definitive agreements or commitments with respect to any such acquisitions. Because this offering is being conducted on an at-the-market (“ATM”) basis, the timing and amount of any proceeds, as well as the specific uses thereof, are not presently determinable and will depend on a variety of factors, including the market price of our securities at the time of sale, actual proceeds received, and our evolving business needs. Accordingly, our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with shares of our common stock offered pursuant to this prospectus for any purpose. Pending use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities or in cash or money market funds.

DILUTION

If you invest in our common stock, your interest will be immediately diluted to the extent of the difference between the price you pay per share and the adjusted net tangible book value per share of our common stock after this offering. “Net tangible book value” is total assets minus the sum of liabilities and intangible assets. “Net tangible book value per share” is net tangible book value divided by the total number of shares of common stock outstanding.

Our net tangible book value on June 30, 2025 was approximately \$224 million, or \$5.40 per share.

As of June 30, 2025, our pro forma net tangible book value was approximately \$225 million or \$5.41 per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, after giving effect to the receipt, after June 30, 2025, of (a) \$977,650 upon exercise of warrants, and (b) \$120,000 upon exercise of options.

After giving effect to the above-mentioned pro forma adjustments and the sale of shares of our common stock in the aggregate amount of \$400,000,000 in this offering at an assumed offering price of \$34.50 per share, which was the last reported sale price of our common stock on Nasdaq on August 28, 2025, and after deducting estimated offering commissions and expenses payable by us, our net tangible book value as of June 30, 2025 would have been approximately \$613 million or \$11.52 per share of our common stock. This represents an immediate increase in net tangible book value of \$6.11 per share to our existing stockholders and an immediate dilution in net tangible book value of \$22.98 per share to investors participating in this offering. The following table illustrates this dilution per share to investors participating in this offering:

Assumed offering price per share	\$	34.50
Net tangible book value per share as of June 30, 2025	\$	5.40
Increase in net tangible book value per share	\$	0.01
Pro forma net tangible book value per share, as of June 30, 2025, before giving effect to this offering	\$	5.41
Increase in pro forma net tangible book value per share attributable to new investors	\$	6.11
Pro forma as adjusted net tangible book value per share after giving effect to this offering	\$	11.52
Dilution per share to new investors purchasing common stock in this offering	\$	22.98

The discussion and table above assume, for illustrative purposes, that an aggregate of approximately 11,594,203 shares of our common stock are sold at a price of \$34.50 per share, the last reported sale price of our common stock on Nasdaq on August 28, 2025, for aggregate gross proceeds of approximately \$400,000,000. However, the shares sold in the applicable offering, if any, will likely be sold from time to time at various prices.

The number of shares of our common stock that will be outstanding immediately after this offering as shown above was based on an aggregate of 41,635,673 shares of common stock outstanding as of August 28, 2025. The number of shares outstanding excluded the following as of August 28, 2025:

- 350,748 shares of our common stock issuable upon vesting of restricted stock units outstanding under our stock incentive plans;
- 3,774,000 shares of our common stock issuable upon exercise of stock options outstanding under our stock incentive plans, 3,470,000 of which are currently exercisable, which have a weighted average exercise price of \$10.31 per share; and
- 3,228,904 shares of our common stock issuable upon exercise of our outstanding warrants, which have a weighted average exercise price of \$24.19.

The dilution table above also excludes any securities, issued after August 28, 2025, including any shares issued upon vesting of any equity incentive awards.

To the extent that any of our outstanding options or warrants are exercised or restricted stock units vest, we grant additional options or other awards under our stock incentive plans or issue additional warrants or we issue additional shares of common stock in the future, investors may experience further dilution.

DESCRIPTION OF SECURITIES WE ARE OFFERING

General

The following description is not complete and may not contain all the information you should consider before investing in our common stock. For a more detailed description of these securities, you should read the applicable provisions of Nevada law and our charter and bylaws.

Our authorized capital stock consists of 300,000,000 shares, par value \$0.0001 per share, consisting of: 275,000,000 shares of common stock and 25,000,000 shares of preferred stock, all of which are currently undesignated. Our authorized but unissued shares of common stock and preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded in the future.

Common Stock

As of August 28, 2025, there were 41,635,673 shares of the Company's common stock issued and outstanding. In addition, there were 3,228,904 shares of common stock issuable upon exercise of outstanding warrants, 3,774,000 shares of common stock issuable upon exercise of outstanding stock options, and 350,748 shares of common stock issuable upon vesting of restricted stock units.

Our charter provides that each holder of common stock shall have the right to one (1) vote per share of common stock held of record by such holder as of the applicable record date on all matters submitted to a vote at any meeting of stockholders. The holders of outstanding shares of common stock are entitled to receive dividends out of assets or funds legally available for the payment of dividends of such times and in such amounts as our board of directors from time to time may determine. Our common stock is not entitled to pre-emptive rights and is not subject to redemption. Upon liquidation, dissolution or winding up of our company, the assets legally available for distribution to stockholders are distributable ratably among the holders of our common stock after payment of liquidation preferences, if any, on any outstanding payment of other claims of creditors. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. Our common stock is listed on Nasdaq under the trading symbol "NNE." The transfer agent and registrar for our common stock is VStock Transfer, LLC, 18 Lafayette Place, Woodmere, NY 11598.

PLAN OF DISTRIBUTION

We have entered into a sales agreement (the “Agreement”) with TD Securities (USA) LLC (“TD Cowen”), UBS Securities LLC and Piper Sandler & Co. (each a “Sales Agent” and together, the “Sales Agents”), under which we may offer and sell up to \$400,000,000 of shares of our common stock from time to time through the Sales Agents acting as agents, or directly to the Sales Agents acting as principals, in each case severally and not jointly. Sales pursuant to the Agreement may be made through affiliates of the Sales Agents.

Sales of our common stock, if any, under this prospectus may be made in negotiated transactions, including block trades, or transactions that are deemed to be “at-the-market” offerings as defined in Rule 415 under the Securities Act, including sales made by means of ordinary brokers’ transactions, including directly on Nasdaq, or sales made to or through a market maker other than on an exchange at prevailing market prices, at prices related to prevailing market prices or at negotiated prices, or by any other method permitted by law. Subject to the terms and conditions of the Agreement, the Sales Agents will act as our sales agents using their commercially reasonable efforts consistent with their normal trading and sales practices. The Sales Agents are not required to sell any specific amount of our common stock. There is no arrangement for funds to be received in any escrow, trust or similar arrangement. As our agents, the Sales Agents will not engage in any transactions that stabilize the price of our common stock. The Sales Agents may also purchase shares of our common stock as principals.

We will designate the maximum amount of common stock to be sold through the applicable Sales Agent (in the case of each sale, the “Selling Sales Agent”) on a daily basis or otherwise as we and the Sales Agents agree, and the minimum price per share at which such common stock may be sold. Subject to the terms and conditions of the Agreement, the Selling Sales Agent will use its commercially reasonable efforts to sell on our behalf all of the designated common stock on such day. We or the Sales Agents may suspend the offering of our common stock at any time and from time to time by notifying the other party.

The Selling Sales Agent will provide us written confirmation following the close of trading on Nasdaq each day on which shares of our common stock are sold under the Agreement. Each confirmation will include (i) the amount of shares sold on such day, (ii) the aggregate gross offering proceeds received from such sale and the net proceeds to the Company and (iii) the compensation payable by us to the Selling Sales Agent with respect to such sales. Such compensation shall be set forth and invoiced in periodic statements from each Sales Agent to the Company, with payment to be made by the Company promptly after its receipt thereof. We will report at least quarterly the number of shares of common stock sold through the Sales Agents under the Agreement and the net proceeds to us in connection with the sales of the common stock.

The aggregate compensation payable to the Sales Agents equals up to 3.0% of the gross sales price of the shares sold through them pursuant to the Agreement. We have also agreed to provide indemnification and contribution to the Sales Agents with respect to certain liabilities, including civil liabilities under the Securities Act. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. Except as we and the Sales Agents otherwise agree, we will reimburse the Sales Agents for the fees and disbursements of its counsel, in an amount not to exceed \$75,000. We estimate that the total expenses for the offering, excluding any commissions or expense reimbursement payable to the Sales Agents under the terms of the Agreement, will be approximately \$500,000. The remaining proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of our shares in this offering.

Settlement for sales of common stock will occur, unless the Company and the Sales Agents agree otherwise, on the first business day that is also a trading day following the date on which such sales are made.

In connection with the sale of shares of common stock on our behalf, each of the Sales Agents will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of the Sales Agents will be deemed to be underwriting discounts or commissions.

The Agreement may be terminated by any Sales Agent or us at any time upon notice to the other party, or by any Sales Agent at any time in certain circumstances set forth in the Agreement.

The Sales Agents and/or affiliates of the Sales Agents have, from time to time, performed, and may in the future perform, various financial advisory and commercial and investment banking services for us and our affiliates, for which they have received and may in the future receive customary fees.

Our shares of common stock are listed on Nasdaq and trade under the symbol “NNE.” The transfer agent of our common stock is VStock Transfer LLC.

