June 12, 2024

Mr. George Wilson
Vice President, Regulatory Affairs
TerraPower, LLC
15800 Northup Way
Bellevue, WA 98008

SUBJECT: US SFR OWNER, LLC – KEMMERER POWER STATION UNIT 1
CONSTRUCTION PERMIT APPLICATION REVIEW SCHEDULE AND
RESOURCE ESTIMATE (EPIDS: L-2024-CPS-0000 AND L-2024-LNE-0002)

Dear Mr. Wilson:

This letter provides a summary of the schedule and a resource estimate for the detailed review of the Kemmerer Power Station Unit 1 (hereafter referred to as Kemmerer 1) construction permit (CP) application. On May 21, 2024, the U.S. Nuclear Regulatory Commission (NRC) staff sent US SFR Owner, LLC (USO), a wholly owned subsidiary of TerraPower, LLC (TerraPower), a letter accepting the Kemmerer 1 CP application for detailed review (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24135A109). A notice of the acceptance for docketing was published in the Federal Register on June 4, 2024 (89 FR 47997). The tables below provide key milestones for both the safety review and the environmental review.

<table>
<thead>
<tr>
<th>Safety Review Milestones</th>
<th>Estimated Completion</th>
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<tbody>
<tr>
<td>Draft Safety Evaluation (SE)¹</td>
<td>March 2025</td>
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<tr>
<td>Advanced SE²</td>
<td>November 2025</td>
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<td>Final SE³</td>
<td>August 2026</td>
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Notes:
1. SE sections drafted, and information gaps identified.
2. Begin NRC management, legal, and Advisory Committee on Reactor Safeguards review of SE sections.
3. Final SE compiled and issued.

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<thead>
<tr>
<th>Environmental Review Milestones</th>
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<tr>
<td>Draft Environmental Impact Statement (EIS)¹</td>
<td>July 2025</td>
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<tr>
<td>Final EIS²</td>
<td>May 2026</td>
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Notes:
1. Draft and legal review of EIS sections completed. Open items resolved.
2. Publication and issuance activities completed.
The schedule reflects the NRC staff’s best estimate of the level of effort needed for application review areas and the NRC staff’s understanding of USO’s deployment timeline for Kemmerer 1. The schedule was developed considering: (1) the complexity of the technical and regulatory issues associated with the design; (2) the completeness, quality, and size of the application; (3) the pre-application, readiness review, and acceptance review engagements; (4) the availability of staff resources and prioritization with concurrent workload (e.g., 13 referenced topical reports under review); (5) the schedule and resources executed for previous non-light water reactor construction permit application reviews; and (6) the generic milestones of requested activities of the Commission. This schedule does not include the hearing process, which follows completion of the SE and EIS.

The schedule is also based, in part, on USO’s commitment to provide responses to Requests for Additional Information (RAIs) within 30 days after the issuance of the RAIs and within 45 days after the issuance of the second round of RAIs, if needed. The applicant is also expected to provide support in a timely and organized manner during technical audits determined necessary by the NRC staff. To achieve this schedule, the NRC staff intends to engage USO frequently to resolve open items and address emerging technical and regulatory issues. Delays in the NRC staff’s receipt of necessary information could result in changes to the review schedule. The NRC requests that USO inform the NRC staff in writing, as early as possible, should potential delays arise in its support of the schedule.


Based on pre-application activities and the information provided in USO’s Kemmerer 1 CP application submittal, the NRC staff estimates that it will need approximately 27,000 staff hours and $4 million in contractor support to complete the safety and environmental reviews of the application. Hearing activities are not included in this resource estimate.

If there are emergent complexities or challenges in the NRC staff’s review that would cause changes to the initial forecasted completion date or significant changes in the estimated resources, the reasons for the changes, along with the new estimates will be communicated via separate correspondence. The schedule and resource estimates could change due to several factors, including RAIs, unanticipated changes to the scope of the review, unsolicited supplements to the application, design changes, and other factors. Milestones and resource estimates for hearing activities will be developed after hearing dates are established by the Commission or the Atomic Safety and Licensing Board.
If you have any questions regarding this matter, please contact me at (301) 415-0673 or by via email at Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Mallecia Sutton, Senior Project Manager
Advanced Reactor Licensing Branch 1
Division of Advanced Reactors and Non-Power Production and Utilization Facilities
Office of Nuclear Reactor Regulation

Docket No.: 50-0613

cc: TerraPower Natrium
    via Gov Delivery
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CONSTRUCTION PERMIT APPLICATION REVIEW SCHEDULE AND
RESOURCE ESTIMATE (EPIDS: L-2024-CPS-0000 AND L-2024-LNE-0002)
DATED: JUNE 12, 2024

DISTRIBUTION:
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RAnzalone, NRR
DAtkinson, NRR
RBrusselmans, NRR
DGreene, NRR
CDDeMessieres, NRR
SDevlin-Gill, NRR
MSutton, NRR
JBroromeo, NRR
DBarnhurst, NMSS
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ADAMS Accession No.: ML24162A063
NRR-106

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