

PMC-EF2a

(2.04.02)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: Apogee Technology Inc.

STATE: PA

PROJECT TITLE : Energy Efficient Melting & Direct Delivery of High Quality Molten Aluminum

| | | | |
|--|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-PS36-04G094015 | GO15047 | GFO-GO15047-001 | GO15047 |

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.)

B5.1 Actions to conserve energy or water

(a) Actions to conserve energy or water, demonstrate potential energy or water conservation, and promote energy efficiency that would not have the potential to cause significant changes in the indoor or outdoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, manufacturers, and designers), organizations (such as utilities), and governments (such as state, local, and tribal). Covered actions include, but are not limited to weatherization (such as insulation and replacing windows and doors); programmed lowering of thermostat settings; placement of timers on hot water heaters; installation or replacement of energy efficient lighting, low-flow plumbing fixtures (such as faucets, toilets, and showerheads), heating, ventilation, and air conditioning systems, and appliances; installation of drip-irrigation systems; improvements in generator efficiency and appliance efficiency ratings; efficiency improvements for vehicles and transportation (such as fleet changeout); power storage (such as flywheels and batteries, generally less than 10 megawatt equivalent); transportation management systems (such as traffic signal control systems, car navigation, speed cameras, and automatic plate number recognition); development of energy-efficient manufacturing, industrial, or building practices; and small-scale energy efficiency and conservation research and development and small-scale pilot projects. Covered actions include building renovations or new structures, provided that they occur in a previously disturbed or developed area. Covered actions could involve commercial, residential, agricultural, academic, institutional, or industrial sectors. Covered actions do not include rulemakings, standard-settings, or proposed DOE legislation, except for those actions listed in B5.1(b) of this appendix. (b) Covered actions include rulemakings that establish energy conservation standards for consumer products and industrial equipment, provided that the actions would not: (1) have the potential to cause a significant change in manufacturing infrastructure (such as construction of new manufacturing plants with considerable associated ground disturbance); (2) involve significant unresolved conflicts concerning alternative uses of available resources (such as rare or limited raw materials); (3) have the potential to result in a significant increase in the disposal of materials posing significant risks to human health and the environment (such as RCRA hazardous wastes); or (4) have the potential to cause a significant increase in energy consumption in a state or region.

Rational for determination:

DOE is proposing to provide funding to Apogee Technology, Inc. (Apogee) to demonstrate the feasibility of an energy efficient Isothermal Aluminum Melting system (ITM; a high quality/low energy aluminum melting system) with a Transportable Electric Ladle (TEL; a road-worthy ladle used to transport the molten aluminum in trucks) that would supply efficiently melted molten aluminum to an 8,800 lb/hr commercial casting line for GM.

Apogee proposes to install an ITM and TEL at the existing General Motors (GM) Metal Casting Operations (MCO) (1629 North Washington Avenue, Saginaw, MI) and Aleris manufacturing plant at 7319 Newport Road Southeast, Uhrichsville, Ohio.

A NEPA determination (GFO-05-151) was signed on 7/11/2005, which allowed the design, construction, and demonstration of an ITM prototype at the GM Metal Casting Operations in Saginaw, Michigan. This determination would allow information gathering, design, construction, and operation of a new low energy ITM at the existing Aleris and GM facilities; as well as information gathering, design, construction, and operation of a new Economical High Output DI Heater Development/High Output DI Heater Market Assessment at the existing Aleris facility.

Molten aluminum from the Aleris plant would continue to be delivered by truck and directly dispensed to the existing casting line at GM plant. The new ITM and Economical High Output DI Heater Development/High Output DI Heater

would be installed and operated at existing manufacturing plants using existing transportation routes.

According to the R&D laboratory questionnaire: no additional permits are needed, and there would be no generation of regulated air emissions associated with this work; all waste is disposed of appropriately at approved Treatment, Storage, and Disposal facilities; Safety Operating and Chemical Hygiene Plans (also in compliance with OSHA and industry standards) are in place.

Previously funding (GFO-05-151): \$19,059,861
DOE Share: \$8,902,651
Apogee Cost Share: \$10,157,210

Funding related to this determination
DOE: \$3,258,117.00
Apogee cost share: \$3,098,382.00
Total: \$6,356,499.00

Total project cost: \$25,416,360
DOE Share: \$12,160,768
Apogee Cost Share: \$13,255,592

This project comprises information gathering, analysis, and demonstrating energy conservation; therefore the DOE has categorized this into Categorical Exclusion A9 and B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

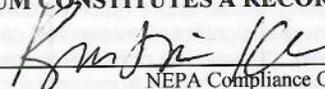
Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

EF2A by Christopher Carusona II

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 2/2/2012
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