PMC-EF2a
(2.06.02)

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

RECIPIENT: Edison Materials Technology Center (EMTEC) **STATE:** OH

PROJECT TITLE : Development of Very Dense Liquid Cooled Compute Platform

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DOE-FOA-0000107	DE-EE0002896	GFO-10-252	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).

Rational for determination:

Edison Materials Technology Center (EMTEC) is proposing to use ARRA funding through DOE to design, build, and test a prototype ultra high density compute platform with 100% liquid cooling using off-the-shelf commodity components and high volume manufacturing techniques which will be low cost, have a small carbon footprint and a design that comprehends board layout for heat transfer from the servers' internal components to ultimate dissipation of the heat to the ambient environment.

Project work will consist of consist of research and concept development including design, prototype fabrication, laboratory testing, and data analysis.

Project tasks include creating an engineering specification document, building the components of the compute platform (compute module, deflection cooling mechanism, cooling shelves and housing), integrating and testing the full rack of equipment both with and without the refrigerant chiller.

EMTEC has two subcontractors who will perform fabrication and testing of the design components. This work will be conducted at Clustered Systems in Menlo Park, CA and at Emerson Network Power in Mountain View, CA. Each has submitted an R&D questionnaire which discusses their established safety, chemical handling, waste disposal and OSHA compliant protocols.

This project comprises information gathering, research and development activities in established fabrication and laboratory facilities; therefore a CX A9 and B3.6 will 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: Kristin Kerr Date: 3/4/2010
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