LEGAL MATTERS

The validity of the issuance of the common stock offered by this prospectus will be passed upon for us by Parsons Behle & Latimer, Reno, Nevada. The Sales Agents are being represented in connection with this offering by Nelson Mullins Riley & Scarborough LLP, Washington, D.C.

EXPERTS

The consolidated financial statements of Nano Nuclear Energy, Inc. and its consolidated subsidiaries, as of and for the fiscal years ended September 30, 2024 and 2023, incorporated in this prospectus by reference to our Annual Report on Form 10-K for the fiscal year ended September 30, 2024, have been so incorporated in reliance on the report of WithumSmith+Brown, PC, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 that we have filed with the SEC under the Securities Act and does not contain all the information set forth or incorporated by reference in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement, or to the exhibits to the reports or other documents incorporated by reference in this prospectus, for a copy of such contract, agreement or other document. We file annual, quarterly and periodic reports, proxy statements and other information with the SEC, using its EDGAR system. The SEC provides free public access, through its website, to items publicly filed in the EDGAR system, including our items. The address of the SEC's website is <http://www.sec.gov>.

We also maintain a website at www.nanonuclearenergy.com. You may access these materials at our website free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained in, or that can be accessed through, our website is not a part of, and is not incorporated into, this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We are "incorporating by reference" in this prospectus certain documents we have filed or will file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of the initial registration statement, as amended, and prior to effectiveness of the registration statement, and (2) after the date of this prospectus and prior to the termination of this offering, from their respective filing dates (other than any portions thereof, which under the Exchange Act, and applicable SEC rules, are not deemed "filed" under the Exchange Act). Such information will automatically update and supersede the information contained in this prospectus and the documents listed below:

1. Our Annual Report on [Form 10-K](#) for the fiscal year ended September 30, 2024, filed with the SEC on December 30, 2024 (the "2024 Annual Report");
2. Our Quarterly Reports on Form 10-Q for the quarters ended December 31, 2024, March 31, 2025, and June 30, 2025, respectively, filed with the SEC on [February 13, 2025](#), [May 15, 2025](#), and [August 14, 2025](#), respectively (the "Quarterly Reports");
3. Our Definitive Proxy Statement filed with the SEC on [February 28, 2025](#) and our Proxy Statement Supplement filed with the SEC on [March 26, 2025](#);
4. Our Current Reports on Form 8-K filed with the SEC on [October 18, 2024](#), [October 25, 2024](#), [October 30, 2024](#), [November 27, 2024](#), [December 26, 2024](#), [January 14, 2025](#), [March 12, 2025](#), [April 24, 2025](#), [May 29, 2025](#), [June 5, 2025](#), [June 10, 2025](#), and [August 20, 2025](#), respectively (excluding any information therein disclosed under Items 2.02 or 7.01 or any corresponding information furnished under Item 9.01 or included as an exhibit); and
5. The description of our shares of common stock contained in the our registration statement on [Form 8-A](#), filed with the SEC on May 6, 2024.

In addition, all documents and/or reports that we file with the SEC pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act subsequent to the date of the registration statement of which this prospectus is a part, and prior to the termination or completion of any applicable offering of securities under this prospectus or the filing of a post-effective amendment to such registration statement that indicates that all securities offered under this prospectus have been sold, or that deregisters all securities then remaining unsold, will be deemed to be incorporated herein by reference and to be a part hereof from the date of filing of such documents.

Notwithstanding the foregoing, none of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K, or any corresponding information furnished under Item 9.01 or included as an exhibit, that we may from time to time furnish to the SEC, will be incorporated by reference in, or otherwise included in, this prospectus, except as otherwise expressly set forth in the relevant document. Subject to the foregoing, all information appearing in this prospectus is qualified in its entirety by the information appearing in the documents incorporated by reference.

You may request, orally or in writing, a copy of the documents we incorporate by reference, which will be provided to you at no cost (other than exhibits, unless such exhibits are specifically incorporated by reference), by contacting our Secretary, c/o Nano Nuclear Energy Inc. at 10 Times Square, 30th Floor, New York, NY 10018. Our telephone number is (212) 634-9206.



Up to \$400,000,000 of Shares of Common Stock

PRELIMINARY PROSPECTUS

TD Cowen

UBS Investment Bank

Piper Sandler

The date of this prospectus is [•], 2025.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The Company is paying all expenses of the offering. The following table sets forth all expenses to be paid by the registrant. All amounts shown are estimates except for the registration fee.

SEC registration fee	\$	94,922
Printing		*
Legal and accounting fees and expenses		*
Trustee fees and expenses		*
Warrant agent fees and expenses		*
Rights agent fees and expenses		*
Miscellaneous		*
Total	\$	*

* These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time. The applicable prospectus supplement will set forth the estimated amount of expenses of any offering of securities.

Item 15. Indemnification of Directors and Officers.

Nevada Revised Statutes (“NRS”) 78.138(7) provides that, subject to limited statutory exceptions and unless the articles of incorporation or an amendment thereto (in each case filed on or after October 1, 2003) provide for greater individual liability, a director or officer is not individually liable to a corporation or its shareholders or creditors for any damages as a result of any act or failure to act in his or her capacity as a director or officer unless it is proven that: (i) the act or failure to act constituted a breach of his or her fiduciary duties as a director or officer and (ii) the breach of those duties involved intentional misconduct, fraud or a knowing violation of law.

NRS 78.7502(1) provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys’ fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person (i) is not liable pursuant to NRS 78.138 or (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the conduct was unlawful. NRS 78.7502(2) provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses, including amounts paid in settlement and attorneys’ fees actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit if the person (i) is not liable pursuant to NRS 78.138 or (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation. To the extent that a director, officer, employee or agent of a corporation has been successful on the merits or otherwise in defense of any such action, suit or proceeding, or in defense of any claim, issue or matter therein, the corporation shall indemnify him or her against expenses, including attorneys’ fees, actually and reasonably incurred by him or her in connection with the defense. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, does not, of itself, create a presumption that the person is liable pursuant to NRS 78.138 or did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, or that, with respect to any criminal action or proceeding, he or she had reasonable cause to believe that the conduct was unlawful. Indemnification may not be made for any claim, issue or matter as to which such a person has been adjudged by a court of competent jurisdiction, after exhaustion of all appeals therefrom, to be liable to the corporation or for amounts paid in settlement to the corporation, unless and only to the extent that the court in which the action or suit was brought or other court of competent jurisdiction determines upon application that in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for such expenses as the court deems proper.

NRS 78.7502(3) provides that any discretionary indemnification pursuant to NRS 78.7502 (unless ordered by a court or advanced pursuant to NRS 78.751(2)), may be made by the corporation only as authorized in the specific case upon a determination that indemnification of the director, officer, employee, or agent is proper in the circumstances. The determination must be made (i) by the shareholders; (ii) by the board of directors by majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding; (iii) if a majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding so orders, by independent legal counsel in a written opinion; or (iv) if a quorum consisting of directors who were not parties to the action, suit or proceeding cannot be obtained, by independent legal counsel in a written opinion. NRS 78.751(2) provides that the corporation's articles of incorporation or bylaws, or an agreement made by the corporation, may provide that the expenses of officers and directors incurred in defending a civil or criminal action, suit or proceeding must be paid by the corporation as they are incurred and in advance of the final disposition of the action, suit or proceeding, upon receipt of an undertaking by or on behalf of the director or officer to repay the amount if it is ultimately determined by a court of competent jurisdiction that the director or officer is not entitled to be indemnified by the corporation.

Under the NRS, the indemnification pursuant to NRS 78.7502 and advancement of expenses authorized in or ordered by a court pursuant to NRS 78.751:

- Does not exclude any other rights to which a person seeking indemnification or advancement of expenses may be entitled under the articles of incorporation or any bylaw, agreement, vote of shareholders or disinterested directors or otherwise, for either an action in the person's official capacity or an action in another capacity while holding office, except that indemnification, unless ordered by a court pursuant to NRS 78.7502 or for the advancement of expenses made pursuant to NRS 78.751(2), may not be made to or on behalf of any director or officer if a final adjudication establishes that the director's or officer's acts or omissions involved intentional misconduct, fraud or a knowing violation of the law and was material to the cause of action; and
- Continues for a person who has ceased to be a director, officer, employee, or agent and inures to the benefit of the heirs, executors and administrators of such a person.

A right to indemnification or to advancement of expenses arising under a provision of the articles of incorporation or any bylaw is not eliminated or impaired by an amendment to such provision after the occurrence of the act or omission that is the subject of the civil, criminal, administrative or investigative action, suit or proceeding for which indemnification or advancement of expenses is sought, unless the provision in effect at the time of such act or omission explicitly authorizes such elimination or impairment after such action or omission has occurred.

Our governing documents provide that to the fullest extent permitted under the NRS (including, without limitation, to the fullest extent permitted under NRS 78.7502 and 78.751(3)) and other applicable law, that we shall indemnify our directors and officers in their respective capacities as such and in any and all other capacities in which any of them serves at our request.

Item 16. Exhibits.

The following exhibits are filed with this Registration Statement.

