

**Prospectus Supplement No. 1 to Reoffer Prospectus
of
NANO NUCLEAR ENERGY INC.**

**Up to 677,812 Shares of Common Stock under the
Nano Nuclear Energy Inc. 2025 Equity Incentive Plan**

This Prospectus Supplement, dated February 20, 2026 (this “**Supplement**”), supplements the reoffer prospectus (the “**Reoffer Prospectus**”) filed as part of the Registration Statement on Form S-8 filed by Nano Nuclear Energy Inc. (the “**Company**”, “**us**”, “**our**” or “**we**”) with the U.S. Securities and Exchange Commission (the “**SEC**”) on May 23, 2025, relating to the resale of common stock, par value \$0.0001 per share (the “**Common Stock**”), of the Company which may be offered and sold from time to time by certain of our executive officers and directors (the “**Selling Stockholders**”) who may be deemed “affiliates” of the Company as defined in Rule 405 under the Securities Act of 1933, as amended (the “**Securities Act**”), who have acquired or will acquire such shares in connection with the exercise of stock options granted, and with stock or other awards made, and with the purchase of stock, under the Company’s 2025 Equity Incentive Plan (the “**2025 Plan**”). This Supplement covers 677,812 shares of Common Stock (the “**Shares**”), including (i) shares of Common Stock (inclusive of shares purchased pursuant to the restricted shares granted under the 2025 Plan), and (ii) shares issuable upon vesting of restricted stock units granted to such Selling Stockholders under the 2025 Plan registered pursuant to the Reoffer Prospectus for resale.

You should read this Supplement in conjunction with the Reoffer Prospectus. This Supplement is qualified by reference to the Reoffer Prospectus, except to the extent the information in this Supplement supersedes the information contained in the Reoffer Prospectus.

Our Common Stock is quoted on the Nasdaq Capital Market under the symbol “NNE.” On February 19, 2026, the closing sales price of our Common Stock on the Nasdaq Capital Market was \$25.66 per share.

The Shares may be offered for resale from time to time by any or all of the Selling Stockholders, or their permitted transferees, through public or private transactions, at fixed prices, prevailing market prices at the time of sale, prices related to the prevailing market prices, varying prices determined at the time of sale or negotiated prices. See “Plan of Distribution” in the Reoffer Prospectus. Sales may be made through underwriters, broker-dealers or agents, who are expected to receive compensation in the form of discounts, commissions or agent’s commissions. We will not control or determine the price at which a Selling Stockholder decides to sell its shares. Underwriters, brokers or dealers effecting transactions in these shares should confirm that the shares are registered under applicable state law or that an exemption from registration is available.

The Selling Stockholders and participating underwriters, brokers and dealers may be deemed to be “underwriters” within the meaning of the Securities Act, in which event any profit on the sale of shares of those Selling Stockholders and any commissions or discounts received by those underwriters, brokers or dealers may be deemed to be underwriting compensation under the Securities Act.

An investment in our Common Stock is speculative and subject to significant risk. You should carefully read and consider the risk factors under Item 1A beginning on page 27 of our Annual Report on Form 10-K for the year ended September 30, 2025 and Item 1A on page 38 of our Quarterly Report on Form 10-Q for the three months ended December 31, 2025 for risks relating to investment in the Company’s securities.

Neither the SEC nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the Reoffer Prospectus or this Supplement. Any representation to the contrary is a criminal offense.

The information set forth under the caption “Selling Stockholders” in the Reoffer Prospectus is amended and restated in its entirety as set forth below and is provided for the primary purpose of updating the table of the Selling Stockholders contained in the Reoffer Prospectus.

The date of this Supplement is February 20, 2026

SELLING STOCKHOLDERS

The Reoffer Prospectus relates to the offer and sale, from time to time, by the Selling Stockholders named herein, or their permitted transferees, of shares of our Common Stock issued to the Selling Stockholders under the 2025 Plan, as supplemented by this Supplement.

The following table sets forth the names of the Selling Stockholders, the number of shares of Common Stock owned by each of them as of the date of this Supplement, the number of shares of Common Stock that they may offer pursuant to this Supplement, and the number and percentage of shares of Common Stock to be beneficially owned by each Selling Stockholders assuming all of the shares of Common Stock which may be offered by such Selling Stockholders pursuant to this Supplement are sold.

