

PMC-EF2a

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



(2.0+02)

RECIPIENT: Sacramento Municipal Utility District

STATE: CA

PROJECT TITLE : CRED - SMUD Solar Highways: Phase 2 Construction

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000122	DE-EE0003070	GFO-10-547	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:

- 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:

DOE is proposing to provide federal funding to the Sacramento Municipal Utility District to develop and install utility-scale solar power installations on Caltrans property in Sacramento, California. The demonstration project includes three PV system installations along approximately 2 miles of Highway 50, including the northern bank of the Highway 50 Corridor from 65th Street to Stockton Boulevard, the North-West corner of the Mather Field Road interchange, and approximately 1,000 feet in the westbound direction of Highway 50 from Mather Field Road.

A previous EF2a and NEPA determination was issued 5/18/10 for this project that pertained to Budget Period 1 (phase 1) tasks outlined in SOPO. The determination authorized the release of funds for preliminary design and engineering Budget Period 2 (phase II) tasks, including development of the Phase II feasibility study, the environmental work need for CEQA and NEPA requirements, and work related to permitting activities. The Phase II feasibility study was completed in May 2010. That report addresses, among other issues, the potential risks of glint/glare, permitting requirements, and erosion control measures. Thus, sufficient information is now available to complete the NEPA determination for the entire project, and this determination pertains to the project in its entirety. DOE funds will be spent on both Budget Period 1 activities related to the permitting and the preliminary design of the system, outlined in task 1 of SOPO and Budget Period 2 construction activities (SOPO under development).

This project would not violate applicable statutory, regulatory, or permitting requirements; would not involve waste storage, disposal, or treatment facilities, would not adversely affected environmentally sensitive resources, and would have negligible to small adverse impacts to the environment. This project therefore can be categorically excluded under the exclusion categories listed above in accordance with DOE implementing regulations for NEPA at 10 CFR 1022, Subpart D. The following is a summary of potential impacts to the environment.

- The project would not result in any emission of air pollutants and would result in a small beneficial decrease in air emissions from generation of electricity.
- All project equipment would be installed along and adjacent to the highway right-of-way. Installation of that equipment would not have adverse impacts to wetlands, threatened and endangered species, cultural resources, or other environmentally sensitive resources.
- As required by CalTrans, the panels would be installed at least 52 feet from the edge of the travel way or 8 feet

above the edge of travel way. The panels therefore would be far enough from the edge of the road to minimize safety risks during accidents and when vehicles must be pulled to the edge of the road.

- Installation of the solar panels would block sunlight, resulting in a decrease in vegetation under and around the panels and possibly an increase in soil erosion. According to the Phase II study, the following would be done to minimize erosion. Arrays would be placed at the top of cut slopes to reduce the amount of water that flows under the panels. Gutters would be installed on the lower edge of arrays to direct storm water to the roadside storm drain system. By implementing these measures, adverse impacts from soil erosion would be small.
- The project could cause a hazard to drivers from glint and glare of sunlight off of the solar panels. The Phase II study summarizes the results of two studies that conclude that the risks of glare and glint are minimal for the following reasons. The focal length of the reflective mirrors in the solar panels is 1 m, so there would be no risk from those mirrors. The glass covering the solar panels would reflect about 13% of the sunlight intensity and would have an anti-reflective coating to reduce reflections. The analyses conclude that the glare would be similar in intensity to the glare from car windows or office buildings along the highway. That glare would only occur for about 20 minutes during the morning during late May-late June and about 60 minutes during the evening in June. Because of the angle of the sun, there would be no reflection toward the highway the remainder of the year.
- Vegetation, including some trees, would be removed during installation of the solar panels. This would have a negligible impact on biological resources because the vegetation is primarily species planted for landscaping along the highway and the value of the margins of the highway as wildlife habitat is low.
- The project would be designed in accordance with CalTrans permitting requirements and would not adversely affect land uses along and adjacent to the highway.

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: _____

K. [Signature]
NEPA Compliance Officer

Date: _____

7/21/2010

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: _____