

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



RECIPIENT: Dissigno International, Inc.

STATE: CA

PROJECT TITLE : Solar Float Designed to Leverage US Contract Manufacturing

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002378	DE-EE0009837	GFO-0009837-002	GO9837

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Dissigno International, Inc., for the development and testing of a novel floating solar racking system based on inflatable pontoon floats, an air supply line that maintains working pressure, and solar module mounting hardware. The project would be completed over one Budget Period (BP). Field testing of the floating solar racking system would be conducted at potentially two privately-owned locations described further below.

The proposed project would be carried out within six task areas. Task 1. Quality Management Plan and System Architecture, which involves analyzing a wide array of system designs from a technoeconomic point of view that will lead to the ideal product and subcomponent parameters. This also involves defining the Quality Systems that will be used in the management and execution of the project. Task 2. Pontoon Design and Manufacturing, which involves the design of the inflatable pontoon subcomponent of the system and prepare for US-based manufacturing. This task will involve creating the product specification, 3D designs, bill of materials, and manufacturing processes. The final goal of this task is to have an inflatable pontoon that meets all the system requirements. Task 3. Air Supply Design and Manufacturing, which involves the design of the inflatable air supply system that ensures consistent buoyancy of the product. This task will involve creating the product specification, operating principles, manifold design, redundancy requirements, bill of materials, and manufacturing processes. The final goal of this task is to demonstrate a working air supply system that can be manufactured at scale and below cost targets. Task 4. Racking and Mounting Hardware Design and Manufacturing, which involves the design of the module racking and mounting hardware subcomponent of the system. This task will involve assessing what off-the-shelf components and designs can be repurposed for the proposed system. The task also includes creating the interface to the pontoons, creating the product specification, 3D designs, bill of materials, and manufacturing processes. The final goal of this task is to have an inflatable pontoon that meets all the system requirements. Task 5. Stakeholder Engagement and Commercialization Strategy, which involves engagement with stakeholders and partners that are key to the project's success. The list of stakeholders includes US-based contract manufacturers, solar installers, and engineering firms. The goal is to identify and collaborate with stakeholders to create a viable product that meets all product goals. And lastly, Task 6. Assembly and Installation of Demonstration System, which involves the building, testing, and assembly of a full working demonstration system. The task will also include accelerated and functional testing of the system and its individual critical components to show that it will work in the real world for an extended period of time.

Proposed project activities by location are listed below:

Dissigno International, Inc. - Sausalito, CA

- Activities include the design and prototyping of various components of the floating solar racking system

R&D Lab Headquarters - Petaluma, CA

- Activities include the design and prototyping of various components of the floating solar racking system

BASF McIntosh Plant - McIntosh, AL

- Potential site for installation and testing of demonstration floating solar system

Turlock Irrigation District's Lateral 8 Reservoir - Hilmar, CA

- Potential site for installation and testing of demonstration floating solar system

The project would involve the use air compression systems, power tools, metal brackets, nuts, and bolts, thermoplastic polyolefin membrane, and fiber-reinforced polymer rods. Solvents such as acetone and isopropanol will be used to clean surfaces and will result in minor fumes emitted into the environment. The proposed system relies on air compressors to keep the working pressure in the system, and air compressors typically emit noise between 65 and 130 dBA at 1 meter away. Any impacted worker would be further than 1 meter away as the system will be installed on a waterbody within an industrial area. All such handling would occur in-lab and each site is dedicated to proper hazardous materials handling and disposal practices. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. Existing corporate health and safety policies and procedures would be followed at all sites, including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. All project work would be performed at existing, purpose-built laboratory or manufacturing facilities. No modifications to existing facilities, ground disturbing activities, or changes to the use, mission, or operation of existing facilities would be required. No additional permits, licenses, or authorizations would be required.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office

NEPA review completed by Andrew M. Montano, 9/12/2022

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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

 Electronically Signed By: [Lisa Jorgensen](#)

NEPA Compliance Officer

Date: [9/15/2022](#)

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: