

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



RECIPIENT: Town of Rangely

STATE: CO

PROJECT TITLE : Cogency Power Solar Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDS	DE-EE0010126	GFO-0010126-001	GO10126

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.

B5.14 Combined heat and power or cogeneration systems

Conversion to, replacement of, or modification of combined heat and power or cogeneration systems (the sequential or simultaneous production of multiple forms of energy, such as thermal and electrical energy, in a single integrated system) at existing facilities, provided that the conversion, replacement, or modification would not have the potential to cause a significant increase in the quantity or rate of air emissions and would not have the potential to cause significant impacts to water resources.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to administer Congressionally Directed Spending to the Town of Rangely, Colorado to build solar cogeneration systems that would supply electricity and thermal energy to three municipal facilities: the Town of Rangely Water Treatment Plant (WTP), the Town of Rangely Wastewater Treatment Plant (WWTP), and the Western Rio Blanco County Recreation Center (WRBCRC). The electricity would be used for power pumping and other unit processes, and the thermal energy would be used for space heating and cooling, sludge dewatering and other activities surrounding water treatment and adjacent facilities. These renewable energy sources would replace fossil fuel-generated electricity and natural gas-powered heating and cooling.

The proposed project would be conducted over the course of approximately four years. The recipient would design, construct, and commission the systems then gather operating data for a one-year period. At the conclusion of the project, installed equipment would remain in place with an expected useful life of 20-30 years.

Initial project tasks would involve analysis of each facility's electrical and thermal energy demands. The systems would then be designed to best meet municipal needs and research goals of the proposed project. The exact configuration for the installed equipment as well as necessary facility retrofits would be determined based on site-specific analysis of civil, geotechnical, mechanical, plumbing, and electrical considerations. The proposed solar cogeneration technology uses parabolic concentrating mirrors to collect solar energy and convert it into both power and heat. If determined to be feasible during the planning and design phases of the proposed project, a geothermal ground loop may be drilled at one or more of the locations to store or transfer thermal energy. Each site would have its own microgrid and all the equipment needed to integrate the cogenerated energy streams into existing mechanical and electrical infrastructure.

The types of equipment and infrastructure proposed to be installed include:

- High-concentration photovoltaic thermal solar generator (approximately 1035 square feet [sq. ft.]) consisting of parabolic collectors in four modular arrays providing 25 kilowatts (kW) of power (40% electricity, 60% thermal) on a dual axis structural sun tracking system. Each generator has its own inverter and recirculating pump.
- Field box (approximately 185 sq. ft.) housing system controls, heat exchangers, pumps, transfer switches, and electronic circuitry.
- Geothermal ground loop emplaced under the solar generators.
- Anchors for the generators and appurtenances.
- Electrical connections and piping to and from field boxes.

It is anticipated that the system at the WWTP would include 29 generators and two field boxes, the system at the WTP would include 13 generators and one field box, and the system at the WRBCRC would include 40 generators and two field boxes. The maximum area of project-related disturbance at each site would not exceed one acre. Ground disturbing activities associated with the construction of the proposed systems would involve minimal site grading, as each solar generator is designed to be installed on uneven ground. Soils excavated to grade the sites would be used elsewhere at the location if fill is required. Runoff and erosion would be controlled through implementation of appropriate best management practices that guide such work, and each site would be subject to frequent inspections by the town engineer.

The WWTP and WRBCRC facilities are located on land owned by the Town of Rangely and the Western Rio Blanco County Recreation District, respectively. The WTP facility is located on U.S. Bureau of Land Management (BLM) land under a long-term Right-Of-Way (ROW) lease. The recipient would notify the BLM White River Field Office of the proposed project activities to determine if modifications to the existing ROW would be required. At all project locations, local building permits would be required to confirm adequate anchorage of the collection arrays and field boxes. State of Colorado electrical and plumbing permits would also be required for the proposed systems. Any other necessary federal, state, and/or local permits, authorizations, or approvals would be identified during the planning phase of the project and obtained prior to the start of work. Depending on the results of initial analyses, one or more of the systems may be interconnected to the overall electrical grid; the recipient would work with the local utility to identify related requirements and constraints.

While the exact siting of equipment as well as specific facility details are to be determined during the design phase of the proposed project, all three project locations are within a region of extensive previous disturbance related to existing municipal facilities and adjacent development in the Town of Rangely. Project activities would not affect threatened or endangered species, wetlands, or prime farmland. The WWTP location is within the White River 100-year floodplain. This facility is protected by a berm and has been constructed to a minimum of one-foot above flood water surface elevation. The area identified for the proposed installation is on an embankment above low-lying areas at this location, and the recipient would conduct a site survey to ensure preliminary designs would be suitable. DOE does not anticipate that project activities would affect the floodplain in a manner which would affect existing flood hazards or the natural value of the floodplain. DOE also conducted a review of potential issues related to other resources of concern and found no effects that would be expected to result from the proposed project activities.

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge. If during project work cultural or archaeological artifacts are encountered, the recipient shall stop the site installation immediately and inform the DOE Project Officer of the finding. A Class III: Intensive Cultural Resources Inventory shall be required prior to re-commencing project work.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge.

If during project work cultural or archaeological artifacts are encountered, the recipient shall stop the site installation immediately and inform the DOE Project Officer of the finding. A Class III: Intensive Cultural Resources Inventory shall be required prior to re-commencing project work.

Notes:

Solar Energy Technologies Office (SETO)
Review completed by Whitney Donoghue on 06/14/2023.

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:  Andrew Montano Date: 6/16/2023
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