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# Draft Environmental Impact Statement for the Construction Permit Application for Kemmerer Power Station Unit 1

Tuesday, July 22, 2025

**NRC**
Lead Agency

**DOE**
Cooperating Agency

U.S.NRC
United States Nuclear Regulatory Commission
*Protecting People and the Environment*

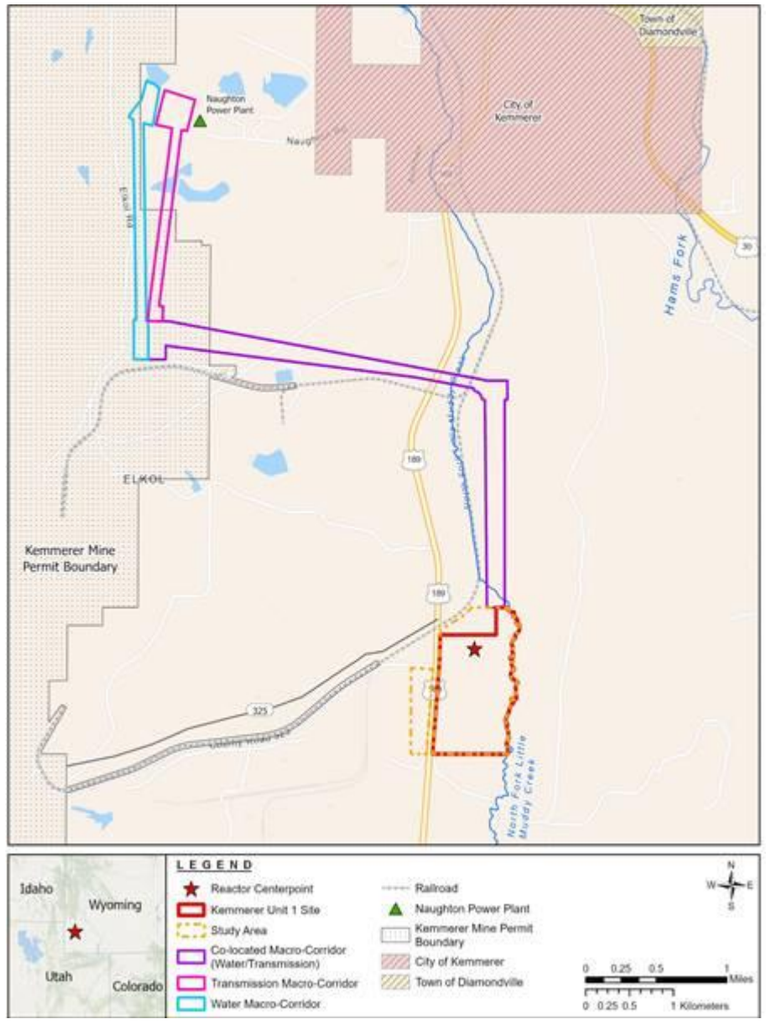
# Purposes of this Meeting

- Describe the NRC review process
- Share with you the NRC staff's preliminary findings and recommendation from the environmental review
- Describe how you can provide comments during the comment period
- **Listen to and gather your comments**

