PMC-ND

(1.08.09.13)

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION

RECIPIENT: University of North Dakota **STATE:** ND

PROJECT TITLE : Producing Silicon Anode Materials for Li-ion Batteries

Notice of Funding Opportunity Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0003155	DE-EE0011725	GFO-0011725-001	GO11725

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B3.15 Small-scale indoor research and development projects using nanoscale materials	Siting, construction, modification, operation, and decommissioning of facilities for indoor small-scale research and development projects and small-scale pilot projects using nanoscale materials in accordance with applicable requirements (such as engineering, worker safety, procedural, and administrative regulations) necessary to ensure the containment of any hazardous materials. Construction and modification activities would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible).
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding the University of North Dakota (UND) to design, develop, fabricate, and test a prototype plasma-assisted reactor for Silicon anode production, including the characterization of the anode materials and evaluation of the battery performance.

The proposed award activities would include data analysis and laboratory research. UND (Grand Forks, ND) would carry out the design, fabrication and testing of the reactor, characterization of the feedstock, silicon monoxide (SiO) and graphene production, battery fabrication, and testing. Prototype testing would take place at UND's REE/CM Pilot Plant (Grand Forks, ND).

All project activities would be completed in existing, purpose-built facilities. These facilities already carry out similar development, testing, and prototyping activities. All activities would be carried out at the laboratory bench-scale and no modifications would be made to facilities to test the prototype.

Potential hazards would include the handling of high-voltage plasma sources, reactors, organic solvents, acids, bases, and exhaust. All hazardous materials would be handled in-lab. Graphene contain nanoscale materials and would be handled using proper engineering controls. Existing corporate health and safety policies and procedures would be followed, including employee training, proper protective equipment, monitoring, and internal assessments. All hazards would be managed in accordance with federal, state, and local environmental regulations.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Advanced Materials and Manufacturing Technologies Office (AMMTO)
NEPA review completed by Alex Colling on 04/29/2026.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Nicole Serio Date: 4/29/2026

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☑ Field Office Manager review not required
☐ Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____

Field Office Manager