PMC-EF2a
(2.04.02)

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

RECIPIENT: BioLite LLC **STATE:** NY

PROJECT TITLE : Technology Research, Development and Tools for Clean Biomass Cookstoves

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000709	DE-EE0006088	GFO-0006088-001	

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.
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to BioLite LLC to advance cookstove development, through the research, development and testing of an independent combustion engine core, with a thermoelectric (TEG) -powered blower, which can be integrated with an existing cookstove. The proposed project seeks to develop an adaptable, thermoelectrically powered, clean combustion engine core that can bring the low emissions and high efficiency of advanced fan stoves to a range of already popular, local cookstove designs.

Funding would be used to research, develop, test, analyze, build and demonstrate a "Pre-Production" prototype cookstove. Prior to the development of a "Pre-Production" prototype cookstove, a "Proof of Concept" prototype cookstove would be developed and tested. It would be an integration of an existing BioLite combustion engine core and TEG -powered blower technology with an existing Patsari cookstove. The Patsari cookstove is designed and distributed by the Interdisciplinary Group of Rural and Appropriate Technology (GIRA) in Central America. Based on the results of the "Proof of Concept" prototype cookstove BioLite would build ten "Pre-Production" prototype cookstoves to be used in testing and demonstration. Funding would also be used to evaluate potential manufacturing partners for future production of the final design.

Proposed research, development, testing and prototype demonstration activities would primarily be completed in laboratories, however some field testing and demonstration of the "Proof of Concept" and "Pre-Production" prototype cookstoves would occur in selected households in Mexico. Activities would occur at four different locations for this project:

1) Testing for baseline data before proof of prototype design and additional pre-production testing and demonstration of the "Pre-Production" prototype cookstoves would occur at BioLite's facility at 65 Jay Street, Brooklyn, New York, 11201.

2) Testing for proof of design phase and pre-production design would occur at a University of California, Berkeley (UCB) laboratory located at Environmental Health Services 747 University Hall #7360, Berkeley, California 94720.

3) Reliability testing of the pre-production design would occur at Qualmark HALT HASS Testing Systems (Qualmark) laboratories located at 10390 East 48th Avenue, Denver, Colorado, 80238.

4) Field testing and demonstration of the "Proof of Concept" and "Pre-Production" prototype cookstoves would occur at selected households in Pátzcuaro, Mexico. In collaboration with UCB, BioLite would supervise the field tests and demonstrations. Testing and demonstration would involve baseline data collection from current cookstoves and subsequent testing and analysis of the prototype cookstoves.

All laboratory research, development, testing and demonstration activities involving the prototype cookstove and related components would occur in indoor laboratories with appropriate emission controls and hoods.

Approximately, 55 Water Boiling Tests and demonstrations would occur with the prototype cookstoves; 40 at the BioLite facility in New York and 15 at households in Pátzcuaro, Mexico. Tests would burn approximately 1 kg of wood (2.2 lbs). Per each individual test, it is antcipated the total mass emissions of particulate matter (PM2.5) would be below 250mg, and total mass emissions of carbon monoxide (CO) would be below 20gm. Due to the short duration of field testing and demonstration and the small scale of the proposed project, DOE has determined the demonstration and testing activities involving the prototype cookstove would not have adverse impacts to the environment.

Based on review of the project information and the above analysis, DOE has determined the research, development and demonstration activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," B3.6 "small-scale research and development, laboratory operations and pilot projects," and B5.15 "small scale renewable energy research and development pilot projects," and 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 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 :

Obadiah Broughton 1/17/2013

DOE Funding $860,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 1/17/2013

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