

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
NEPA DETERMINATION**



**RECIPIENT:** Combined Power LLC, dba Hyperlight Energy

**STATE:** CA

**PROJECT TITLE** : Linear Fresnel Reflector

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0007342	GFO-0007342-001	G07342

**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.)
- B5.17 Solar thermal systems** The installation, modification, operation, and removal of commercially available smallscale solar thermal systems (including, but not limited to, solar hot water systems) located on or contiguous to a building, and if located on land, generally comprising less than 10 acres 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.

**Rationale for determination:**

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Hyperlight Energy to develop high-performing, low-cost equipment for concentrated solar power (CSP) applications. Activities associated with the proposed project would include design, development, fabrication, and field testing of CSP equipment. Outdoor testing would occur once during each of the three phases associated with this project at increasing scales.

Design, development and fabrication activities would occur at a research and development (R&D) facility in San Diego, CA. This facility was purpose-built for the type of activities being proposed; therefore, no adverse impacts to sensitive resources are expected as a result of the proposed activities at this location. No change in the use, mission or operation of this existing facility would arise out of this effort. The facility has all applicable permits in place, and would not need additional permits for the proposed activities.

Small-scale testing in Phase 1- Task 2 would occur in an unused, paved portion of a commercial lot currently owned by RC Equipment in El Cajon, CA. A 40ft by 50ft area of this lot would be utilized to test two CSP prototype units which consist of a water-filled basin with a cover and reflector tubes mounted on top. The tubes focus light on a receiver that is approximately 20 feet off the ground and runs the length of each system. These two units would be used to conduct accelerated lifetime testing (30+ years equivalent) of optomechanical kinematic assemblies in order to validate performance through worst-case simulated conditions through and up to end-of-life. All prototype units being tested rest on the ground and are self-ballasted and the receivers use a concrete spread footing. No ground penetration would be required and the chosen test site is previously disturbed. Due to the previously disturbed nature of this site and small footprint of this field test, the DOE has concluded that no impacts to sensitive cultural and /or natural resources such as historic properties, threatened/endangered species, migratory birds, wetlands, floodplains, or prime farmlands are to be expected.

The proposed activities would involve the use and handling of high-temperature, thermal oil. This is a standard material used in CSP as a heat transfer fluid and would be contained at all times in closed systems. Existing health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments to mitigate these hazards. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required.

In Phase 2, a larger, pilot-scale system would be constructed and installed at San Diego State University's (SDSU's) satellite campus in Brawley, CA and would undergo "on-sun" testing there (Task 4). This pilot-scale testing would require a building permit as well as a CEQA review and determination. There is not enough information available at this time for DOE to conduct a meaningful review of Phase 2 activities. Additionally, the location for Phase 3 testing has not yet been determined and as such, there is not enough information to conduct a meaningful review of Phase 3 activities. DOE will complete additional NEPA review for Phase 2 in concert with the CEQA review and for Phase 3 when the propose site has been identified.

Based on review of the project information and the above analysis, DOE has determined that activities associated with Phase 1 would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B5.17 "Solar thermal systems" and is therefore categorically excluded from further NEPA review.

#### NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

- TASK 4: Pilot 1 - Brawley Site Plant Process Development and Evaluation
- TASK 5: Phase II Technology-to-Market
- TASK 6: Pilot 2 –Field Deployment Process Validation
- TASK 7: Phase 3 Technology-to-Market

This restriction does not preclude you from:

- TASK 1: Initial Performance/Cost Targets and Cost Model Development
- TASK 2: Collector Assembly Key Cost & Performance Validations
- TASK 3: Phase 1 Technology-to-Market

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Solar Energy Technologies Office  
This determination requires a tailored NEPA provision.  
Rebecca McCord 5/11/16

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

NEPA Compliance Officer Signature: \_\_\_\_\_



Electronically Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: \_\_\_\_\_ 5/19/2016

#### 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: \_\_\_\_\_