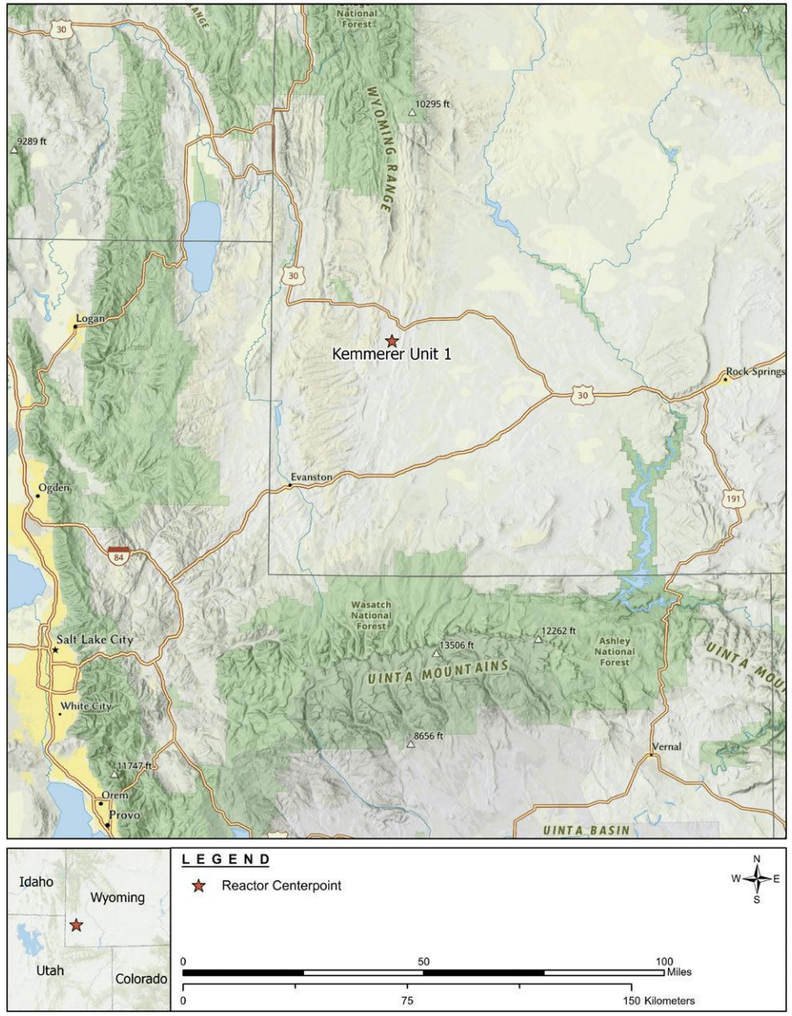
# What the NRC Does

- Determines whether it is safe to build and operate a proposed nuclear reactor at a site
- Evaluates the environmental impacts of building and operating a nuclear reactor at the proposed site
- Inspects construction and safe operation of nuclear reactors
- Licenses reactor control room operators

# Proposed Kemmerer Unit 1 Site




- 334-acre site in Lincoln County, Wyoming
- 3 miles south of the City of Kemmerer, and 3.8 miles southeast of the Naughton Power Plant



