



National Environmental Policy Act (NEPA) Determination Categorical Exclusion

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| Recipient: | TerraPower, LLC |
| State: | Wyoming |
| Project Title: | Site Characterization Activities Supporting Kemmerer Unit 1 |
| Funding Opportunity Announcement Number: | DE-FOA-0002271 |
| Award Number: | DE-NE0009054 |
| OCED NEPA Control Number: | OCED-09040-014-CX |

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:

CATEGORICAL EXCLUSION APPENDIX, NUMBER, AND DESCRIPTION: 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:

In February 2021, the U.S. Department of Energy's (DOE) Advanced Reactor Demonstration Program entered into a cooperative agreement with TerraPower for the development and demonstration of an advanced nuclear reactor. The scope of the cooperative agreement includes, among other elements, construction and operation of the Test and Fill Facility (TFF) and Kemmerer Unit 1. DOE is completing an Environmental Assessment for the development and operation of the TFF. Authorization of federal funding for other project activities is contingent upon additional NEPA review. DOE has provided initial funding to TerraPower, LLC in support of those activities with completed NEPA reviews.

DOE's Office of Clean Energy Demonstrations (OCED) is proposing to provide funding to TP, under the existing cooperative agreement, to perform site characterization and environmental monitoring activities for Kemmerer Unit 1 and associated macro corridors. On June 5, 2023, DOE issued a categorical exclusion for site characterization and environmental monitoring activities including well monitoring, terrestrial surveys, creek gaging re-installation, aquatic surveys, cultural resource visual impact, and a Ute ladies-tresses survey. DOE determined at that time that the proposed seismic activities required additional review. TerraPower is proposing to perform a seismic hazard evaluation which includes the following activities.

As a part of the seismic hazard evaluation for the Kemmerer Unit 1 Preliminary Safety Analysis Report (PSAR), which is part of the Kemmerer Unit 1 Construction Permit Application (CPA), which will be submitted to the Nuclear Regulatory Commission (NRC), TerraPower is sponsoring a Senior Seismic Hazard Analysis Committee Level 3 study that will develop a seismic source characterization model and ground motion characterization model that will be acceptable for use in Probabilistic Seismic Hazard Analysis. These analyses will be performed following the guidance of NRC Regulatory Guide 1.208 that meets the requirements of 10 CFR Part 100.23.

Three characterization activities are to take place onsite within the Project and include Broadband Seismometer Installation, Microtremor Array Measurement (MAM) Survey, and Multi-channel Analysis of Surface Waves (MASW) Survey. For the Broadband Seismometer installation, the total area of disturbance is to be no more than a 10-ft by 10-ft area. The seismometer equipment will be in place for several months and then removed. The total work area at each MAM seismometer installation is to be no more than a 10-ft by 10-ft area. The total work area for the MASW Survey is 10-ft wide by 285-ft long. The seismometers for the MAM and MASW Surveys will be installed and retrieved in the same day.

DOE has considered potential impacts on resources, including those of an ecological, historical, and cultural nature. Preliminary research indicated that there was potential for historic and/or cultural resources to be present at the proposed site. A Class III cultural resources survey was completed in 2022. Based on the findings of that survey, DOE completed consultation with the Wyoming State Historic Preservation Office (WY SHPO) and Tribes with ancestral ties to the project area including the Shoshone-Bannock Tribes of the Fort Hall Reservation, the Comanche Nation of Oklahoma, the Fort Belknap Reservation, the Crow Tribe of Indians, the Crow Creek Sioux, the Northern Ute, the Eastern Shoshone Tribe, Apache Tribe of Oklahoma, Northwestern Band of the Shoshone Nation, Cheyenne and Arapaho Tribes of Oklahoma, Skull Valley Band of Goshute Indians, Ute

Indian Tribe of the Uintah & Ouray Reservation, Confederated Tribes of the Goshute Reservation, and the Northern Arapaho. DOE received concurrence from WY SHPO on our finding of no effect to historic properties or cultural resources present in the project area and received no comments from Tribes. Per Department of Energy (DOE) and Wyoming State Historic Preservation Office (SHPO) direction, only light-duty vehicle traffic may be used for access to and from the Sodium Demonstration Project area. As part of the seismic study project, only established access roads will be used by light-duty vehicles to access the area. Therefore, DOE does not anticipate adverse impacts to any sensitive resources as a result of the proposed seismic activities.

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 1501.9(e)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.1(g)(3)) 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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

The proposed action is categorically excluded from further NEPA review.

A portion of the proposed action is categorically excluded from further NEPA review.

Notes: This categorical exclusion applies to those activities associated with the seismic activities for site characterization and environmental monitoring. Any changes to the project activities or location are subject to additional NEPA review by DOE and are not authorized for federal funding unless and until the Contracting Officer provides written authorization on those additions or modifications.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

OCED NEPA Compliance Officer Signature:

Date: