

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

VIA EDGAR

March 19, 2024

U.S. Securities and Exchange Commission
Division of Corporation Finance
Office of Energy & Transportation
100 F Street, NE
Washington, D.C. 20549

Attention: Joseph Klinko
Karl Hiller
Cheryl Brown
Karina Dorin

**Re: Nano Nuclear Energy Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted January 31, 2024
CIK 0001923891**

Ladies and Gentlemen:

Nano Nuclear Energy Inc. (the “**Company**,” “**we**,” “**our**” or “**us**”) hereby transmits the Company’s responses to the comment letter received from the staff (the “**Staff**”) of the U.S. Securities and Exchange Commission (the “**Commission**”) on February 9, 2024, relating to the Company’s Amendment No. 1 to Draft Registration Statement on Form S-1, submitted by the Company to the Commission on January 31, 2024 (the “**Registration Statement**”). For the Staff’s convenience, we have repeated below the Staff’s comments in bold and have followed each comment with the Company’s response.

Concurrently with the submission of this response letter, the Company is live filing the Registration Statement via the EDGAR system. The Registration Statement contains revised disclosure based on the Staff’s comments as noted below as well as additional updating disclosures.

Amendment No. 1 to Draft Registration Statement on Form S-1
History of Securities Issuances, page 83

- Please revise your disclosure to indicate the section of the Securities Act or rule under which exemption from registration is claimed and state briefly the facts relied upon to make the exemption available. See Item 701(d) of Regulation S-K.**

Response: In response to the Staff’s comment, we have revised our disclosures under the “*History of Securities Issuances*” section on page 82 of the Registration Statement.

General

- We note you disclose that your estimated expenditures of approximately \$4 million over the next twelve months focus on progressing your development of advanced nuclear microreactors. We also note you disclose that you plan to acquire a nuclear business services and consultancy provider by the end of 2024. Please revise to clarify whether you intend to apply any proceeds from this offering to such acquisition and if such acquisition costs are included in your estimated expenditures of \$4 million over the next twelve months.**

Response: In response to the Staff’s comment, we have revised our disclosures under the “*Prospectus Summary*” section on page 2, “*Risk Factors*” section on pages 12 and 16, “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” section on pages 36 and 37, and the “*Business*” section on pages 42 and 52 of the Registration Statement. The Staff is advised that we have no intention to apply any proceeds from this offering to such acquisition of a nuclear business services and consultancy provider and such acquisition costs are not included in our estimated expenditures of \$4 million over the next twelve months.

We thank the Staff for its review of this response. Should you have any questions or require any additional information, please do not hesitate to contact our legal counsel, Lawrence A. Rosenbloom, Esq. of Ellenoff Grossman & Schole LLP, at lrosenbloom@egslp.com or by telephone at (212) 370-1300.

Very truly yours,

NANO NUCLEAR ENERGY INC.

By: /s/ James Walker

Name: James Walker

Title: Chief Executive Officer

cc: Lawrence A. Rosenbloom, Esq.