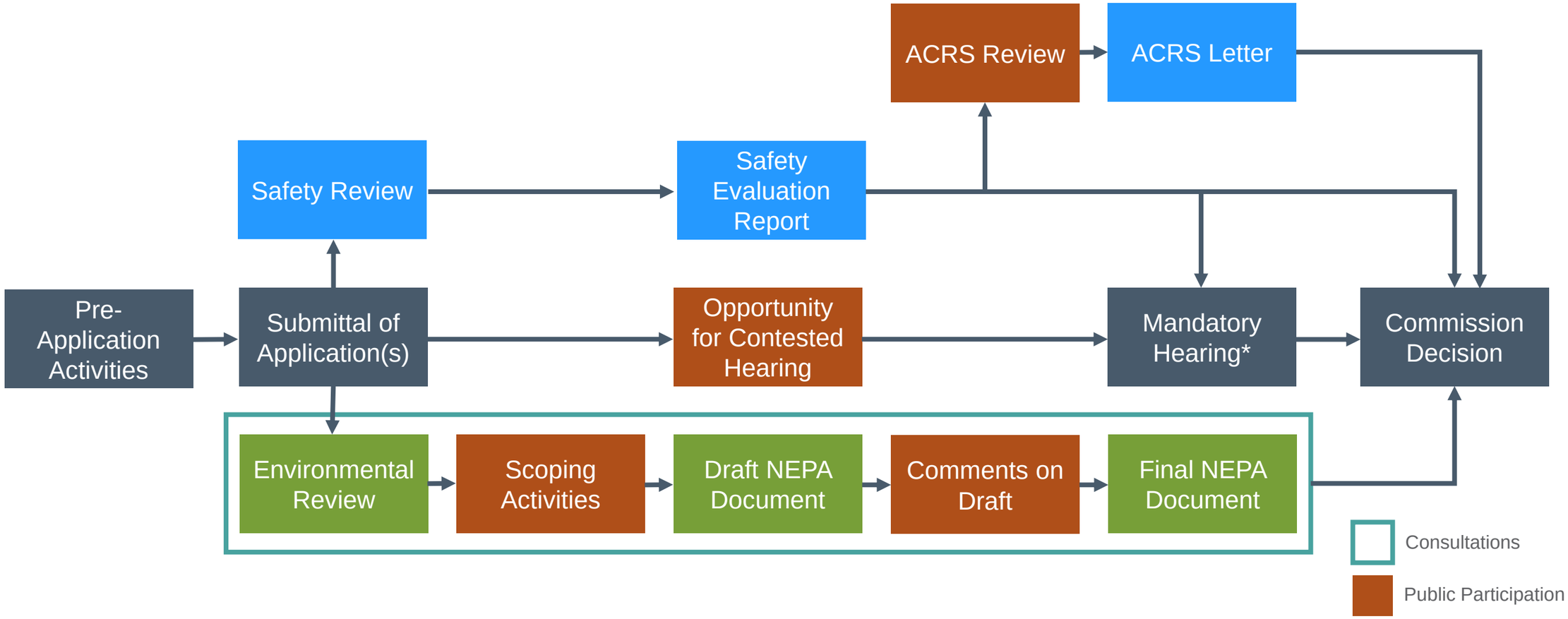
# Construction Permit

- NRC authorization for an applicant to proceed with construction of a nuclear facility
- An additional application and NRC review of a final design is needed for an Operating License that approves operation of the facility
- There are two aspects of the NRC's review of the Kemmerer Unit 1 Reactor application – safety and environmental

# NRC Safety Review Process

- TerraPower submitted its Kemmerer Unit 1 Construction Permit Application in March 2024;
- NRC accepted the application for review and began its detailed review of the application in May 2024.
- The NRC staff will clearly document its safety findings in a Safety Evaluation Report.
- The NRC staff currently expects to complete its Safety Evaluation Report in December 2025.

# Licensing Process: Safety and Environmental Reviews




**ACRS** - Advisory Committee on Reactor Safeguards
**NEPA** - National Environmental Policy Act
***Required for early site permits, construction permits, or combined licenses

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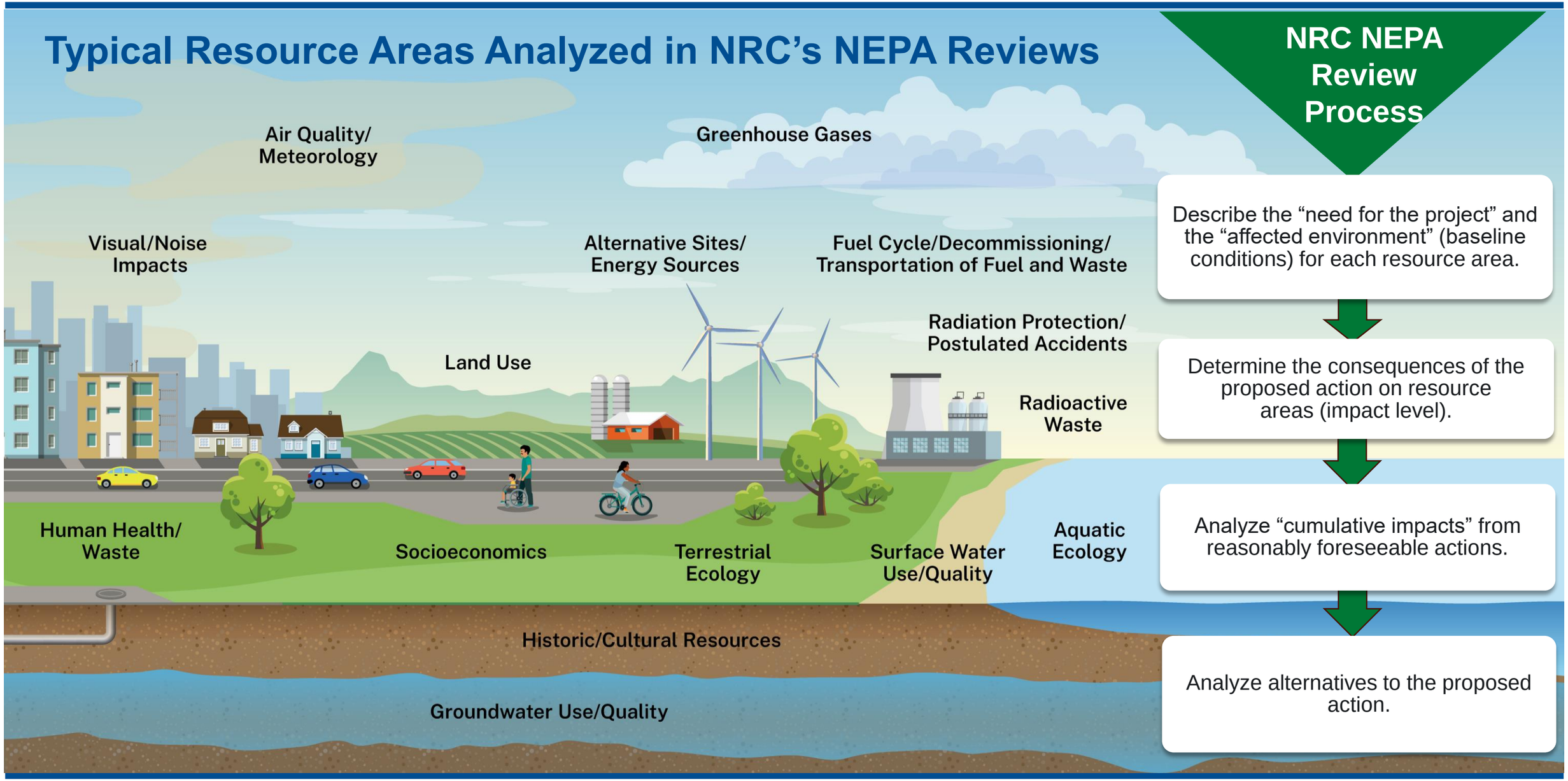
# Environmental Review Process

