

FINDING OF NO SIGNIFICANT IMPACT FOR THE FINAL ENVIRONMENTAL ASSESSMENT FOR THE TERRAPOWER KEMMERER POWER STATION UNIT 1 PRELIMINARY ACTIVITIES, KEMMERER, WYOMING (DOE/EA-2264)

U.S. Department of Energy (DOE), Office of Clean Energy Demonstrations (OCED)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U.S. Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED) has prepared the *Environmental Assessment for the TerraPower Kemmerer Power Station Unit 1 Preliminary Activities, Kemmerer, Wyoming* (DOE/EA-2264) (referred to as the Final EA and is incorporated by reference into this FONSI), which analyzed the potential impacts of the Proposed Action. DOE's Proposed Action is to authorize the expenditure of federal funds by TerraPower, LLC (TerraPower) to complete preliminary activities to support the construction of the Kemmerer Power Station Unit 1. The Kemmerer Unit 1 is based on TerraPower's Sodium Reactor Plant, an 840-megawatt thermal (MWt) pool-type sodium-cooled, fast neutron spectrum reactor (SFR) that contains a molten salt energy storage system which enables the plant to vary its supply of electrical energy to the grid, up to 500 megawatts electric (MWe) net, while maintaining constant reactor power.

The Final EA evaluated two alternatives to address TerraPower's request for financial assistance to conduct preliminary activities for the Kemmerer Power Station Unit 1 which would include but are not limited to site preparation, non-structural backfill, installation of trailers, construction of multiple buildings, installation of underground services, laying foundations, installation of stormwater management ponds, locating portable bathroom facilities, establishing temporary power, and constructing temporary parking areas. The two alternatives are: a No Action Alternative and the Proposed Action to provide federal funding in support of the Kemmerer Power Station Unit 1 preliminary activities. The Proposed Action is the Preferred Alternative; it would meet the purpose and need for the Proposed Action and would also be protective of human health and the environment.

Based on the analysis in the Final EA, DOE determined that the Preferred Alternative would not constitute a major Federal action significantly affecting the quality of human health and the environment within the meaning of NEPA. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required, and DOE is selecting the Proposed Action and issuing this Finding of No Significant Impact (FONSI).

PROPOSED ACTION: The Proposed Action involves providing federal funds in support of conducting preliminary activities for the Kemmerer Power Station Unit 1 (the Proposed Project). Under the Proposed Action, TerraPower would prepare the site and build supporting infrastructure to support the potential future construction and operation of Kemmerer Unit 1. The Proposed Project would be located in Kemmerer, Wyoming. The preliminary activities would be completed on a parcel of land owned by the US SFR Owner located on approximately 290 acres in a portion of Sections 19 and 20, Township 20 North, Range 116 West, P.M, Lincoln County, Wyoming in the vicinity of Kemmerer. The site would be accessed from U.S. Highway 189 (US-

189). The activities under the Proposed Action would at no time involve radioactive material or nuclear safety-related systems, and no safety-related structures would be built.

ALTERNATIVES EVALUATED: DOE evaluated two alternatives in the Final EA. Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Proposed Project. For purposes of analysis, DOE assumed the Proposed Project would not proceed if DOE does not authorize the expenditure of federal funds. The No Action Alternative was evaluated to provide a baseline for comparison with the Proposed Action Alternative, which is the Preferred Alternative. The Proposed Action (the Preferred Alternative) consists of authorizing the expenditure of federal funding by TerraPower to support the preliminary activities for Kemmerer Power Station Unit 1.

In addition to the two alternatives evaluated in detail in the Final EA, DOE also considered other alternatives that were eliminated from further analysis in Section 2.2 of the EA. Several alternative locations were considered by TerraPower as part of a competitive bid. The evaluation process considered financial costs to DOE, the availability of existing utilities, and the technical expertise of the design partner and available local labor pool. The selected location provided the lowest-cost option while minimizing potential environmental impacts because of the availability of existing utility connections.

ENVIRONMENTAL CONSEQUENCES: The affected environment for the following resources at the project site were evaluated for potential impacts from the No Action Alternative and the Proposed Action (the Preferred Alternative):

- Ecological Resources
- Cultural Resources
- Hydrology
- Socioeconomics
- Geological Resources
- Infrastructure, Traffic, and Transportation
- Accidents and hazards

Under the No-Action Alternative, the preliminary activities would not be constructed and the socioeconomic benefits identified in the Final EA would not be realized. All other resource areas would remain unchanged when compared to existing conditions.

The Proposed Action (the Preferred Alternative) would have short and long-term, negligible to moderate impacts to resources from construction and operation activities (Table 1).

Table 1. Summary of Impacts

Resource Area	Level of Expected Impact
Ecological Resources	Minor, Short-term and Long-term impacts
Cultural Resources	Minor, Long-term impacts
Socioeconomics	Minor to Moderate, Short-term and Long-term impacts
Geological Resources	Minor, Short-term impacts
Hydrology	Minor, Short-term impacts

Resource Area	Level of Expected Impact
Infrastructure, Traffic and Transportation	Minor to Moderate, Short-term and Long-term impacts
Accidents and Hazards	Minor to Moderate, Long-term impacts

Applicant committed measures are listed in Section 2.6 of the EA and include items to reduce potential impacts from the Proposed Project. Measures cover the following resource areas: cultural and historic resource; spill prevention, control, and countermeasure plan; infrastructure, traffic and transportation; biological resources; and health and safety.