We cannot advise you as to whether the Selling Stockholders will in fact sell any or all of their Common Stock. The Selling Stockholders may offer all or part of the Common Stock for resale from time to time through public or private transactions, at fixed prices, prevailing market prices at the time of sale, prices related to the prevailing market prices, varying prices determined at the time of sale or negotiated prices. Because the Selling Stockholders may offer all, some or none of their securities, no definitive estimate as to the number of shares of Common Stock that will be held by the Selling Stockholders after an offering can be provided. The Selling Stockholders may sell any, all or none of the shares offered by the Reoffer Prospectus, as supplemented by this Supplement. See “Plan of Distribution.” We will not receive any of the proceeds from the sale of the Common Stock sold by the Selling Stockholders.

Beneficial ownership is determined according to the rules of the SEC, which generally provide that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power over that security. Therefore, beneficial ownership of the Common Stock by each Selling Stockholder includes Common Stock that is currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within sixty (60) days.

Unless otherwise indicated, we believe that all persons named in the table below have sole voting and investment power with respect to Common Stock beneficially owned by them.

Selling Stockholder’s information for each additional Selling Stockholder, if any, will be set forth in a prospectus supplement to the extent required prior to the time of any offer or sale of such Selling Stockholder’s Common Stock pursuant to the Reoffer Prospectus, as supplemented by this Supplement. Any future prospectus supplement may add, update, substitute, or change the information contained in the Reoffer Prospectus, as supplemented by this Supplement, including the identity of each Selling Stockholder and the number of shares of Common Stock registered on its behalf.

Name of Selling Stockholder	Common Stock Owned Before the Offering ⁽¹⁾	Common Stock Owned Before the Offering (%) ⁽²⁾	Common Stock to be Offered for Resale ⁽³⁾	Common Stock Owned After the Offering	Common Stock Owned After the Offering (%) ⁽⁴⁾
Jay Jiang Yu ⁽⁵⁾	9,224,000	17.54%	321,678	9,224,000	17.54%
James Walker ⁽⁶⁾	1,080,000	2.04%	175,086	1,080,000	2.04%
Jaisun Garcha ⁽⁷⁾	515,000	*	105,060	515,000	*
Dr. Florent Heidet ⁽⁸⁾	—	—	38,832	—	—
Dr. Tsun Yee Law ⁽⁹⁾	80,000	*	6,396	80,000	*
Diane Hare ⁽¹⁰⁾	5,000	*	6,396	5,000	—
Dr. Kenny Yu ⁽¹¹⁾	20,000	*	6,396	20,000	*
Dr. Seth Berl ⁽¹²⁾	7,500	*	17,968	—	—

* Less than one percent (1%)

(1) The number of shares of Common Stock listed for each Selling Stockholder is based on the Common Stock held by such Selling Stockholder as of the date of this Supplement but assumes the exercise of all convertible securities held by such Selling Stockholder that are currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within 60 days of the date of this Supplement.

