PMC-EF2a
(2.04.02)

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

RECIPIENT: Satcon Technology Corporation **STATE:** MA

PROJECT TITLE: Automatic AC Voltage Stabilization Using PV Inverter Control to Mitigate the Variability of Real Power from PV Sources and Improve Existing Power Quality on the Distribution System

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000479	DE-EE0005339	GFO-0005339-001	EE5339

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.)

B3.6 Small-scale research and development, laboratory operations, and pilot projects
Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rational for determination:

DOE is proposing to provide federal funding to Satcon Technology Corporation (Satcon) to develop, test and demonstrate an automatic voltage control (AVC) system for implementation in a smart-grid converter.

The proposed project would be conducted in two Phases. This NEPA determination applies only to specific tasks in Phase 1. The reamining Phase 1 tasks and all of Phase 2 will require additional NEPA review.

Task 1: Project management and planning
Task 2: System engineering
Task 3: Host site selection, data collection and impact analysis
Subtask 3.1: Host site selection
Subtask 3.2: Data collection
Subtask 3.3: Impact analysis
Task 4: System software and test design
Task 5: System laboratory integration and testing
Task 6: Validation system test and report
Task 7: Performance analysis and full-scale result prediction
Task 8: Phase 1 presentation and go/no-go decision

Phase 1 of the proposed project would involve design work, computer modeling, system engineering, prototype fabrication, laboratory testing and host site selection (Task 3) for Phase 2 demonstration. Task 3.1 would involve developing criteria for site selection. Because the proposed sites have not been determined, Subtask 3.2 (data collection) and Subtask 3.3 (impact analysis) cannot be analyzed at this time. Once the proposed sites are selected, additional NEPA review will be required.

Research, prototype fabrication and laboratory testing would be conducted at Satcon's laboratories located at 23-25 Drydock Ave, Boston, Massachusetts 02210. Satcon has completed an R&D questionnaire addressing the protocols in place for laboratory safety, risk management, chemical handling and waste disposal. Satcon complies with standard safety procedures. Safety protocols are monitored by Corporate Safety Coordinator and Supervisors who are members of the Safety Committee. All safety protocols meet OSHA and NFPA standards.

Satcon has all applicable permits in place to conduct laboratory research. Satcon generates a minimal quantity of

solvent-contaminated wipers/rags that are managed in accordance with the Massachusetts DEP Hazardous Waste Regulations and the "solvent-contaminated wipes policy." Universal wastes that are toxic, including mercury and/or metals, are similarly stored, managed and recycled in accordance with the regulatory requirements. Satcon is a "Very Small Quantity Generator" of these wastes (Federal Conditionally Exempt Small Quantity Generator "CESQG").

Additional testing would occur at the National Renewable Energy Laboratory (NREL) National Wind Technology Center located in Jefferson County near Boulder, Colorado. All of the proposed research activities have been analyzed in a Sitewide EA (DOE/EA #1378) which resulted in a Finding of No Significant Impact (FONSI). NREL has completed an R&D questionnaire addressing the protocols in place for laboratory safety, risk management, chemical handling and waste disposal. NREL complies with standard laboratory safety procedures. Safety protocols are monitored by the Integrated Safety Management System (ISMS) in place. If any liquid effluent contains toxic substances, it will be collected for offsite disposal at a licensed hazardous waste TSDS facility. For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer at the lab.

Based on this information, DOE has determined the work outlined is consistent with activities identified in categorical exclusion A9 (information gathering) and B3.6 (indoor bench-scale research and conventional laboratory operation).

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:
Phase 1: Subtask 3.2 and 3.3
Phase 2
This restriction does not preclude you from:
Phase 1: Task 1 - Task 3.1 and Task 4 - Task 8
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 :

Cristina Tyler 12.5.2011

DOE Funding: $1,100,000
Cost Share: $299,197
Total Project Cost: $1,399,197

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 12/7/2011
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: _____