The agreements included or incorporated by reference as exhibits to this registration statement contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties were made solely for the benefit of the other parties to the applicable agreement and (i) were not intended to be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate; (ii) may have been qualified in such agreement by disclosures that were made to the other party in connection with the negotiation of the applicable agreement; (iii) may apply contract standards of “materiality” that are different from “materiality” under the applicable securities laws; and (iv) were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement.

The undersigned registrant acknowledges that, notwithstanding the inclusion of the foregoing cautionary statements, it is responsible for considering whether additional specific disclosures of material information regarding material contractual provisions are required to make the statements in this registration statement not misleading.

Exhibit Number	Description of Document
1.1	Form of Underwriting Agreement***
1.2	Sales Agreement, dated July 25, 2025, by and among Nano Nuclear Energy Inc., TD Securities (USA) LLC, UBS Securities LLC and Piper Sandler & Co.**^
4.1	Specimen Common Stock Certificate Evidencing the Shares of Common Stock (1)
4.1	Form of Certificate of Designation of Preferred Stock***
4.2	Form of Stock Purchase Contract***
4.3	Form of Warrant Agreement and Form of Warrant Certificate***
4.4	Form of Subscription Rights Agreement and Form Subscription Rights Certificate***
4.5	Form of Indenture**
4.6	Form of Note***
4.7	Form of Debt Securities***
5.1	Opinion of Parsons Behle & Latimer with respect to Nevada law matters**
5.2	Opinion of Ellenoff Grossman & Schole with respect to New York law matters*
10.1	Sponsored Research Agreement, dated April 8, 2022, by and between The Board of Trustees of The University of Illinois on behalf of The University of Illinois at Urbana-Champaign (UIUC) and Ultra Safe Nuclear Corporation (USNC)*^^^
10.2	Amendment No. 1 to Sponsored Research Agreement dated January 9, 2023, by and between UIUC and USNC*
10.3	Amendment No. 2 to Sponsored Research Agreement dated March 29, 2025, by and between UIUC and Nano Nuclear Energy Inc.* ^
23.1	Consent of WithumSmith+Brown, PC*
23.2	Consent of Parsons Behle & Latimer (included in Exhibit 5.1) **
23.3	Consent of Ellenoff Grossman & Schole LLP (included in Exhibit 5.2) *
24.1	Power of Attorney (included in Part II of this Registration Statement)**
25.1	Statement of Eligibility of Trustee on Form T-1***+
101.INS	Inline XBRL Instance Document*
101.SCH	Inline XBRL Taxonomy Extension Schema Document*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document*
104	Cover Page Interactive Data File (Embedded as Inline XBRL document and contained in Exhibit 101)*
107	Calculation of Filing Fee Table**

* Filed herewith.

** Previously filed.

*** If applicable, to be filed by an amendment or as an exhibit to a report pursuant to section 13(a) or section 15(d) of the Exchange Act and incorporated by reference.

+ To be filed pursuant to Rule 305(b)(2) of the Trust Indenture Act.

(1) Filed as an exhibit to the registrant’s Registration on Form S-1 (File No. 333-278076), filed with the SEC on May 1, 2024.

^ Certain portions of the exhibit have been omitted pursuant to Item 601(a)(6) of Regulation S-K. The Company hereby agrees to furnish a copy of any omitted portion to the SEC upon request.

^^ Certain schedules or similar attachments to this exhibit have been omitted from this filing pursuant to Item 601(a)(5) of Regulation S-K, The Company hereby agrees to furnish a copy of any omitted portion to the SEC upon request.

Item 17. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference in the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability of the registrant under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

(d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Trust Indenture Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on this 9th day of September, 2025.

NANO NUCLEAR ENERGY INC.

By: /s/ James Walker
James Walker
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Name</u>	<u>Position</u>	<u>Date</u>
<u>/s/ Jay Jiang Yu</u> Jay Jiang Yu	Chairman of the Board, President and Secretary	September 9, 2025
<u>/s/ James Walker</u> James Walker	Chief Executive Officer and Director (Principal Executive Officer)	September 9, 2025
<u>/s/ Jaisun Garcha</u> Jaisun Garcha	Chief Financial Officer (Principal Accounting Officer)	September 9, 2025
<u>*</u> Tsun Yee Law	Independent Director	September 9, 2025
<u>*</u> Diane Hare	Independent Director	September 9, 2025
<u>*</u> Dr. Kenny Yu	Independent Director	September 9, 2025
<u>*</u> Seth Berl	Independent Director	September 9, 2025

By: /s/ James Walker
James Walker, Attorney-in-fact

ELLENOFF GROSSMAN & SCHOLE LLP
1345 AVENUE OF THE AMERICAS
NEW YORK, NEW YORK 10105
TELEPHONE: (212) 370-1300
FACSIMILE: (212) 370-7889
www.egslp.com

September 9, 2025

Nano Nuclear Energy Inc.
10 Times Square, 30th Floor
New York, NY 10018

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Nano Nuclear Energy Inc., a Nevada corporation (the “**Company**”), in connection with the preparation of a registration statement on Form S-3 (the “**Registration Statement**”), filed by the Company with the Securities and Exchange Commission (the “**Commission**”) pursuant to the Securities Act of 1933, as amended (the “**Securities Act**”), relating to the offer and sale from time to time by the Company of up to a maximum of \$620,000,000 aggregate offering price of a presently indeterminate amount of the following securities (each a “**Company Security**” and collectively, or in any combination, the “**Company Securities**”):

- (i) shares of the Company’s Common stock, \$0.0001 par value per share (the “**Common Stock**”);
- (ii) one or more classes or series of shares of the Company’s preferred stock, \$0.0001 par value per share (the “**Preferred Stock**”);
- (iii) purchase contracts entitling or obligating holders to purchase from or sell to the Company, and for the Company to sell to or purchase from such holders, a specific or varying number of debt or equity securities issued by the Company or by an entity other than the Company at a future date or dates;
- (iv) warrants to purchase Company Securities;
- (v) subscription rights to purchase Company Securities;
- (vi) depositary shares;
- (vii) secured or unsecured debt securities consisting of notes, debentures or other evidences of indebtedness, which may include senior debt securities, senior subordinated debt securities or subordinated debt securities, each of which may be convertible into equity securities; and
- (viii) units comprised of the foregoing Company Securities.

The Company Securities may be issued and sold by the Company pursuant to applicable provisions of Rule 415 under the Securities Act, in amounts, at prices and on terms to be determined in light of market conditions at the time of sale, and as set forth in the Registration Statement, any amendment thereto, the prospectus contained therein (the “**Prospectus**”) and any supplements to the Prospectus (each, a “**Prospectus Supplement**”). The Company Securities may be issued from time to time on a delayed or continuous basis, and this opinion is limited to the laws, including the rules and regulations, as in effect on the date hereof, which laws are subject to change with possible retroactive effect.

For purposes of rendering the opinions set forth below, we have examined such documents and reviewed such questions of law as we have considered necessary and appropriate for the purposes of our opinion including (i) the Registration Statement, including the exhibits filed therewith, (ii) the Prospectus, (iii) the Company’s Certificate of Amendment to Articles of Incorporation, dated March 4, 2024 (the “**Articles of Incorporation**”), (iv) the Company’s Amended and Restated Bylaws (the “**Bylaws**”), (v) the corporate resolutions and other actions of the Company that authorize and provide for the filing of the Registration Statement, and we have made such other investigation as we have deemed appropriate.

For purposes of this opinion letter, we have assumed that the instruments and Company Securities which are the subject of our opinions below will be governed solely by New York law. We have further assumed the accuracy and completeness of each document submitted to us, the genuineness of all signatures on original documents, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified, conformed or photostatic copies thereof, and the due execution and delivery of all documents where due execution and delivery are prerequisites to the effectiveness thereof. We have further assumed the legal capacity of natural persons, that persons identified to us as officers of the Company are actually serving in such capacity, that the board of directors will have taken all action necessary to set the issuance price of the Company Securities to be offered and sold. We have not independently verified any of these assumptions.

The opinions expressed in this opinion letter are limited to the laws of the State of New York.

Based on the foregoing and in reliance thereon, and subject to the assumptions, qualifications, limitations and exceptions set forth below, we are of the opinion that:

1. With respect to the issuance of any purchase contracts, when (a) the board of directors of the Company has taken all necessary corporate action to approve the purchase contract agreement to be entered into in connection with the issuance of any purchase contracts and such purchase contract agreement has been validly executed and delivered by the purchase contract agent and Company, (b) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any purchase contracts duly established in accordance with the applicable purchase contract agreement and (c) such purchase contracts have been duly executed, countersigned, registered, issued and delivered in accordance with the purchase contract agreement and the applicable definitive purchase, underwriting or similar agreement, as applicable, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, such purchase contracts will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.
2. With respect to the issuance of any warrants, when (a) the board of directors of the Company has taken all necessary corporate action to approve the warrant agreement to be entered into in connection with the issuance of any warrants and such warrant agreement has been validly executed and delivered by the warrant agent and Company, (b) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any warrants duly established in accordance with the applicable warrant agreement and (c) such warrants have been duly executed, countersigned, registered, issued and delivered in accordance with the warrant agreement and the applicable definitive purchase, underwriting or similar agreement, as applicable, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company (assuming the securities issuable upon exercise of the warrants have been duly authorized and reserved for issuance by all necessary corporate action and in accordance with applicable law), such warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.
3. With respect to the subscription rights, when (a) the board of directors of the Company has taken all necessary corporate action to authorize the issuance and the specific terms of such subscription rights, the terms of the offering thereof, and related matters and (b) such subscription rights and agreements relating to the subscription rights have been duly executed and delivered in accordance with the terms thereof, then such subscription rights will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.