- (2) In calculating the percentages, (a) the numerator is calculated by adding the number of shares of Common Stock held by such Selling Stockholder as of the date of this Supplement and the number of shares of Common Stock issuable upon the exercise of convertible securities held by such Selling Stockholder that are currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within 60 days of the date of this Supplement, if any; and (b) the denominator is calculated by adding an aggregate of 52,083,194 Common Stock outstanding as of February 18, 2026 and the number of shares of Common Stock issuable upon the exercise of convertible securities held by such Selling Stockholder that are currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within 60 days of the date of this Supplement, if any (but not the number of shares of Common Stock issuable upon the exercise of convertible securities held by any other Selling Stockholder).
- (3) The number of shares to be sold includes the shares of Common Stock issuable to each Selling Stockholder pursuant to awards granted under the Company's 2025 Plan and offered hereby.
- (4) In calculating the percentages, assuming the shares of Common Stock issuable to each Selling Stockholder pursuant to awards granted under the Company's 2025 Plan are sold as of the date of this Supplement, (a) the numerator is calculated by adding the number of shares of Common Stock held by such Selling Stockholder as of the date of this Supplement and the number of shares of Common Stock issuable upon the exercise of convertible securities held by such Selling Stockholder that are currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within 60 days of the date of this Supplement, if any; and (b) the denominator is calculated by adding an aggregate of 52,083,194 Common Stock outstanding as of February 18, 2026 and the number of shares of Common Stock issuable upon the exercise of convertible securities held by such Selling Stockholder that are currently exercisable, convertible, or exchangeable, or exercisable, convertible, or exchangeable within 60 days of the date of this Supplement, if any (but not the number of shares of Common Stock issuable upon the exercise of convertible securities held by any other Selling Stockholder).
- (5) Represents (i) 8,724,000 shares of Common Stock held by I Financial Ventures Group LLC. (or the I Financial), a limited liability company incorporated under the laws of Delaware; (ii) 200,000 shares of Common Stock issuable upon the exercise of the vested options by I Financial within 60 days of the date of this Supplement; and (iii) 300,000 shares of Common Stock issuable upon the exercise of the vested options by Jay Jiang Yu within 60 days of the date of this Supplement. Jay Jiang Yu, our President, Secretary, Treasurer, and Chairman of the board of directors, is the sole shareholder and director of I Financial, and exercises voting and dispositive power of the securities held by I Financial. On June 3, 2025 and November 13, 2025, Mr. Yu was granted 137,700 restricted stock units (the "RSUs") and 183,978 RSUs, respectively, under the 2025 Plan. The RSUs shall vest in three equal instalments, with one third (1/3) vesting on each of the first, second and third anniversary of each applicable grant date, subject to the Mr. Yu's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
- (6) Represents (i) 580,000 shares of Common Stock held by James Walker, our Chief Executive Officer and director, and (ii) 500,000 shares of Common Stock issuable upon his exercise of the vested options within 60 days of the date of this Supplement. On June 3, 2025 and November 13, 2025, Mr. Walker was granted 86,064 RSUs and 89,022 RSUs, respectively, under the 2025 Plan. The RSUs shall vest in three equal instalments, with one third (1/3) vesting on each of the first, second and third anniversary of each applicable grant date, subject to the Mr. Walker's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
- (7) Represents (i) 345,000 shares of Common Stock held by Jaisun Garcha, our Chief Financial Officer, and (ii) 170,000 shares of Common Stock issuable upon his exercise of the vested options within 60 days of the date of this Supplement. On June 3, 2025 and November 13, 2025, Mr. Garcha was granted 51,645 RSUs and 53,415 RSUs, respectively, under the 2025 Plan. The RSUs shall vest in three equal instalments, with one third (1/3) vesting on each of the first, second and third anniversary of each applicable grant date, subject to Mr. Garcha's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
-

- (8) Dr. Florent Heidet is the Chief Technology Officer and Head of Reactor Development of the Company. On June 3, 2025 and November 13, 2025, Dr. Heidet was granted 27,555 RSUs and 11,277 RSUs, respectively, under the 2025 Plan. The RSUs shall vest in three equal instalments, with one third (1/3) vesting on each of the first, second and third anniversary of each applicable grant date, subject to Dr. Heidet's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested
- (9) Represents (i) 75,000 shares of Common Stock held by Dr. Tsun Yee Law, our independent director, and (ii) 5,000 shares of Common Stock issuable upon his exercise of the vested options within 60 days of the date of this Supplement. On June 3, 2025 and November 13, 2025, Dr. Law was granted 3,428 RSUs and 2,968 RSUs, respectively, under the 2025 Plan. The RSUs shall vest on the first anniversary of each applicable grant date, subject to Dr. Law's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
- (10) Represents 5,000 shares of Common Stock issuable upon the exercise of the vested options by Diane Hare, our independent director, within 60 days of the date of this Supplement. On June 3, 2025 and November 13, 2025, Ms. Hare was granted 3,428 RSUs and 2,968 RSUs, respectively, under the 2025 Plan. The RSUs shall vest on the first anniversary of each applicable grant date, subject to Ms. Hare's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
- (11) Represents (i) 15,000 shares of Common Stock held by Dr. Kenny Yu, our independent director, and (ii) 5,000 shares of Common Stock issuable upon his exercise of the vested options within 60 days of the date of this Supplement. On June 3, 2025 and November 13, 2025, Dr. Yu was granted 3,428 RSUs and 2,968 RSUs, respectively, under the 2025 Plan. The RSUs shall vest on the first anniversary of each applicable grant date, subject to Dr. Yu's continued service with the Company through each applicable vesting date. As of the date of this Supplement, none of the RSUs have vested.
- (12) Represents 7,500 shares of Common Stock issued upon vesting of 7,500 RSUs on December 3, 2025, held by Dr. Seth Berl, our independent director. On June 3, 2025, Dr. Berl was granted 15,000 RSUs under the 2025 Plan, with 50% vesting on December 3, 2025 and the remaining 50% vesting on the first anniversary of the grant date, subject to Dr. Berl's continued service with the Company through each applicable vesting date. On November 13, 2025, Dr. Berl was granted 2,968 RSUs under the 2025 Plan, all of which shall vest on the first anniversary of the grant date, subject to Dr. Berl's continued service with the Company through the vesting date. As of the date of this Supplement, 7,500 RSUs have vested.
-