

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



RECIPIENT: Noria Energy Holdings LLC

STATE: CA

PROJECT TITLE : Tracking and Positioning System for Floating Solar

Notice of Funding Opportunity Number
DE-FOA-0003057

Procurement Instrument Number
DE-EE0011411

NEPA Control Number
GFO-0011411-002

CID Number
GO11411

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.)

B3.6 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.

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 federal funding to Noria Energy Holdings LLC (Noria) to design, develop, and test a floating solar photovoltaics (FPV) tracking and position system that increases annual energy production of FPV, lowers levelized cost of energy for FPV, and leverages U.S. contract supply chain and manufacturing.

The anticipated outcome of the proposed project would be a tracker product that has undergone extensive research and development and field testing at multiple scales (10 kilowatts [kW], 50 kW, and 100 kW) and certification for commercial sales. This would be accomplished over two award budget periods (BP) comprised of multiple tasks and subtasks. At this time, the locations for the 100-kW commercial pilot testing have not been identified and would be submitted to DOE for further NEPA review once selected.

A previous NEPA Determination (ND) was completed for a limited range of BP1 activities involving design, development, and 10 kW testing to demonstrate initial controls architecture and other sub-components of the tracker prototype (GFO-0011411-001; CX A9, B3.6, B5.15; 8/08/24). This NEPA determination applies only to the following BP1 subtasks: 1) Subtask 6.2: 50 kW pilot study equipment purchase and 2) Subtask 6.3: 50 kW pilot test plan. These subtasks would involve the installation and testing of floating solar and tracker equipment on a water body at the 50-kW site (Fairmont Reservoir) in Golden, CO. Additional work centered on implementation of the tracker controls system would take place at Pacific Northwest National Laboratory (Richland, WA).

The 50 kW FPV system consists of two floating islands that include FPV panels, floating solar pontoons, direct current (DC) collection cables, DC combiner boxes, and Aquaphi tracker hardware. The tracker hardware includes underwater thrusters, motor drive units for the thrusters, and an autopilot controller. Monitoring equipment including GPS, a simple metrology station, current and voltage sensors, and irradiance and module temperature sensors are also included. Only the floating solar pontoons and the thrusters touch the water, and the islands are secured to the reservoir bottom by helical screw anchors.

Electrical DC cabling attached to floats on the water surface brings the energy to shore. Once on land, the DC cabling is trenched under an existing access road before coming above ground to a solar inverter mounted on an equipment pad. Alternating current cabling from the inverter to the point of interconnection is run in above ground, ballasted cable trays. The 50 kW FPV system is a temporary installation on the reservoir surface and adjacent land. The 50 kW FPV system covers an area of 0.13 acres (ac) for the floating reservoir components and 0.023 ac for land-based components, respectively.

The 50-kW pilot requires discretionary and building permits from local authorities (Jefferson County, CO). Typical anticipated permits include but are not limited to electrical permit, building permit, and a conditional use permit. In addition, an interconnection agreement would be required with the local utility (Xcel Energy) for the interconnection of the required Underwriters Laboratories-certified solar equipment. The interconnection agreement is anticipated by February 2025. Any and all permits required for the execution of the project at the above-referenced locations would be the responsibility of the recipient. All contractors would all be licensed and bonded.

Only physical equipment would be installed at the site. There would be no use of water, chemicals, or feedstock. The FPV systems would be in an area that is protected from the public and would only be accessed by qualified personnel. However, the FPV systems would involve live electrical equipment during normal operation. These two factors could pose potential safety hazards to the project workers. Noria has proper standard operating procedures in place to ensure a safe working environment and has corporate safety policies in place. These policies and practices include the use of appropriate personal protective equipment, licensing, and adherence to state and local guidelines. All contractors would be licensed and bonded.

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.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

EERE is aware of the November 12, 2024, decision in *Marin Audubon Society v. FAA*, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, EERE has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500-1508, in addition to DOE's procedures/regulations implementing NEPA at 10 C.F.R. Part 1021, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Subtask 6.2: 50 kWDC pilot study equipment purchase

Subtask 6.3: 50 kWDC pilot test plan

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

Subtask 7.3: Customer discovery for commercial pilot test plan

Subtask 8.1: Engage community organizations at commercial pilot site location

Budget Period 2 (All Tasks and Subtasks)

Include the following condition in the financial assistance agreement:

Any and all permits required for the execution of the project at the above-referenced locations would be the responsibility of the recipient and must be attained before the permit-pertinent work can commence.

Notes:

Solar Technologies Office (SETO)

This NEPA determination requires legal review of the tailored NEPA provision.

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: _____



Andrew Montano

NEPA Compliance Officer

Date: 12/17/2024

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: _____