4. With respect to the depositary shares, when (i) the board of directors of the Company has taken all necessary corporate action to approve the issuance and terms of the depositary shares, the terms of the offering thereof and related matters, including the adoption of a certificate of designation relating to the preferred stock underlying the depositary shares as required by applicable law and the filing of the certificate of designation with the Secretary of State of the State of Nevada as required by applicable law; (ii) the depositary agreement or agreements relating to the depositary shares and the related depositary receipts have been duly authorized and validly executed and delivered by the board of directors of the Company and the depositary appointed by the Company; (iii) the shares of preferred stock underlying the depositary shares have been duly authorized, validly issued and deposited with the depositary under the applicable depositary agreement; and (iv) the depositary receipts representing the depositary shares have been duly executed, countersigned, registered and delivered in accordance with the appropriate depositary agreement approved by the Company, upon payment of the consideration therefor provided for in the applicable definitive purchase, underwriting or similar agreement, the depositary agreement or agreements relating to the depositary shares will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.
5. With respect to any debt securities, when (a) the board of directors of the Company has taken all necessary corporate action to approve an applicable indenture, if any, , and such indenture, if any, or any amendment or supplement thereto or other agreement in respect thereof, if any, has been validly executed and delivered by the Company, (b) any applicable indenture, if required, has been duly qualified under the Trust Indenture Act of 1939, as amended, if qualification is required thereunder, (c) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any series of debt security duly established in accordance with the applicable indenture, if any, and (d) such debt securities have been duly executed, countersigned, registered, issued and delivered either (i) in accordance with the indenture, if any, or any amendment or supplement thereto or other agreement in respect thereof, if any, the applicable definitive purchase, underwriting or similar agreement, as applicable, or (ii) upon conversion, exchange or exercise of any other Company Security in accordance with the terms of such Company Security or the instrument governing such Company Security providing for the conversion, exchange or exercise as approved by the board of directors of the Company, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, such debt securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability, provided that we express no opinion as to (x) the enforceability of any waiver of rights under any usury or state law, (y) the validity, legally binding effect or enforceability of any provision of the indenture that requires or relates to adjustments to the conversion rate at a rate or in an amount that a court would determine in the circumstances under applicable law to be commercially unreasonable or a penalty or forfeiture or (z) the validity, legally binding effect or enforceability of any provision that permits holders to collect any portion of stated principle amount upon acceleration of the debt securities to the extent determined to constitute unearned interest.
6. With respect to the issuance of any units, when (a) the board of directors of the Company has taken all necessary corporate action to approve the unit agreement, if any, to be entered into in connection with the issuance of any units and such unit agreement, if any, has been validly executed and delivered by the unit agent, if any, and Company, (b) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any units duly established in accordance with the applicable unit agreement, if any, and (c) such units have been duly executed, countersigned, registered, issued and delivered in accordance with the unit agreement, if any, and the applicable definitive purchase, underwriting or similar agreement, as applicable, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, such units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.

The opinions set forth above are subject to the following additional assumptions:

- (i) the Registration Statement, any amendments thereto (including post-effective amendments), will have been declared effective under the Securities Act and such effectiveness shall not have been terminated, suspended or rescinded;

- (ii) all Company Securities will be issued and sold in compliance with applicable federal and state securities laws, rules and regulations and solely in the manner provided in the Registration Statement and the appropriate Prospectus Supplement and there will not have occurred any change in law or fact affecting the validity of any of the opinions rendered herein;
- (iii) the final terms of any of the Company Securities (including any Company Securities comprising the same or subject thereto), and when issued, the issuance, sale and delivery thereof by the Company, and the incurrence and performance of the Company's obligations thereunder or respect thereof in accordance with the terms thereof, and any consideration received by the Company for any such issuance, sale and delivery, will comply with, and will not violate, the Articles of Incorporation or Bylaws or any applicable law, rule or regulation, or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or to which the issuance, sale and delivery of such Company Securities or the incurrence and performance of such obligations may be subject or violate any applicable public policy, or be subject to any defense in law or equity;
- (iv) the Company shall have taken any action required to be taken by the Company, based on the type of Company Security being offered, to authorize the offer and issuance thereof, and such authorization shall remain in effect and unchanged at all times during which the Company Securities are offered and issued and shall not have been modified or rescinded (subject to the further assumption that the sale of any Company Security takes place in accordance with such authorization), the board of directors of the Company shall have duly established the terms of such Company Security and duly authorized and taken any other necessary corporate action to approve the issuance and sale of such Company Security in conformity with the Articles of Incorporation and Bylaws (subject to the further assumption that neither the Articles of Incorporation nor Bylaws have been amended from the date hereof in a manner that would affect the validity of any of the opinions rendered herein), and such authorization shall remain in effect and unchanged at all times during which the Company Securities are offered and issued and shall not have been modified or rescinded (subject to the further assumption that the sale of any Company Security takes place in accordance with such authorization);
- (v) there will exist, under the Articles of Incorporation, the requisite number of authorized but unissued shares of Common Stock or Preferred Stock (and securities of any class into which any of the Preferred Stock may be convertible), as the case may be; and
- (vi) to the extent they purport to relate to liabilities resulting from or based upon gross negligence, recklessness or other conduct committed or omitted willfully or in bad faith or any violation of federal or state securities or blue sky laws, we express no opinions concerning the enforceability of indemnification provisions.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus. In giving our consent, we do not thereby admit that we are experts with respect to any part of the Registration Statement, the Prospectus, or any Prospectus Supplement within the meaning of the term "expert," as used in Section 11 of the Securities Act or the rules and regulations promulgated thereunder by the Commission, nor do we admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Yours truly,

/s/ Ellenoff Grossman & Schole LLP

Ellenoff Grossman & Schole LLP

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE DISCLOSURE OF SUCH INFORMATION WOULD CONSTITUTE A CLEARLY UNWARRANTED INVASION OF PERSONAL PRIVACY. CERTAIN SCHEDULES OR SIMILAR ATTACHMENTS HAVE BEEN OMITTED FROM THIS EXHIBIT IN ACCORDANCE WITH ITEM 601(a)(5) OF REGULATION S-K.

SPONSORED RESEARCH AGREEMENT

This Sponsored Research Agreement (“Agreement”) is between THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS, a body corporate and politic organized and existing under the laws of the State of Illinois, on behalf of the University of Illinois at Urbana-Champaign, through Sponsored Programs Administration, 1901 South First Street, Suite A, Champaign IL 61820-7406 (“UNIVERSITY”), and Ultra Safe Nuclear Corporation, organized and existing under the laws of Delaware with its principal offices at 2288 W. Commodore Way Suite 300, Seattle, WA 98199 (“SPONSOR”). The parties may be referred to individually as “Party” and collectively as the “Parties”.

The Parties contemplate that the research to be performed under this Agreement will be of mutual interest and benefit; and

UNIVERSITY has determined that the research will further the instructional, research, public service or economic development objectives of UNIVERSITY consistent with its status as a public institution of higher education.

NOW, THEREFORE, the Parties agree:

1.0. THE RESEARCH

1.1. STATEMENT OF WORK. UNIVERSITY will use reasonable efforts to perform the research project titled Licensing of Micro Modular Nuclear Reactor for Siting at UIUC and more fully described in the Statement of Work (SOW) attached to this Agreement as Exhibit A).

1.2. TECHNICAL REPORTS. UNIVERSITY will furnish to SPONSOR written progress reports of the Research in such detail that SPONSOR reasonably requests and if requested, a final report summarizing the Research and results within ninety (90) days following expiration of this Agreement.

1.3. PRINCIPAL INVESTIGATOR. The Principal Investigators who will direct the Research for the UNIVERSITY is Dr. Caleb Brooks (______). The Principal Investigator who will direct the Research for SPONSOR is Dr. Junaid Razvi (______). If either Principal Investigator becomes unable to perform this Agreement for any reason, UNIVERSITY may appoint a successor Principal Investigator with SPONSOR’s written approval. Either Party may chose to terminate this Agreement in accordance with Section 3.4 if the Parties cannot agree on an acceptable successor for the UNIVERSITY within a reasonable time.

1.4. EQUIPMENT/SUPPLIES. Title to all equipment and property purchased by UNIVERSITY under this Agreement will be in and remain with UNIVERSITY even after completion or termination of the Agreement.

