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(1.08.09.13)

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION

RECIPIENT: IBM T.J. Watson Research Center   **STATE:** NY

PROJECT TITLE : Watt-sun: A Multi-scale, Multi-Model, Machine-Learning Solar Forecasting Technology

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000649	DE-EE0006017	GFO-0006017-002	GO6017

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.)
B3.1 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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the IBM T.J. Watson Research Center (IBM) to research and develop a solar forecasting technology to advance the accuracy of solar power forecasting. This new technology titled "Watt-sun" would leverage and blend new data processing technologies, existing and newly developed forecasting metrics, and existing computer models and systems, using deep machine learning methods.

A previuos NEPA determination for this award was completed on 1/24/2013. Since that time, the Statement of Project Objectives has been modified to include more specific activities and milestones and to accelerate the completion of the project.

The previous NEPA determination was applicable to IBM in partnership with the National Renewable Energy Laboratory (NREL), the National Oceanic and Atmospheric Administration (NOAA) and at least one public utility and one independent system operator (ISO). In addition to those partners, Argonne National Laboratory would contribute to this project. Specifically, Argonne National Lab would coordinate their research and model outputs into its machine learning algorithms.

Funding would be used for data collection, analysis and dissemination, computer modeling, and computer software development and testing activities. Funding would also be used to calibrate existing data collection instrumentation

and install new data collection instrumentation on existing infrastructure within existing sites.

All work completed at DOE National Laboratories (NREL) may be subject to additional NEPA review by the appropriate DOE NEPA Compliance Officer.

Based on the review of the project information and the above analysis, DOE has determined the research and development activities associated with development and testing of a solar power forecasting technology would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusions A9 "information gathering, analysis and dissemination," and B3.1 "site characterization and environmental monitoring," 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.
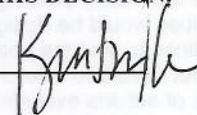
Note to Specialist :

This NEPA determination will not require a tailored NEPA provision.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Electronically Signed By: Kristin Kerwin _____ Date: _____3/26/2014_____

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