

PMC-EF2a

(201003)

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



RECIPIENT: NREL

STATE: CO

PROJECT TITLE : Solar Decathlon 2011; NREL Tracking Number 11-002

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-11-002	GO10337

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:

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:

The Solar Decathlon is an annual international collegiate competition in which student teams compete to design, build, and operate highly energy-efficient, completely solar-powered houses that incorporate building-integrated photovoltaics (BIPV). Twenty teams have been selected by the U.S. Department of Energy to compete in the 2011 Solar Decathlon and will be awarded NREL subcontracts. The Solar Decathlon will be held at West Potomac Park in Washington, D.C. in the fall of 2011.

The objective of the Solar Decathlon project is the development and demonstration of solar-powered homes that incorporate BIPV, in which, by the year 2015, the whole-house levelized energy cost has been reduced to \$0.10/kWh, while complying with the criteria associated with the 10 contests that comprise the competition. Solar Decathlon houses are nominally 700-square-foot modular structures. No basements are allowed, and the house must not disturb the ground on which it sits. The energy source for the house will be limited to only the renewable energy incident upon the specified space that the house will occupy during the competition.

Each team will design and build a small, modular solar house on their campus, transport the house to West Potomac Park in Washington, D.C., reassemble the house in a solar village in the fall of 2011, compete in the competition, disassemble the house, and return home.

The work will be accomplished using generally available residential construction equipment for assembly and disassembly of the houses and standard, non-destructive test and measurement equipment to measure voltage, current, power, temperature, relative humidity and light levels. The results of the competition and the measurements will lead to a better understanding of conservation measures, energy efficiency changes and renewable energy generation technologies that can be adopted by the general public. The work will begin as soon as possible and end in December 2011. Students, faculty, and staff from the individual universities and colleges participating on the teams will perform work on the individual homes.

There will be some air emissions generated during the assembly and disassembly of the homes and set up of the event at West Potomac Park. These emissions will be typical of any other short-term construction project in Washington, D.C. and they are not regulated by the District or the NPS. There will be mobile sources of air pollutants such as combustion sources like engine generators, cranes, forklifts, trucks, and other vehicles. Activities at West Potomac Park are under the jurisdiction of the National Park Service (NPS), and require a permit, which is issued to authorized users for a specific time and a specific event. DOE will be the permit holder for the activities at West Potomac Park related to Solar Decathlon 2011 and permit contains conditions related to environmental protection, worker safety and public safety. DOE/NREL will continue to meet their own internal requirements and follow the more stringent rule, regulation, or behavior, whether it is DOE/NREL or NPS. The NPS has not yet issued the Public Gathering Permit (as of 9/1/10). Once this permit is received, it will be distributed to participants and affected parties

by the NREL project manager.

There will be some use and storage of chemicals during the event at West Potomac Park or on local campuses or universities. Typical chemicals could be solvents, acids, bases, and glycol used in residential construction or contained in solar hot water systems for freeze protection. At a minimum, in accordance with the NPS permit, OSHA regulations for the use and storage of chemicals will be followed. Since it is a sustainable, renewable energy event, and the minimization of chemical use is encouraged, most chemicals will be substituted with lower VOC and safer chemicals. The NPS prohibits the storage of extra fuel at the park for vehicles and generators, and refueling will be done in accordance with the NPS Public Gathering Permit. There is a potential for a limited quantity of hazardous wastes to be generated during this project. Since Solar Decathlon, and the college contestants, encourages the minimization of chemical usage, there will be a minimization of potential hazardous wastes. Any hazardous wastes will be the same type as the chemicals that were used, and are typically used in residential construction. Any hazardous wastes will be removed and disposed of properly by the person using them. All transportation of chemicals and hazardous wastes to and from West Potomac Park will be in accordance with all applicable rules and regulations. As the Solar Decathlon is a short-term event with no permanent structures being erected, no adverse effect to the historic resources adjacent to West Potomac Park is anticipated. Furthermore, no impacts to federally listed threatened or endangered species, wetlands, floodplains, etc. is expected.

Based upon the information provided above, this proposed project would qualify for Categorical Exclusion B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

EF2A created by Rob Smith on 11/24/2010 and revised on 04/21/2011.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Lori Plummer / *Lori Plummer* Date: 4/26/2011
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