The cumulative impacts from the Proposed Project (the Preferred Alternative) are expected to be negligible to moderate with the greatest impacts under infrastructure, traffic, and transportation.

FLOODPLAIN STATEMENT OF FINDINGS: This Floodplain Assessment and Statement of Findings has been prepared in accordance with 10 Code of Federal Regulations (CFR) 1022, “Compliance with Floodplain and Wetland Environmental Review Requirements” which were promulgated to implement the requirements of the DOE’s responsibilities under Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Wetlands Protection*. According to 10 CFR 1022, a floodplain is defined as the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a 1% or greater chance flood in any given year (the “100-year floodplain”).

DOE is proposing to provide federal funding to TerraPower for the preliminary activities to support the Kemmerer Power Station Unit 1. The 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA) for North Fork Little Muddy Creek as well as its tributaries near the site. As shown in Figure 2.1-1 of the EA, all preliminary land-disturbing activity for Kemmerer Unit 1 would take place outside of the North Fork Little Muddy Creek floodplain. The proposed project is not located within a wetland.

DOE included the analysis of potential impacts of the proposed action to the floodplain in the draft EA which was released for a 30-day public comment period. No comments were received on floodplains or wetlands.

As described in Section 2.1, *Proposed Action*, of the EA, the proposed action would include installation of stormwater management ponds, including the excavation of pond areas, and stormwater pond berms, and installation of infall and outfall structures and culverts. However, none of the preliminary activities would take place within the North Fork Little Muddy Creek floodplain.

Section 2.1.3 states that during preliminary activities, storm drainage would be captured in a temporary groundwater/stormwater settling pond on the east part of the site and then directed to existing drainageways. The temporary east settling pond would have a capacity of 5 acre-feet, though the full capacity is not anticipated to be used. It is anticipated that, during a 2-year 24-hour storm event, the peak discharge would be within the range of approximately 14-26 cfs. At the principal spillway level, the design capacity of all basins can fully contain the run-off volume of a 100-year 24-hour storm event.

There would be no impacts to the floodplain as described in Section 3.3.3 of the EA.

No long-term negative direct or indirect impacts to the beneficial values of the 100-year floodplain would be expected under the proposed action. No effects to lives and property associated with floodplain disturbance are anticipated.

The alternatives available to DOE are to provide federal funding to support the project proposed by TerraPower or to not provide funding. There are no project design or site alternatives available to DOE.

In accordance with 10 CFR 1022, DOE sent notice of the proposed floodplain action through the release of the Draft EA to appropriate government agencies and other interested parties for review and comments. This was accomplished electronically via email and by mail correspondence dated October 21, 2024. DOE also published the notice in the October 21 and 28th, 2024, editions of the local newspaper, the Kemmerer Gazette. Additionally, the notice was posted on the DOE public reading room webpage at: <https://www.energy.gov/nepa/doeea-2264-terrapower-llcs-kemmerer-unit-1-preliminary-activities-lincoln-county-wy>. The public and agency comment period ran from October 21, 2024, to November 20, 2024, thus meeting the 15-day requirement of 10 CFR 1022. DOE did not receive any comments from government agencies, persons or groups of interest, or the general public on floodplain impacts.

It is anticipated that this project would not result in adverse impacts to the 100-year floodplain since no activities would take place within the floodplain.

In accordance with 10 CFR Part 1022 and based upon the information presented in this Statement of Findings, DOE concludes that this action conforms to applicable floodplain protection standards and the appropriate steps have been taken to minimize potential harm within the floodplain.

PUBLIC REVIEW AND COMMENTS: DOE held a public scoping period from July 19, 2024, to August 15, 2024. DOE received seven comments from private citizens and two state agencies. DOE incorporated comments into the draft EA as appropriate. DOE released the draft EA on October 21, 2024, for a 30-day comment period closing on November 20, 2024. DOE held an in-person public meeting on October 29, 2024, in Kemmerer, WY. DOE received five public comments from local and state governments. DOE responded to substantive public comments in Appendix C of the EA. Pursuant to applicable NEPA regulations, DOE is not required to provide the FONSI to the public for a 30-day review period prior to a decision because the Proposed Action is not an activity that normally requires an Environmental Impact Statement (See, e.g., 10 CFR 1021 subpart D, App'x. D).

CONSULTATIONS: DOE made a determination of *no effect* for threatened and endangered species under Section 7 of the Endangered Species Act. On January 28, 2025, DOE received concurrence from Wyoming State Historic Preservation Office (WY SHPO) with DOE's findings on the Proposed Action following a 30-day review period under Section 106 of the National Historic Preservation Act (NHPA).

COOPERATING AGENCIES: DOE did not invite any federal agencies or Tribes to be cooperating agencies for this project.

PUBLIC AVAILABILITY AND CONTACT INFORMATION: This FONSI and Final EA are available at the following website: <https://www.energy.gov/nepa/doesa-2264-terrapower-llcs-kemmerer-unit-1-preliminary-activities-lincoln-county-wy>

For more information about this FONSI or Final EA:
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DETERMINATION: Based on the information and analysis in the Final EA, DOE has determined that the Proposed Action would not constitute a major Federal action significantly affecting the quality of human health or the environment in accordance with NEPA, 42 U.S.C. §§ 4321 et seq and any relevant implementing regulations. Therefore, the preparation of an EIS is not required.

DOE selects the Proposed Action from the *Environmental Assessment for the TerraPower Kemmerer Power Station Unit 1 Preliminary Activities, Kemmerer, Wyoming* (DOE/EA-2264) and is issuing this FONSI.

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