UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

REQUEST FOR ADDITIONAL INFORMATION

OFFICE OF OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

LICENSING REQUEST REGARDING DECOMMISSIONING BEYOND 60 YEARS

CONSTELLATION ENERGY GENERATION, LLC

PEACH BOTTOM ATOMIC POWER STATION, UNIT 1

DOCKET NO. 50-171

By letter dated October 20, 2023, (Agencywide Documents Access and Management System Accession No. ML23293A305), as supplemented by letter dated May 13, 2024 (ML24134A179), Constellation Energy Generation, LLC (Constellation, the licensee) submitted a request for Peach Bottom Atomic Power Station, Unit 1 (Peach Bottom Unit 1). The proposed request would allow the completion of decommissioning for Peach Bottom Unit 1 beyond 60 years of permanent cessation of operations.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information submitted and determined that additional information is required to complete its review. The specific requests for additional information (RAIs) are listed below.

Requirement

The regulations in Title 10 of the *Code of Federal Regulations* (10 CFR 50.82 (a)(3) requires licensees to complete decommissioning within 60 years of permanent cessation of operations. Completion of decommissioning beyond 60 years will be considered by the NRC in evaluating an alternative only when necessary to protect public health and safety. Factors that will be considered include unavailability of waste disposal capacity and other site-specific factors affecting the licensee's capability to carry out decommissioning, including presence of other nuclear facilities at the site.

RAI 1

In the supplement, the licensee indicated that Peach Bottom Unit 1 was not designed to support vessel flooding and requires a unique approach to be developed to accomplish dismantlement. The staff notes that this position does not involve the presence of other nuclear facilities at the site. Explain why a delay is necessary to protect public health and safety given that the licensee has had since 1974 to plan decommissioning.

RAI 2

In the supplement, the licensee indicated that reasonable mitigation to protect public health and safety that would allow Peach Bottom Unit 1 to safely decommission using available conventional methods could not be identified. Provide a clear, concise justification that indicates how using available mitigation methods poses a significantly increased risk to public health and safety that would necessitate an alternative schedule because the licensee would not be able to maintain compliance with health, safety, and security regulations. Quantify the risks to the extent possible.

RAI 3

In the supplement, the licensee speculates that suitable decommissioning methods will be developed for High-Temperature Gas-Cooled Reactors (HTGRs) in the near future based on global decommissioning efforts but provides no reference to any studies, ongoing work, or agreements with other parties to include the issues at Peach Bottom Unit 1. Explain how Constellation is engaged with research on a global scale to establish suitable decommissioning methods for HTGRs. Provide references and contacts to the establishments and organizations that Constellation is working with on this effort.

RAI 4

In the1996 Decommission Cost Study for Peach Bottom Unit 1, the strategy was to remove the Unit 1 reactor internals by cutting a hole in the containment dome and removing the reactor and internals from the top using a crane. NRC assumes that radiological engineering and administrative controls would be used as needed. Why is the strategy proposed in 1996 not feasible?

RAI 5

If the Peach Bottom Unit 1 reactor cannot be decommissioned using DECON for unrestricted release, other decommissioning methods are available such as restricted release and entombment. Explain why other methods are not being considered.

RAI 6

If the licensee believes that the Peach Bottom Unit 1 reactor cannot be safely decommissioned, then explain why annual decommissioning cost estimates and the Generic Environmental Impact Statement for Decommissioning Reactors, NUREG-0586, Supplement 1 Volume 2 infer otherwise?