- Evaluated environmental impacts of construction, operation and decommissioning of a proposed nuclear facility per National Environmental Policy Act (NEPA)
- The NRC staff summarized its findings in an Environmental Impact Statement (EIS)
- NRC systematic approach by regulations (10 CFR Part 51)
- Public Comments

# Kemmerer Unit 1 Reactor


- Demonstration reactor for power production
- Public-private partnership with the DOE Advanced Reactor Demonstration Program
- Water corridor required to connect with Naughton Power Plant Raw Water Settling Basin
- New transmission corridor required to connect to existing Naughton Power Plant substation

# Typical Resource Areas Analyzed in NRC's NEPA Reviews




## NRC NEPA Review Process

Describe the "need for the project" and the "affected environment" (baseline conditions) for each resource area.

Determine the consequences of the proposed action on resource areas (impact level).

Analyze "cumulative impacts" from reasonably foreseeable actions.

Analyze alternatives to the proposed action.

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# How Impacts Are Expressed

- Environmental impacts assessed in each relevant resource area
- NRC has established three levels of impact:
  - ***SMALL*:** Effect is not detectable, or so minor it will neither destabilize nor noticeably alter any important attribute of the resource
  - ***MODERATE***: Effect is sufficient to alter noticeably, but not destabilize, important attributes of the resource
  - ***LARGE***: Effect is clearly noticeable and sufficient to destabilize important attributes of the resource

# Environmental Impacts of the Kemmerer Unit 1 Project

- EIS considers Direct, Indirect, and Cumulative Impacts.
- Environmental impacts determined to be SMALL except
  - Terrestrial Ecology, Cultural Resources, Socioeconomics
- While future surface water availability in the Green River Basin is expected to decline, there is sufficient surface water available to meet projected future demand.
- BMPs for erosion control, stormwater, fugitive dust.
- Compliance with all health and safety regulations.
- Meets NRC requirements for postulated accidents.