2.0. FINANCIAL

2.1. RESEARCH COSTS. SPONSOR and UNIVERSITY agree to perform the Scope of Work in Exhibit A, and SPONSOR agrees to pay the costs for the performance in accordance with UNIVERSITY’S proposal to SPONSOR and detailed in Exhibit B. SPONSOR agrees to pay to UNIVERSITY, the direct and the facilities and administration (“F&A”) costs (collectively “Research Costs”) that UNIVERSITY incurs in performing the Agreement # _____

Research, not to exceed the amounts shown in Exhibit B. Neither UNIVERSITY nor SPONSOR is obligated to expend or pay, respectively, any funds in excess of the Research Costs for the Research. The F&A cost rate will remain in effect during the Term as described in Article 3.1.

2.2. PAYMENT SCHEDULE. SPONSOR will pay to UNIVERSITY the Research Costs in U.S. dollars as follows:

This is a cost-reimbursement agreement. No more frequently than monthly, UNIVERSITY will submit invoices to SPONSOR evidencing the actual Research Costs described in Exhibit B (“Budget”) and incurred by UNIVERSITY in performing the Research. SPONSOR will pay the full amount due within 30 days from its receipt of an invoice.

This is a fixed-price agreement. Within 30 days of the Effective Date, SPONSOR will pay UNIVERSITY \$_____ and thereafter as follows: _____ for total compensation of \$_____.

2.3. BILLING. UNIVERSITY will send all invoices to COMPANY at the following address:

COMPANY’s .

COMPANY’s invoice contact:

Name: Ms. Giulia Venneri

Phone Number: _____

Email Address: _____

COMPANY’s billing address to include on invoice:

Ultra Safe Nuclear Corporation, Attn: Accounts Payable 2288 W. Commodore Way, Suite 100
Seattle, WA 98199

2.4. REMITTANCE. SPONSOR will pay UNIVERSITY through one of the following payment options:

(10) (a) By check made payable to the “University of Illinois” and mailed to:

(b) By Automated Clearinghouse (“ACH”) sent to UNIVERSITY’s bank account:

Financial Institution

JP Morgan Chase Bank, N.A.

Address

Nine-Digit Routing Transit Number

Depositor Account Title

Depositor Account Number

Type of Account

(c) Domestic/International Wire. By Wire transfer sent to UNIVERSITY's bank account:

Financial Institution
Address
Nine-Digit Routing Transit Number
Depositor Account Title
Depositor Checking Account Number
Swift Code:
Type of Account:

JP Morgan Chase Bank, N.A.

3.0. TERM AND TERMINATION

3.1. TERM. This Agreement is effective on January 1, 2022 ("Effective Date") and will terminate on December 31, 2024 unless sooner terminated in accordance with this Section 3 ("Term"). The Parties may extend the Term by written amendment.

3.2. TERMINATION FOR CONVENIENCE. Either Party may terminate this Agreement for convenience by providing 30 days' advance written notice to the other Party.

3.3. TERMINATION FOR BREACH. Upon material breach, the aggrieved Party may terminate this Agreement provided that the breaching Party fails to cure the breach within 30 days after receipt of written notice. This remedy is in addition to any other remedies available at law.

3.4. IMMEDIATE TERMINATION. Either Party may terminate this Agreement effective immediately upon notice to the other if: (a) the Parties cannot agree on an acceptable successor Principal Investigator; (b) SPONSOR has been declared insolvent, ceases (or threatens to cease) to carry on its business; or an administrator or receiver has been appointed over all or part of its assets; (c) SPONSOR's failure to pay promptly; or (d) either Party is debarred or excluded from participating in any government program.

3.5. EFFECT OF TERMINATION. If SPONSOR terminates this Agreement for convenience, SPONSOR will pay for all Research Costs incurred through the date of termination. SPONSOR will make diligent efforts to cancel any future obligations, and SPONSOR agrees to pay the obligations that are non-cancelable, even though the obligations may extend beyond the termination date. For any other termination, SPONSOR will pay UNIVERSITY for all Research Costs incurred through the termination date. Termination will not affect the Parties' rights and obligations accrued prior to termination.

4.0. CONFIDENTIAL INFORMATION

4.1. CONFIDENTIALITY OBLIGATION. The Parties have previously entered into a Non-Disclosure Agreement (NDA) dated July 2, 2020, which is hereby attached as Exhibit C. The terms of the NDA shall apply to the exchange of confidential information, if any, made by the Parties under this Agreement. In the event the NDA terminates or expires prior to the termination or expiration of this Agreement, the Parties agree that the term of the NDA shall be extended until the termination or expiration of this Agreement, and all terms of the expired NDA shall survive with regard to this Agreement.

4.2. RESPONSE TO INFORMATION REQUESTS. If UNIVERSITY receives a request under the Illinois Freedom of Information Act or a request by legal process or administrative order to disclose Confidential Information, UNIVERSITY will use reasonable efforts to provide prompt notice to SPONSOR and will reasonably cooperate with SPONSOR to protect any SPONSOR Confidential Information.

5.0. PUBLICATION/PUBLIC PRESENTATIONS

5.1. REVIEW PERIOD. UNIVERSITY researchers may publish or publicly disclose non-confidential Research results after notifying SPONSOR of intent to publish, and providing SPONSOR a 30-day period for review and comment. Upon written notice by SPONSOR that the proposed publication contains SPONSOR Confidential Information or enabling disclosures of Inventions (as defined below), UNIVERSITY will either revise the publication to eliminate such disclosures, or will delay publication to allow for preparation and filing of U.S. patent applications. UNIVERSITY will consider comments provided by SPONSOR and work with SPONSOR in good faith to endeavor to resolve all outstanding publication issues, prior to proceeding with the publication or public disclosure, but in no event will UNIVERSITY's ability to publish or publicly disclose its own research results or non-confidential information be denied by SPONSOR.

5.2. COPIES OF PUBLICATIONS. UNIVERSITY will furnish SPONSOR with a copy of any publications resulting from the Research.

5.3. ACKNOWLEDGMENT. Each Party will acknowledge the contributions of the other Party in publications or public presentations as scientifically appropriate.

6.0. INTELLECTUAL PROPERTY

6.1. INVENTIONS. "Inventions" means those potentially patentable discoveries, including pending patent applications and issued patents, first conceived and actually reduced to practice in performance of the Research. UNIVERSITY shall own all Inventions first conceived and actually reduced to practice solely by UNIVERSITY employees ("UNIVERSITY Inventions"). SPONSOR shall own all Inventions otherwise first conceived and actually reduced to practice solely by SPONSOR employees ("SPONSOR Inventions"). The Parties shall jointly own all Inventions first conceived and actually reduced to practice by both UNIVERSITY and SPONSOR employees ("Joint Inventions").

6.2. CONFIDENTIALITY OF INVENTION DISCLOSURES. UNIVERSITY will promptly notify SPONSOR of any Invention disclosure received by its Office of Technology Management ("OTM"). SPONSOR shall treat all UNIVERSITY Invention disclosures as Confidential Information. Notwithstanding Section 4.1, SPONSOR's obligation of confidentiality for Invention disclosures shall continue until the Confidential Information becomes publicly available through no fault of SPONSOR. Each Party will promptly notify the other of any Joint Inventions.

6.3. PATENTS

6.3.1. PATENT FILING. At SPONSOR's request and expense, UNIVERSITY will file patent applications in the United States and in foreign countries for UNIVERSITY or Joint Inventions. For Joint Inventions, SPONSOR may, with UNIVERSITY approval, control the patent application filing, prosecution and maintenance. SPONSOR will make any filing request to UNIVERSITY in writing and within 60 days of UNIVERSITY's notice of Invention disclosure. UNIVERSITY will keep SPONSOR promptly informed regarding the status of any patent application filed at SPONSOR's expense and will give SPONSOR reasonable opportunity to comment. If SPONSOR elects not to have UNIVERSITY file patent applications, then UNIVERSITY may, at its discretion and at its expense, file patent applications in the United States and in foreign countries for any UNIVERSITY or Joint Invention.

6.3.2. FOREIGN FILING ELECTION. SPONSOR will notify UNIVERSITY of any foreign countries in which SPONSOR desires a license at least 60 days prior to the respective foreign filing due date.

6.3.3. COSTS. If SPONSOR requests UNIVERSITY to file a patent application or if SPONSOR elects to license UNIVERSITY Inventions, SPONSOR will pay UNIVERSITY, within 30 days of invoice date, all documented costs to secure and maintain the patents.

6.4 LICENSING. In consideration of SPONSOR's support of the Research, UNIVERSITY grants to SPONSOR the following:

6.4.1 NON-COMMERCIAL USE LICENSE. A non-exclusive, non-transferable, royalty-free license to practice each UNIVERSITY Invention for non-commercial purposes.

6.4.2 COMMERCIAL USE LICENSE

A. UNIVERSITY INVENTIONS: The option to negotiate a royalty-bearing commercial license in a designated field of use and territory, for either non-exclusive or exclusive rights in each UNIVERSITY Invention, which SPONSOR may elect by written notice to UNIVERSITY no later than six months after UNIVERSITY's notice of Invention disclosure. The negotiation period for the license shall be three months from the date of notice of election. If the parties have not entered into a license before the end of the negotiation period, then UNIVERSITY may license the Invention to third parties without further obligation to SPONSOR.

