

PMC-EF2a

(2.04.02)

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



RECIPIENT: University of Hartford

STATE: CT

**PROJECT TITLE :** Development of a Software Design Tool

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000116	DE-EE0002804	GFO-10-190	GO2804

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.

## Rational for determination:

The University of Hartford is proposing a project to "develop a stand-alone software tool for the design and economic analysis of hybrid geothermal heat pump systems for heating- and cooling dominated buildings using solar collectors in both operating modes. An economic analysis module will be included in the software tool based on a methodology for direct capital cost comparisons and allow for simple payback and life-cycle cost analyses to be performed to aid design engineers in their decision-making process in evaluating GHP systems".

Project tasks include the following:

- \* Implementation of Computational Algorithms
- \* Development/Integration of Borehole Resistance Computation Modules
- \* Development of Synthetic Load Generator
- \* Integration of Weather Database
- \* Integration of Solar Collector Product Database
- \* Development of Graphical User Interface, alpha and beta Testing
- \* Development of Help Files & User Manuals Including Tutorials
- \* Final Report/Paper/Software

This project involves information gathering only; therefore a CX A9 will apply.

**NEPA PROVISION**

Note to Specialist :

None Given.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

3/9/10

**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: \_\_\_\_\_

Fielding Opportunity Assessment Number: DE-FOA-000118  
NEPA Central Number: GTO-10-100  
CE-00000004

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 413.1A), I have made the following determination:

EA, EIS APPENDIX AND NUMBER:  
Description:

As information gathering (including, but not limited to, literature surveys, interviews, site visits, data analysis, including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and development (including, but not limited to, document matrix, subsection, and distribution) activities are being performed, but not involving the construction or environmental monitoring.

The University of Hartford is processing a project to develop a stand-alone software tool for the design and economic analysis of hybrid geothermal heat pump systems for heating- and cooling-dominated buildings using solar collectors in both operating modes. An economic analysis module will be included in the software tool based on a methodology for direct capital cost comparisons and flow for simple systems and life-cycle cost analysis to be performed in design programs in their decision-making process in evaluating CHP systems.

- Project tasks include the following:
- Implementation of Computational Algorithms
  - Development/Integration of Database/Presentation/Computation Modules
  - Development of System Load Generator
  - Integration of Weather Database
  - Integration of Solar Collector Product Database
  - Development of Graphical User Interface and User Testing
  - Development of Help Files & User Manuals including Tutorials
  - Final Report/Documentation

This project involves information gathering only; therefore a CE as will apply.

NEPA DIVISION  
Date: \_\_\_\_\_

Name Given: \_\_\_\_\_

DATE: 3/10/10  
SIGNATURE OF THIS MEMORANDUM CORRECTLY REFLECTS A RECORD OF THE DECISION  
NEPA Compliance Officer Signature: \_\_\_\_\_  
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION  
 Field Office Manager review required