

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-0009640-001	

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Solar Dynamics LLC 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. The project would be completed over three Budget Periods (BPs) with a Go/No-Go decision point between each BP. The project site has not yet been determined. As such, this NEPA Determination only applies to BP1.

Proposed activities during BP1, include design, engineering, computer modeling, permitting, procurement planning for the solar energy system, and site characterization.

The solar energy system would be designed and specific requirements of the solar biosolids drying project would be

formalized. Site characterization activities would be conducted at Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Soil Amendment facility, the site where the solar system will ultimately be installed. This would include core boring for a geotechnical study and installation of a weather station on land currently used by the water district for biosolid land application. The weather station would consist of a tripod (approximately 6 feet tall) with various weather sensing devices and a 30-foot tall slender mast instrumented with a wind sensor and secured by 3 guy-wires to the ground. The overall footprint would be approximately 40 square feet. Final adaptations would be made to the collector design and the on-site assembly procedures. A solar field operation and maintenance plan would be developed which would be followed by procurement, construction planning, and permitting.

Solar Dynamics LLC in Broomfield, CO would design, engineer, and procure the solar collectors, thermal energy storage, and process equipment. An existing test facility rented by Solar Dynamics, SolarTAC in Watkins, CO may be used to test the weather station for functionality.

With the exception of the site characterization activities, the proposed project activities would be conducted from existing offices or computational facilities and use no materials beyond basic office supplies, software, and computer hardware. 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. Solar Dynamics would observe all applicable Federal, state, and local health, safety, and environmental regulations. No changes in the use, mission, or operation of existing facilities would be required as part of this project and no additional permits would be required in order to conduct any of the work activities.

The U.S. Fish and Wildlife Service's Information for Planning and Consultation database (IPaC) shows one mammal (New Mexico Meadow Jumping Mouse), three birds (Mexican Spotted Owl, Southwestern Willow Flycatcher, and Yellow-billed Cuckoo), one fish (Rio Grande Silvery Minnow), and one insect (Monarch Butterfly) as endangered or threatened species that have the potential to be in or around the project area. Considering all project activities would occur on already disturbed land within the ABCWUA facility, DOE has determined that the site characterization activities will have no effect on any special status species of concern.

IPaC shows that 2 migratory birds (Black-chinned Sparrow and Lesser Yellowlegs) may be present in the general project area. Based on a review of the habitat requirements of the 2 migratory birds that may be present, DOE does not anticipate that any of the migratory bird species would be present on site and therefore the proposed site characterization activities would not have the potential to cause adverse impacts.

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 1 - all tasks

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

Budget Period 2 - all tasks

Budget Period 3 - all tasks

Notes:

Solar Energy Technologies Office

This NEPA determination does require a tailored NEPA provision.

Review completed by Shaina Aguilar on 11/1/21.

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: Kristin Kerwin**
NEPA Compliance Officer

Date: 11/3/2021

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: _____

Field Office Manager

Date: _____