B. JOINT INVENTIONS: The option to negotiate an exclusive, royalty-bearing commercial license in a designated field of use and territory which SPONSOR may elect by written notice to UNIVERSITY no later than six months after UNIVERSITY's notice of Invention disclosure. The negotiation period for the license shall be three months from the date of notice of election. If the parties have not entered into a license before the end of the negotiation period, then UNIVERSITY may non- exclusively license its interest in the Joint Invention to third parties without further obligation to SPONSOR.

6.5. BACKGROUND INTELLECTUAL PROPERTY. Nothing in this Agreement grants to either Party any rights or interest in the other Party's Background Intellectual Property. "Background Intellectual Property" means (a) all works of authorship created outside the scope of this Agreement and (b) potentially patentable discoveries, including pending patent applications and issued patents, conceived or first reduced to practice outside the scope of this Agreement. Any Background Intellectual Property that is reasonably anticipated by the Principal Investigator to be required to perform the Research or to practice the results thereof will be specified in an exhibit to this Agreement.

6.6. CREATE ACT. The Parties agree by marking this box X that this Agreement constitutes a "joint research agreement" as that term is defined by the Cooperative Research and Technology Enhancement Act of 2004, pre-America Invents Act ("AIA") 35 U.S.C. § 103(c) and/or AIA USC 102(c) and 100(h). In the event of any Inventions, the Parties will reasonably cooperate in invoking the CREATE Act and its companion regulations to overcome an obviousness or novelty rejection of a patent application.

6.7 COPYRIGHTS AND SOFTWARE

6.7.1. OWNERSHIP. Title to all original works of authorship created in performance of the Research and in which copyright may be claimed ("Copyrightable Works") shall vest initially in the author, subject to the policies of the Party that employs the author. Any joint work, as that term is defined by the U.S. Copyright Act of 1976, 17 U.S.C. § 101, as amended, shall be jointly owned, but co-owners shall have no duty of accounting for any profits.

6.7.2. INTERNAL USE LICENSE. UNIVERSITY grants to SPONSOR a non-exclusive, royalty-free license to use, reproduce, prepare derivative works, display, distribute and perform all UNIVERSITY-owned Copyrightable Works (including any computer software and its documentation and/or databases first developed and delivered) for SPONSOR's non-commercial purposes, provided that SPONSOR shall not have the right to market or sublicense the Copyrightable Works or distribute copies or derivative works to third parties unless such rights are provided for in a separate distribution or licensing agreement.

7.0 DELIVERABLES. "Deliverables" are those tangible (corporeal) items, as distinguished from intangible (intellectual) property, produced in performance of the Research and identified as a Deliverable in Exhibit A. UNIVERSITY shall hold title to all original data, information and results generated by UNIVERSITY in performance of the Research along with all corresponding intellectual property rights; provided however, that title to tangible items will vest in SPONSOR upon delivery by UNIVERSITY. SPONSOR shall retain ownership of all tangible items supplied by SPONSOR to UNIVERSITY to perform the Research. UNIVERSITY retains the right to use the Deliverables for research and academic purposes. To be clear, all methodologies, technologies and know-how described in the Deliverables or used by UNIVERSITY to create the Deliverables shall be considered intellectual property and subject to ownership and licensing rights under Article 6.

8.0 DISCLAIMER OF WARRANTIES. UNIVERSITY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, REGARDING ITS PERFORMANCE UNDER THIS AGREEMENT. UNIVERSITY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, USE OR FITNESS FOR A PARTICULAR PURPOSE AND NON- INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO DATA, INVENTIONS, COPYRIGHTABLE WORKS, DELIVERABLES, OR OTHER RESEARCH RESULTS PROVIDED BY UNIVERSITY.

9.0 LIMITATION OF/RELEASE FROM LIABILITY

9.1. LIMITATION OF LIABILITY. UNIVERSITY SHALL NOT BE LIABLE TO SPONSOR FOR INDIRECT, SPECIAL, CONSEQUENTIAL, PUNITIVE, INCIDENTAL OR OTHER DAMAGES (INCLUDING LOST REVENUE, PROFITS, USE, DATA OR OTHER ECONOMIC LOSS OR DAMAGE) HOWEVER CAUSED AND REGARDLESS OF THEORY OF LIABILITY (WHETHER FOR BREACH OR IN TORT, INCLUDING NEGLIGENCE) ARISING FROM, RELATED TO, OR CONNECTED WITH SPONSOR'S USE OF DATA, INVENTIONS, COPYRIGHTABLE WORKS, DELIVERABLES, OR ANY OTHER RESEARCH RESULTS PROVIDED BY UNIVERSITY, EVEN IF UNIVERSITY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

9.2. RELEASE FROM LIABILITY. SPONSOR releases UNIVERSITY and its Trustees, officers, employees, and agents from all liability, and shall be responsible, for any and all costs, damages, and expenses, including attorney fees, arising from any claims, damages, and liabilities asserted by third parties in connection with or arising from SPONSOR's use of data, Inventions, Copyrightable Works, Deliverables, or any other Research results provided by UNIVERSITY.

10.0. GENERAL PROVISIONS

10.1. FISCAL MANAGEMENT. UNIVERSITY will maintain complete and accurate accounting records in accordance with accepted accounting practices for institutions of higher education. UNIVERSITY will make the accounting records available for inspection and audit by SPONSOR or its authorized agent, at reasonable times upon reasonable notice at SPONSOR's expense for three years following the end of UNIVERSITY's fiscal year(July 1 - June 30) in which Research Costs are incurred.

10.2. USE OF NAMES. Neither Party will use the name of the other in any form of advertising or publicity without the express written permission of the other Party. SPONSOR shall seek permission from UNIVERSITY by submitting the proposed use, well in advance of any deadline, to the Associate Chancellor for Public Affairs, University of Illinois via email at.

10.3. RELATIONSHIP OF THE PARTIES. Neither Party is agent, employee, legal representative, partner or joint venturer of the other. Neither Party has the power or right to bind or commit the other.

10.4. GOVERNING LAW. This Agreement will be governed by and construed in accordance with the laws of the State of Illinois, U.S.A., without reference to its conflict of law provisions.

10.5. THIRD PARTY BENEFICIARIES. This Agreement does not create any rights, or rights of enforcement, in third parties.

10.6. SEVERABILITY. If a court of competent jurisdiction finds any provision of this Agreement legally invalid or unenforceable, such finding will not affect the validity or enforceability of any other provision of this Agreement and the Parties will continue to perform. If the Agreement cannot be performed in the absence of the provision, this Agreement will terminate upon 30 days' written notice by one Party to the other Party.

10.7. MERGER. This Agreement and all attachments embody the entire understanding of the Parties and will supersede all previous or contemporaneous communications, either verbal or written, between the Parties relating to this Agreement. Purchase orders, or similar payment instruments, issued after this Agreement is signed do not amend or supplement the terms of this Agreement but are issued as a payment mechanism only.

10.8. AMENDMENTS. No modification to this Agreement will be effective unless confirmed in a written amendment signed by each Party's authorized representative.

10.9. COUNTERPARTS. The Parties may sign this Agreement in one or more counterparts, each of which constitutes an original and all of which together constitute the Agreement. Facsimile or scanned PDF signatures shall constitute original signatures for all purposes.

10.10. ASSIGNMENTS. This Agreement shall bind, and inure to the benefit of, the Parties and any successors to substantially the entire assets of the respective Party. Neither Party may assign this Agreement without first obtaining the prior written consent of the other Party, and any attempted assignment is void.

10.11. FORCE MAJEURE. Each Party will be excused from performance of the Agreement only to the extent that performance is prevented by conditions beyond the reasonable control of the affected Party. The Party claiming excuse for delayed performance will promptly notify the other Party and will resume its performance as soon as performance is possible.

10.12. EXPORT CONTROL. Each Party acknowledges that performance of all obligations under this Agreement is contingent on compliance with applicable United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States government and/or written assurances by SPONSOR that SPONSOR will not re-export data or commodities to certain foreign countries or nationals thereof without prior approval of the cognizant government agency.

Prior to providing UNIVERSITY with any items subject to export control laws, SPONSOR will notify UNIVERSITY and identify the items at issue and the applicable export control laws. If the items are subject to the Export Administration Regulations (“EAR”), SPONSOR will either furnish to UNIVERSITY the applicable Export Control Classification Numbers or indicate that EAR 99 applies. If the items are subject to the International Traffic in Arms Regulations (“ITAR”), SPONSOR will notify UNIVERSITY of the relevant United States Munitions List (“USML”) categories and subcategories. UNIVERSITY may decline to accept any export-controlled items. SPONSOR will direct all notices given under this section to UNIVERSITY’s Export Compliance Officer, Sponsored Programs Administration; 1901 South First Street, Champaign, IL 61820; email:.

10.13. RESOLUTION OF DISPUTES. The Parties will enter into good faith negotiations to resolve any disputes arising from this Agreement. Resolution will be confirmed by written amendment to this Agreement. If the Parties cannot resolve any dispute amicably through negotiation, either Party may terminate this Agreement in accordance with Article 3.0.

