

PMC-ND
(1.08.09.13)

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



RECIPIENT: Boston Electrometallurgical Corp.

STATE: MA

PROJECT TITLE : Carbon-Free Iron for a Sustainable Future

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001465	DE-EE0008309	GFO-0008309-001	GO8309

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 federal funding to Boston Electrometallurgical Corp. (BEMC) to research, develop and pilot inert anode technology for use in production of carbon-free iron via molten oxide electrolysis (MOE).

Project activities would include data and materials' analysis and characterization, inert anode modeling and design, modification and upgrades to existing MOE cells, pilot and production scale testing on inert anode designs, design optimization, and benchmark testing. These activities would involve the use and handling of various hazardous materials, including metals, metal oxides, and industrial gasses. Special precautions would be taken in the handling, storage and disposal of materials containing chromium in order to mitigate any risks associated with the material in its 6+ oxidation state (hexavalent chromium), which is water soluble and toxic. Though chromium emissions would not be expected, the existing exhaust treatment system at BEMC's facility would be modified to treat unanticipated emissions. Modifications would be limited to equipment upgrades requiring no changes to the facility structure and would not impact BEMC's existing environmental permits. An electric permit would potentially be required for the modifications. Project activities would be carried out at BEMC's research and development facility in Woburn, Massachusetts and at sub-recipient U.S. Steel's Research and Technology Center in Munhall, Pennsylvania in accordance with Federal, state, and local environmental regulations. U.S. Steel would complete desktop work supporting business development activities as well as materials analysis services that are normally carried out at its facilities. No modifications to U.S. Steel's facilities would be carried out, nor would any additional permitting be required for U.S. Steel to conduct its materials analysis services.

Based on the review of the proposal, DOE has determined the proposal fits 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. This proposal is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

This NEPA determination does not require a tailored NEPA provision.
Advanced Manufacturing Office
NEPA review completed by Jonathan Hartman on 5/3/2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Casey Strickland Date: 5/3/2018
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