

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



RECIPIENT: Solar Dynamics LLC

STATE: CO

PROJECT TITLE: Solar Thermal Biosolids-to-Fertilizer Demonstration

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002437	DE-EE0009640	GFO-0009640-002	G09640

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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.
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located 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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Solar Dynamics LLC (SD) to build a solar facility for a solar thermal heated municipal biosolids-to-fertilizer demonstration facility. A pilot scale solar energy system would be designed, fabricated, and deployed. It would be comprised of concentrating solar thermal collectors, thermal energy storage, a dryer for municipal biosolids, and a weather station. The solar thermal energy collected from this project would be supplied to a separately funded project to dry municipal biosolids to produce fertilizer.

A previous NEPA Determination (ND) (GFO-0009640-001; CXs A9, B3.1; 11/3/2021) was completed for all tasks in Budget Period (BP) 1. This ND is for Tasks 5 and 9 in BP2. Proposed activities during BP2 Tasks 5 and 9 include design, engineering, computer modeling, permitting, procurement planning for the solar energy system, and site characterization. At this time, there is insufficient information related to Tasks 6, 7, and 8 in Budget Period 2 as well as all tasks in Budget Period 3 to perform a meaningful NEPA review as location and activity information for those tasks are currently undefined.

Award activities would be carried out by SD (Broomfield, CO), and would include design, engineering, procurement of solar collectors, and process equipment. All site characterization would take place at the Solar Technology Acceleration Center (SolarTAC; Watkins, CO), including component assembly, metrology inspection, electrical and control wiring, anchoring, and the setup and testing of a mirror washing trailer.

Facility modification and ground disturbing activities at SolarTAC would be limited to the installation of four helical piles to a foundation depth of 30 feet for the testing of a prototype solar concentrator. SolarTAC is an existing test plot that supports prior and ongoing projects of a similar nature and therefore has infrastructure to conduct award activities. Due to the nature of this facility, the land has been previously cleared of vegetation and thus no natural spaces remain.

As SolarTAC currently carries out tests of a similar nature at their existing previously disturbed test plots, the DOE does not expect any impacts to cultural/historic resources. However, if the recipient or their contractors encounter any cultural materials (i.e. historic or prehistoric) during project activities, all activities must cease in the vicinity of the discovery immediately. The recipient must inform the DOE Project Officer of the discovery so that an evaluation of the discovery can be completed prior to continuing work.

Award activities would include potentially hazardous activities, such as light commercial construction and work with equipment. Characterization activities at the proposed project site would be performed by qualified personnel working under a formally documented Quality, Safety, and Environmental management protocol that would include worksite operating policies, safety policies, engineering controls, risk assessment procedures, and internal assessment procedures. All waste products would be disposed of by licensed waste management service providers. All applicable Federal, state, and local health, safety, and environmental regulations would be observed.

This project includes the use of small unmanned aerial systems (sUAS) to assess the alignment of the solar collector module post-installation. The recipient is responsible for ensuring that all activities involving sUAS are compliant with 14 CFR Part 107 or an applicable Certificate of Waiver or Authorization (COA). This includes, but is not limited to, aircraft requirements such as remote pilot-in-command certification, authorities and responsibilities; ensuring the sUAS is in a condition for safe operation; registration; understanding airspace classifications and requirements; and accident reporting (if applicable).

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Budget Period 2 - Tasks 5 and 9

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Budget Period 2 – Tasks 6, 7, and 8

Budget Period 3 – All Tasks

Include the following condition in the financial assistance agreement:

If the recipient or their contractors encounter any cultural materials (i.e. historic or prehistoric) during project activities, all activities must cease in the vicinity of the discovery immediately. The recipient must inform the DOE Project Officer of the discovery so that an evaluation of the discovery can be completed prior to continuing work.

Notes:

Solar Energy Technologies Office (SETO)
Review completed by Alex Colling on 03/07/2024.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Electronically Signed By: Andrew Montano Date: 3/12/2024
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____
Field Office Manager