

PMC-ND
(1.08.09.13)

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



RECIPIENT: [FeNix Magnetics Inc.](#)

STATE: OH

PROJECT TITLE : [Advanced Manufacturing of Alpha Double Prime Iron Nitride \(ADPIN\): An Innovative Rare Earth Element \(REE\) Free Ultra-High Performance Permanent Magnet for Clean Energy Applications](#)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001465	DE-EE0008306	GFO-0008306-001	GO8306

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

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering, analysis, and dissemination

Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

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 funding to [FeNix Magnetics, Inc.](#) to design, construct, and test the Gen 1 fused quartz fluidized bed reactor (FBR) to demonstrate fluidization of 500g Fe powder at process temperatures of ≥ 500 degrees C for ≥ 1 hour. A Gen 2 FBR would then be designed and developed with a stainless steel processing chamber to demonstrate a scalable prototype FBR-based process technology that would yield a greater than 100-fold increase in the amount of alpha double prime iron nitride material.

The project would involve the use and handling of various hazardous materials, including metal powders, industrial solvents, and industrial gases. All such handling would occur at [Matthiesen Laboratory](#) at [Case Western Reserve University](#). All hazardous materials would be managed in accordance with Federal, state, and local environmental regulations. Furthermore, all employees have been trained in the proper use, storage, handling, and disposal of these materials, and proper safety equipment will be provided when necessary. [Matthiesen laboratory](#) has been previously used for work that is similar to the activities included in the proposed project, therefore, no new or modified permits would be required, and no modifications to the facility would be required.

Based on the review of the proposal, DOE has determined the following task(s) Task 1, 2 and 3, fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. Task 1, 2 and 3 are categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Budget Period 2 –Task 4, 5 and 6

This restriction does not preclude you from:

Budget Period 1 – Tasks 1, 2 and 3

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

The recipient is required to submit an EQ-1 to the DOE Project Officer and the NEPA Specialist once a facility is identified for activities in Budget Period 2.

Note to Specialist :

This NEPA Determination requires a tailored NEPA provision.
Advanced Manufacturing Office
Diana Heyder 03/01/18

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Casey Strickland Date: 3/1/2018
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

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

Field Office Manager's Signature: _____ Date: _____
Field Office Manager