

PMC-EF2a

(20102)

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



RECIPIENT: Arizona Public Service

STATE: AZ

PROJECT TITLE : High Penetration of Photovoltaic Generation - Award No. DE-EE0002060

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000085	10DE-EE0002060	GFO-10-196	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:

- A9** Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- 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).

Rational for determination:

Arizona Public Service (APS) will study the high penetration of distributed photovoltaic ("PV") generation on a typical residential utility power distribution circuit. The purpose of this work is to develop a model of an actual utility system and develop a model that incorporates actual performance data from a grid with PV installed on the system. The intention is that a model that is validated with actual utility performance data will provide a utility with a model based upon their own information so they can adequately assess the impact of PV on their grid.

To accomplish this goal, APS will do the following: In Phase 1, Task 1, a model will be developed of a single feeder on the APS grid. In Task 2, the model will be populated with performance data from the APS Sandvig 04 feeder in Flagstaff, Arizona. In Task 3, APS will install a multi-functional 600 kw inverter that is on loan to them, at their APS STAR test facility. Tasks 4 and 5 involve disseminating results and project management. APS will develop a test plan for the unit. In Phase 2, Task 6, APS will make their model more sophisticated to evaluate more functionalities common to a distribution feeder, and in Task 7 populate the model with additional performance data. In Task 8, the utility-scale inverter will be installed where it can be tested under actual conditions on the Sandvig 04 feeder. Tasks 9 and 10 involve disseminating results and project management. In Phase 3, Task 11 will evaluate the model to verify its accuracy in steady-state operation. Work under Task 12 will continue incorporating performance data to enhance and validate the model. Phases 4 and 5 will continue the model development with additional functionality and continued verification using actual system performance data, and testing the model to evaluate it for additional feeders in the APS system.

This project involves model development, data analysis, information dissemination, and small scale research for evaluation purposes; therefore it qualifies for a CX under A9 and B3.6.

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:

[Signature]
NEPA Compliance Officer

Date:

3/2/10

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:
