

PMC-FF2a

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



(20402)

RECIPIENT: Lineage Power Corporation

STATE: TX

PROJECT TITLE : High Efficiency, Wideband Three-Phase Rectifiers and Adaptive Rectifier Management

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000107	DE-EE0002891	GFO-10-244	0

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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

Lineage Power Corporation is proposing to use ARRA funding through the DOE to develop, field test and prove the commercial feasibility of both High-Efficiency Wideband Three-Phase Switched-Mode Rectifiers (HE SMR) utilizing high-efficiency power conversion circuits and an Adaptive Rectifier Management (ARM) efficiency-optimized control system.

Project activities will involve concept development, prototype build, and qualification testing of the power rectifier as well as concept development, design, and testing of the software component.

Prototype development (lab work) will take place at Lineage Power Headquarters located in Plano, TX and fabrication will take place at their facility in Matamoros, TX.

An R&D questionnaire has been filled out for both facilities which thoroughly address established safety protocols, hazardous material handling and waste disposal protocols applicable to their project work.

The project will involve "field testing" the software at five telecomm central office locations to quantify the savings and prove feasibility. These are indoor established datacenters and telecommunication facilities.

This project comprises information gathering, conventional laboratory bench-scale research in established facilities and small scale energy conservation demonstration; therefore a CX A9, B3.6 and B5.1 apply.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: [Signature]
NEPA Compliance Officer

Date: 3/2/10

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: _____
Field Office Manager

Date: _____