10.14. SURVIVAL. All terms of this Agreement that are intended to survive termination or expiration in order to be effective shall survive such termination or expiration.

10.15. WAIVER. No waiver of any right, remedy, power or privilege by any Party under this Agreement shall be effective unless made in writing. No waiver of any breach of any provision of this Agreement shall constitute a waiver of any subsequent breach of the same or of any other provision of this Agreement.

10.16. NOTICES. Any notice given under this Agreement will be in writing and will be effective upon receipt evidenced by: (a) personal delivery; (b) confirmed facsimile transmission; (c) confirmed receipt of email; (d) return receipt of postage prepaid registered or certified mail; or (e) delivery confirmation by commercial overnight carrier. All communications will be sent to the addresses set forth below or to such other address designated by a Party by written notice to the other Party in accordance with this section:

UNIVERSITY: *For matters related to the Sponsored Research Agreement:*

University of Illinois
Director Pre-Award, Sponsored Programs Administration 1901 South First Street
Champaign, IL 61820-7406
Telephone:
Fax:
Email:

UNIVERSITY: *For matters related to intellectual property and licensing:*

University of Illinois
Director, Office of Technology Management
319 Ceramics Building
105 South Goodwin Avenue
Urbana, IL 61801
Telephone:
Fax:
Email:

SPONSOR: Steven J. Cuevas, General Counsel
2288 W. Commodore Way, Suite 300
Seattle, WA 98199
Telephone:
Fax: N/A
Email: S.

AUTHORIZED SIGNATORIES. Each Party represents that the individuals signing this Agreement on its behalf are authorized, and intend, to bind the organization in contract.

**THE BOARD OF TRUSTEES OF
THE UNIVERSITY OF ILLINOIS**

/s/ Paul N. Ellinger

Paul N. Ellinger, Interim Comptroller

Date 04/08/2022

/s/ Paula Jorge

Signature of Comptroller Delegate

Paula Jorge, Associate Director

Printed Name and Title of Comptroller Delegate

UNDERSTOOD AND AGREED:

/s/ Caleb Brooks

Principal Investigator

Professor Caleb Brooks

ULTRA SAFE NUCLEAR CORPORATION

/s/ Francesco L. Venneri

Francesco L. Venneri, Chief Executive Officer

Date 31-Mar-22

EXHIBIT A

STATEMENT OF WORK

Licensing of Micro Modular Nuclear Reactor for Siting at UIUC

In support of The Research and in collaboration with the SPONSOR, UNIVERSITY agrees to perform the following activities that are needed to support the development of a License Application to the U.S. Nuclear Regulatory Commission (USNRC) for construction of a MMR type RTR on the UIUC campus.

These activities will be carried out in compliance with SPONSOR's Quality Assurance (QA) Program, where applicable, to ensure compliance with USNRC's QA requirements:

- a) Pre-application engagement with USNRC
- b) Public engagement on the proposed RTR deployment
- c) Data gathering in support of Environmental Review development and USNRC submissions
- d) Support SPONSOR's fund raising activities in support of the development and deployment of the RTR
- e) Site assessments, and development of an Environmental Impact Statement for the designated site to support a NEPA review by USNRC
- f) Design and analysis activities using USNRC endorsed codes and standards
- g) Preparation of topical technical reports/white papers to support the design and safety case
- h) Studies to support planning of Integrated Energy Systems development
- i) design and development for workforce training program
- j) Support SPONSOR's development of a complete Preliminary Safety Analysis Report and in the satisfactory resolution of all USNRC Requests for Additional Information (RAIs) and concerns.
- k) Engage NRC through the licensing process including a NEPA review, submittal of Safety Analysis Report, and subsequent reviews by the Advisory Committee on Reactor Safeguards to enable issuance of a MMR[®] Construction Permit
- l) Related activities that may arise during the development of the project and regulatory engagements.
- m) Meet regularly with SPONSOR virtually to assess progress and support SPONSOR personnel visits to UNIVERSITY to assess progress

EXHIBIT B

BUDGET

The budget, including annual allocations for the three-year period of performance is as follows. This budget is based on the proposal submitted by UNIVERSITY to SPONSOR^{1, 2}

The funding commitment by SPONSOR shall be on an annual basis. At the end of each calendar year, SPONSOR and UNIVERSITY will engage to review the budget for the subsequent year; this Exhibit B will then be revised accordingly.

CY22		CY23		CY24		Total
SPONSOR PROVIDED FUNDING						
\$	816,738	\$	839,575	\$	863,097	\$ 2,519,410

¹ Beck-LeFaivre, Melissa Lynn <> & Brooks, Caleb< to USNC Staff, "UIUC docs: SF-424A Budget Information - Non-Construction Programs," E-mails dated 21 April 2021 and April 20, 2021

² "IND FOA FY2021 Budget Justification FKD-21-26158," submitted in response to the Industry Funding Opportunity Announcement, submitted by USNC and UIUC to the U.S. Department of Energy, Office of Nuclear Energy, May 26, 2021

Agreement # _____

EXHIBIT C
NON-DISCLOSURE AGREEMENT

(Omitted)



SPONSORED RESEARCH AGREEMENT AMENDMENT No. 01

This Amendment No. 01 between The Board of Trustees of the University of Illinois (“University”) and Ultra Safe Nuclear Corporation (“SPONSOR”) modifies certain terms and conditions of the Sponsored Research Agreement identified as 108179 (“Agreement”).

The Agreement is amended as follows:

2.2 Payment Schedule. - Delete in its entirety and replace with the following:

SPONSOR will pay to UNIVERSITY the Research Costs in U.S. dollars as follows: This is a cost-reimbursement agreement. No more frequently than monthly, UNIVERSITY will submit invoices to SPONSOR evidencing the actual Research Costs described in Exhibit B (“Budget”) and incurred by UNIVERSITY in performing the Research. SPONSOR will pay the full amount due within 30 days from its receipt of an invoice. Carryover is automatic.

Article 3.1. Term. - Delete in its entirety and replace with the following:

This Agreement is effective on January 1, 2022 (“Effective Date”) and will terminate on March 31, 2025 unless sooner terminated in accordance with this Section 3 (“Term”). The Parties may extend the Term by written amendment.

Other.

Exhibit B: Budget updated to include budget period dates.

All other terms and conditions of the Agreement remain in effect.

This Amendment is effective on the date of the last party to sign. Each Party represents that the individuals signing this Agreement on its behalf are authorized, and intend, to bind the Party in contract.

THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS

SPONSOR

/s/ Paul N. Ellinger
Paul N. Ellinger, Comptroller

/s/ Francesco Venneri
Signature

Date 01/09/2023

Francesco Venneri, Chief Executive Officer
Printed Name and Title of Comptroller Delegate

/s/ Paul Jorge
Signature of Comptroller Delegate

Paula Jorge, Associate Director
Printed Name and Title of Comptroller Delegate

Date 14-Dec-22

Amendment to Exhibit B: Budget

The budget, with original annual allocations for the three-year period of performance is amended as follows.

Other than the current period of performance, the funding commitment by SPONSOR shall remain on an 12 month basis. No later than end of February 2023, SPONSOR and UNIVERSITY will engage to review, amend if appropriate, and affirm the budget for the subsequent periods; this Exhibit B will then be revised accordingly.

<u>1/1/2022-3/31/2023</u>	<u>4/1/2023-3/31/2024</u>	<u>4/1/2024-3/31/2025</u>	
SPONSOR PROVIDED FUNDING			
<u>\$ 816,738</u>	<u>\$ 839,575</u>	<u>\$ 863,097</u>	<u>\$ 2,519,410</u>

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE DISCLOSURE OF SUCH INFORMATION WOULD CONSTITUTE A CLEARLY UNWARRANTED INVASION OF PERSONAL PRIVACY.



SPONSORED RESEARCH AGREEMENT AMENDMENT No. 02

This Amendment No. 02 between The Board of Trustees of the University of Illinois (“University”), and NANO Nuclear Energy Inc. (“Sponsor”) modifies certain terms and conditions of the Sponsored Research Agreement entered into on January 1, 2022 and identified as Award No. 108179, as previously amended in Amendment No. 1, effective January 1, 2022 (“Agreement”).

WHEREAS, pursuant to the Sale Order entered on October 30, 2024 by the United States Bankruptcy Court for the District of Delaware, NANO Nuclear Energy Inc. became a successor to substantially the entire assets of Ultra Safe Nuclear Corporation.

WHEREAS, the Parties now desire to amend the Agreement to substitute NANO Nuclear Energy Inc. as an assignee of Ultra Safe Nuclear Corporation’s rights and obligations under the Agreement.

