

PMC-EF2a

(2.0+02)

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



RECIPIENT: University of Wisconsin-Baraboo/Sauk County

STATE: WI

PROJECT TITLE : University of Wisconsin-Baraboo/Sauk County Net-Zero Energy Building

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0003649	GFO-0003649-001	NT3649

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:

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| 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.) |
| B3.1 Site characterization and environmental monitoring | Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7. |
| B5.16 Solar photovoltaic systems | The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or 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. |
| B5.1 Actions to conserve energy or water | (a) Actions to conserve energy or water, demonstrate potential energy or water conservation, and promote energy efficiency that would not have the potential to cause significant changes in the indoor or outdoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, manufacturers, and designers), organizations (such as utilities), and governments (such as state, local, and tribal). Covered actions include, but are not limited to weatherization (such as insulation and replacing windows and doors); programmed lowering of thermostat settings; placement of timers on hot water heaters; installation or replacement of energy efficient lighting, low-flow plumbing fixtures (such as faucets, toilets, and showerheads), heating, ventilation, and air conditioning systems, and appliances; installation of drip-irrigation systems; improvements in generator efficiency and appliance efficiency ratings; efficiency improvements for vehicles and transportation (such as fleet changeout); power storage (such as flywheels and batteries, generally less than 10 megawatt equivalent); transportation management systems (such as traffic signal control systems, car navigation, speed cameras, and automatic plate number recognition); development of energy-efficient manufacturing, industrial, or building practices; and small-scale energy efficiency and conservation research and development and small-scale pilot projects. Covered actions |

include building renovations or new structures, provided that they occur in a previously disturbed or developed area. Covered actions could involve commercial, residential, agricultural, academic, institutional, or industrial sectors. Covered actions do not include rulemakings, standard-settings, or proposed DOE legislation, except for those actions listed in B5.1(b) of this appendix. (b) Covered actions include rulemakings that establish energy conservation standards for consumer products and industrial equipment, provided that the actions would not: (1) have the potential to cause a significant change in manufacturing infrastructure (such as construction of new manufacturing plants with considerable associated ground disturbance); (2) involve significant unresolved conflicts concerning alternative uses of available resources (such as rare or limited raw materials); (3) have the potential to result in a significant increase in the disposal of materials posing significant risks to human health and the environment (such as RCRA hazardous wastes); or (4) have the potential to cause a significant increase in energy consumption in a state or region.

Rational for determination:

The U.S. Department of Energy is proposing to provide federal funding to the University of Wisconsin-Baraboo for a completed energy efficiency project, developed and executed by an Energy Services Company (ESCO) in conjunction with the State of Wisconsin Energy Initiative. The project consisted of ten activities on the University campus located at 1006 Connie Rd, Baraboo, Wisconsin. All buildings on campus were constructed after 1967.

DOE is proposing to authorize the expenditure of federal funds for the following ten tasks:

- Closed Loop Hybrid Geothermal System – Test boring was conducted in late spring of 2012. Three 6" diameter vertical wells were drilled to approximately 100' depth, with subsequent analysis of soil thermal conductivity and suitability for a hybrid geothermal installation. The borings took place in a previously disturbed, grassy area to the north and west of the Campus Library. This is not an archaeologically significant area, and the only disturbance to campus facilities was the temporary closure of several holes of the "disc golf course".
- Building Envelope Improvements – Caulking, weather-stripping, and insulating roof-wall joints, doors, and windows was completed on four academic buildings and one maintenance building/garage. Air and water gaps were also sealed in the four academic buildings
- Interior Lighting Upgrades – Interior lights were installed and replaced using different styles, including incandescent, halogen, metal halide, high-watt T-8 and T-12 fluorescent, and high-pressure sodium.
- Retro-Commissioning – HVAC systems and plumbing were adjusted or replaced in campus buildings to increase efficiency.
- Ventilation System Improvements – Improvements to the ventilation performance and efficiency of the variable air volume (VAV) ventilation system at the Library was complete through the conversion of a constant volume ventilation system. This task consisted of adjusting or replacing existing HVAC systems and plumbing to obtain the most efficient operation.
- Interface Occupancy Sensors to HVAC System – This task controlled the ventilation of individual spaces based on room occupancy during the "occupied" state of the air handling unit, by installing individual room occupancy sensors and interlocking with variable air volume (VAV) box set points. This task combined with the previous two tasks helped to upgrade and expand the campus electronic HVAC management software to tie almost all areas into one centralized system.
- Computer Power Management - Managed software packages were installed to control each computer's hibernation and shutdown times after short periods of inactivity at computer labs and offices.
- Vending Machine Controls – "Vend Miser" hardware and power controls were installed on soda and snack machines that allows them to power-down during extended periods of non-use.
- LED Technology for Exterior Fixtures – This task replaced obsolete technologies and standardized all exterior lighting to long-life, low-wattage LED fixtures and bulbs
- Solar PV- A 15-16 kW solar photovoltaic (PV) array and associated hardware was installed on the student recreational center located at 1006 Connie Rd, Baraboo, Wisconsin. The array is visible from the ground level and was installed on the second story roof of the gymnasium. The recreational center was built in 1997. The solar PV array is not grid connected and offsets a portion of the power consumption for the building.

The U.S. Fish and Wildlife Service (USFWS) Endangered Species Program website identifies three species in Sauk County, Wisconsin as threatened or endangered: Whooping crane, Northern wild monkshood and Prairie bush-clover. Because the project was located on previously disturbed land at an existing University campus and is small in scale, DOE has determined the project is not likely to affect the listed species. There are no cultural resources, wetlands or floodplains within reasonable proximity to the project location.

Based on the review of project information and the above analysis, DOE has determined that the completion of the ten tasks listed above did not significantly impact human health and/or environment. DOE has determined the project is consistent with actions contained in DOE categorical exclusion A9 "information gathering," B3.1 "site characterization," B5.1 "actions to conserve energy," and B5.16 "solar photovoltaic" 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 :

Kelly Daigle 2/11/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____
NEPA Compliance Officer

Date: 2/29/2013

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: _____