# Alternative Analysis

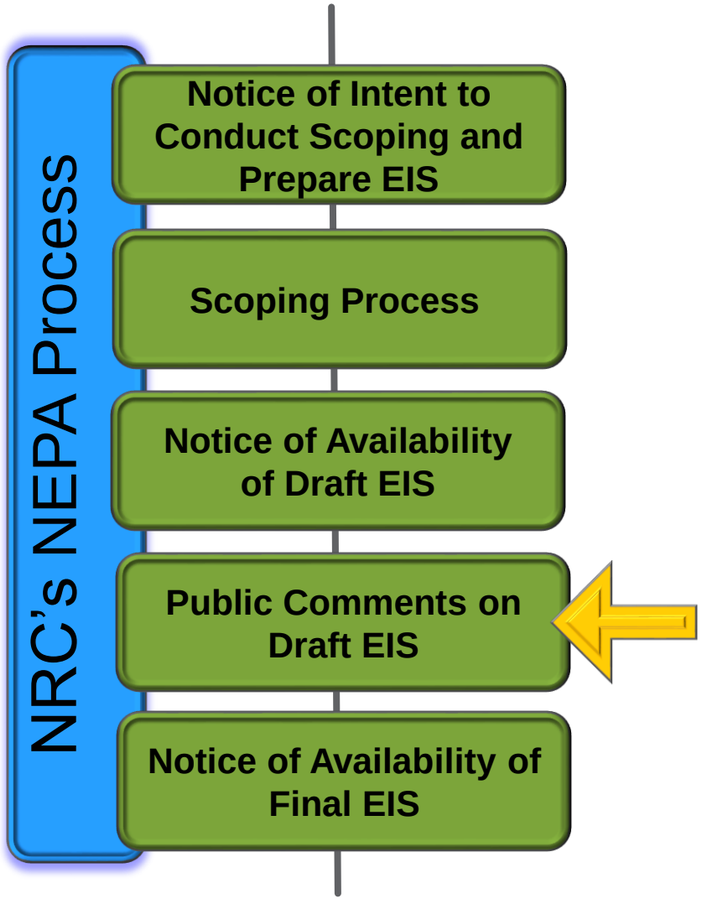
- Systematic Process used to identify Range of Reasonable Alternatives meeting the Purpose & Need: to allow USO to build Kemmerer Unit 1 to demonstrate the Natrium advanced reactor and to replace electricity generation capacity in the PacifiCorp service area following planned retirement of existing coal-fired facilities
- **No-action Alternative**: evaluated in detail
- Site alternatives: Three identified for detailed evaluation
  - **Proposed Action**
  - **Naughton 12 site and**
  - **Jim Bridger 22 site**
- No Environmentally Preferable Sites or Obviously Superior Sites

# Preliminary Recommendation

The NRC staff's preliminary recommendation to the Commission from the environmental review is that the Construction Permit be issued. This recommendation is based on:

- information in USO's CP application;
- public scoping comments;
- communications with Federal, State, Tribal, and Local agency officials;
- the staff's independent review; and
- assessments summarized in the draft EIS

# Environmental Review Schedule




Published *Federal Register* notice on June 12, 2024

Scoping period from June 12 to August 12, 2024

Published draft EIS in June 2025

There will be a 45-day comment period on the Draft EIS (June 20 to August 4, 2025)

Final EIS expected to be published in December 2025

# Access to Kemmerer Unit 1 Documents or Additional Information

## NRC USO Project Web Site

https://www.nrc.gov/reactors/new-reactors/advanced/who-were-working-with/applicant-projects/terrapower.html

## NRC Staff Points of Contacts:

✓Patricia Vokoun, Environmental Project Manager, (800) 368-5642, ext. 3470, Patricia.Vokoun@nrc.gov

✓Bill Burris, Environmental Project Manager, (800) 368-5642, ext. 1621, William.Burris@nrc.gov

✓Mallecia Sutton, Safety Project Manager, (800) 368-5642, ext. 0673, Mallecia.Sutton@nrc.gov

Lincoln County Library
519 Emerald Street
Kemmerer, WY  83101

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# Submitting Comments

Speaking today at this meeting

TerraPowerEnvironmental@nrc.gov

Office of Administration
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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Program Management, Announcements and Editing Staff

When submitting a comment, please provide your name and e-mail address so that we may provide a link to the final EIS

Comments are due by **August 4, 2025**

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