NOW, THEREFORE, in consideration of the above premises and of the mutual promises and other good and valuable consideration set forth in the Agreement, the Agreement is amended as follows:

1. In the Preamble to the Agreement, reference to Ultra Safe Nuclear Corporation is hereby deleted and replaced with NANO Nuclear Energy Inc.
2. Exhibit A – Statement of Work is hereby deleted in its entirety and replaced with the revised Exhibit A attached hereto.
3. Exhibit B – Budget is hereby deleted in its entirety and replaced with the revised Exhibit B attached hereto.
4. Section 1.3 is hereby deleted in its entirety and replaced with the following:

1.3. PRINCIPAL INVESTIGATOR. The Principal Investigator who will direct the Research for the UNIVERSITY is Dr. Caleb Brooks (csbrooks@illinois.edu). The Principal Investigator who will direct the Research for SPONSOR is Florent Heidet (florent@nanonuclear.com). If either Principal Investigator becomes unable to perform this Agreement for any reason, UNIVERSITY may appoint a successor Principal Investigator with SPONSOR’s written approval. Either Party may choose to terminate this Agreement in accordance with Section 3.4 if the Parties cannot agree on an acceptable successor for the UNIVERSITY within a reasonable time.

5. Section 2.3 is hereby deleted in its entirety and replaced with the following:

2.3. BILLING. UNIVERSITY will send all invoices to COMPANY at the following address:

Name: James Walker and Jaisun Garcha
Phone Number:
E-mail Addresses:
Address: 10 Times Square 30th Floor, New York, NY 10018

6. Section 3.1 is hereby deleted in its entirety and replaced with the following:

3.1. TERM. This Agreement is effective on January 1, 2022 (“Effective Date”) and will terminate on February 28, 2027 unless sooner terminated in accordance with this Section 3 (“Term”). The Parties may agree to extend the Term by written amendment for a period of time sufficient to enable the University to complete any activities in the Statement of Work that Sponsor believes in good faith have not been completed or will not be completed before the end of the term.

7. Section 4.1 is hereby deleted in its entirety and replaced with the following:

4.1. CONFIDENTIALITY OBLIGATION. The Parties have previously entered into a Mutual Confidentiality Agreement (“NDA”) dated September 22, 2023, as amended on February 5, 2025, which is hereby attached as Exhibit C. The terms of the NDA shall apply to the exchange of confidential information, if any, made by the Parties under this Agreement. In the event the NDA terminates or expires prior to the termination or expiration of this Agreement, the Parties agree that the term of the NDA shall be extended until the termination or expiration of this Agreement, and all terms of the expired NDA shall survive with regard to this Agreement.

8. Section 6.4.1 is hereby deleted in its entirety and replaced with the following:

6.4.1. NON-EXCLUSIVE COMMERCIAL USE LICENSE. A non-exclusive, non-transferable, royalty-free license to practice each UNIVERSITY invention for commercial purposes within the field of nuclear energy.

9. Section 6.7 is hereby added as follows:

6.7. UNIVERSITY INVENTIONS ARE LICENSED “AS IS.” UNIVERSITY DISCLAIMS ANY AND ALL WARRANTIES CONCERNING UNIVERSITY INVENTIONS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, OR NON-INFRINGEMENT. THE FOREGOING DISCLAIMER OF EXPRESS AND IMPLIED WARRANTIES APPLIES TO ANY PRODUCTS OR SERVICES DERIVED FROM UNIVERSITY INVENTIONS BY OR ON BEHALF OF SPONSOR AND SPONSOR ASSUMES THE ENTIRE RISK AND RESPONSIBILITY FOR ALL SUCH PRODUCTS AND SERVICES.

10. Section 6.8 is hereby added as follows:

In no event shall UNIVERSITY, its trustees, directors, officers, faculty, staff, students, employees and affiliates (collectively, the “Agents”), be responsible or liable for any indirect, special, punitive, incidental or consequential damages, or lost profits to SPONSOR or any other individual or entity arising out of or relating to SPONSOR’s exercise of rights granted in Section 6.4, including without limitation, any commercial use of UNIVERSITY Inventions, regardless of legal theory. The above limitations on liability apply even though UNIVERSITY, or any of its Agents, may have been advised of the possibility of such damage.

11. Section 6.9 is hereby added as follows:

SPONSOR shall indemnify and hold harmless the UNIVERSITY, and its Agents, from any and all claims, losses, damages, and/or demands made against them, as well as costs and expenses (including attorney's fees) arising out of or relating to SPONSOR's use of UNIVERSITY Inventions or the production, use or sale of products or services resulting from such use, whether or not such claims are groundless or without merit or basis.

12. Section 6.10 is hereby added as follows:

SPONSOR shall obtain and carry commercial insurance in full force and effect with the coverages and limits as are reasonably adequate to ensure that SPONSOR can meet its obligations to UNIVERSITY pursuant to Section 6.9 herein, the nature and extent of which insurance shall be commensurate with usual and customary industry practices for similarly situated companies. Such insurance will be written by a reputable insurance company. Notwithstanding, the requirements of this Section 6.10 may be met if SPONSOR has a program of funded self-insurance in lieu of or supplementing commercial insurance and UNIVERSITY deems such program to be adequate. UNIVERSITY may elect to review financial information in its evaluation of the adequacy of self-insurance funding.

13. Exhibit C – Non-Disclosure Agreement is hereby deleted in its entirety and replaced with the revised Exhibit C attached hereto.

14. SPONSOR's notice information provided in Section 10.16 is hereby deleted in its entirety and replaced with the following:

Name: James Walker

Phone Number:

E-mail Address:

Address: 10 Times Square 30th Floor, New York, NY 10018

All other terms and conditions of the Agreement remain in effect. In the event of any conflict between this Amendment No. 2 and the Agreement, the terms of this Amendment No. 2 shall control.

This Amendment No. 2 is effective as of January 10, 2025 ("Amendment No. 2 Effective Date"). Sponsor is not responsible and does not assume liability for any breaches of the Agreement by its predecessor, Ultra Safe Nuclear Corporation, prior to the Amendment No. 2 Effective Date. Each Party represents that the individuals signing this Amendment on its behalf are authorized, and intend, to bind the Party in contract.

[Signatures on following page]

THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS

NANO NUCLEAR ENERGY INC.

/s/ Paul N. Ellinger

Paul N. Ellinger, Comptroller

Date 03/29/2025

/s/ Julie Robinson

Julie Robinson, Comptroller Delegate and Senior Associate Director

/s/ James Walker

Signature

James Walker, Chief Executive Officer

Date 27th March 2025

EXHIBIT A
STATEMENT OF WORK
Licensing of Micro Modular Nuclear Reactor for Siting at UIUC

In support of The Research and in collaboration with the SPONSOR, UNIVERSITY agrees to perform the following activities that are needed to support the development and submittal of a License Application to the U.S. Nuclear Regulatory Commission (USNRC) for construction of a Kronos MMR advanced research reactor on the UIUC campus. These activities will be carried out in compliance with USNRC's QA requirements for licensing a research reactor:

1. Licensing activities:
 - a. Lead pre-application engagement with USNRC as described by the Regulatory Engagement Plan
 - b. Assist in the preparation of topical technical reports, topical reports, white papers, and other documents supporting licensing activities
 - c. Assist SPONSOR's development of a Preliminary Safety Analysis Report and Environmental Report
 - d. Lead NRC engagement through the licensing process including submittal of a Kronos MMR Construction Permit Application
 - e. Assist in the satisfactory resolution of all USNRC Requests for Additional Information (RAIs) and audit questions on licensing documents
 - f. Assist in site identification and characterization to enable Environmental Assessment activities
2. Workforce development:
 - a. Assist SPONSOR in workforce development
 - b. Assist SPONSOR in the design, development, and implementation of initial operator qualification and requalification programs
3. Design and safety analysis activities:
 - a. Provide continuity with past development of the MMR design
 - b. Assist SPONSOR in design and analysis activities including reactor modeling and simulation
 - c. Assist analysis and planning of Kronos MMR energy production with the University energy supply solutions
 - d. Assist SPONSOR with site layout and constructability assessment
4. Stakeholder engagement and communication activities:
 - a. Lead public engagement on the proposed research reactor deployment
 - b. Assist SPONSOR activities in furtherance of Kronos MMR success
 - c. Assist SPONSOR's engagement with state and federal agencies
5. Other related activities that may arise during the development of the project and regulatory engagements.
6. Meet regularly with SPONSOR virtually to assess progress and support SPONSOR personnel visits to UNIVERSITY to assess progress

Deliverables:

- The UNIVERSITY will provide monthly progress reports to the SPONSOR detailing work performed in the previous month and planned activities for the next month.
-

Amendment to Exhibit B: Budget

The budget and period of performance are amended as follows.

Period of performance	1/1/2022-3/31/2023	4/1/2023-6/30/2024	3/1/2025-2/28/2026	3/1/2026-2/28/2027	Total
Budget	\$ 816,738	\$ 839,575	\$ 863,097	\$ 888,989	\$ 3,408,399
Status	Completed	Completed			

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in this Registration Statement Amendment No. 1 on Form S-3 of our report dated December 30, 2024, relating to the consolidated financial statements of Nano Nuclear Energy, Inc. which appears in the Company's Annual Report on Form 10-K for the year ended September 30, 2024, filed with the Securities and Exchange Commission. We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ WithumSmith+Brown, PC

New York, New York
September 9, 2025
