

## Regulatory Guide Periodic Review

**Regulatory Guide Number:** 3.10 Revision 0

**Title:** Liquid Waste Treatment System Design Guide for Plutonium Processing and Fuel Fabrication Plants

**Office/Division/Branch:** NMSS/DFM/CTCFB

**Technical Lead:** Nicole Cortés Medina

**Recommended Staff Action:** Reviewed with issues identified for future consideration

**1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?**

RG 3.10 Revision 0 was issued in June 1973 to provide guidance for a plutonium processing and fuel fabrication plant, including a mixed oxide (MOX) fuel fabrication facility, pertaining to the liquid waste treatment system design. It provides a detailed list of the design guidelines that should be submitted for evaluation to determine whether satisfactory provisions have been made by the applicant for the treatment and storage of liquid radioactive wastes.

A periodic review of RG 3.10 was performed in September 2013 and determined that there were no issues identified in the RG. An additional evaluation of this review was conducted in March 2024. The staff noted in their review the need to update the RG format and revise references listed in the guidance. Additionally, the staff recommended the RG to be revised to address the following technical and administrative issues:

1) Technical Need for Revisions

- a. Reviewing certain materials utilized that may be outdated
- b. Replacing certain references regarding utilized standards
- c. Replacing terminology that may be outdated

2) Administrative Need for Revision

Update format to include missing sections such as Applicability, Implementation, References, among others.

In January 2025 the staff updated the periodic review issued in March 2024 for this RG and concluded that the issues identified with this guide will be considered further in the future instead of following up with a revision as stated in the 2024 review. This is because no application is expected for a plutonium processing and fuel fabrication plant within the next several years.

**2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?**

As part of the staff's periodic review, the staff determined that the guidance contained in this RG is not captured in other agency guidance. Specifically, staff reviewed NUREG-1718, "Standard Review Plan for the Review of an Application for a Mixed Oxide (MOX) Fuel Fabrication Facility," and determined that this RG was not cited in the current guidance for MOX facilities. There may be a future application for plutonium processing and fuel fabrication facilities and this guidance may be useful for facility designers.

There will be no impact on licensing and inspection activities since there is currently no application expected for a plutonium processing and fuel fabrication plant within the next several years.

**3. What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?**

For a complete review of the RG, that would include an administrative and technical evaluation, the staff estimates 0.2 FTE to complete the revision of RG 3.10.

**4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?**

Reviewed with issues identified for future consideration

**5. Provide a conceptual plan and timeframe to address the issues identified during the review.**

The NRC staff will consider the identified issues as part of the next periodic review while also considering whether the NRC is anticipating applications for a plutonium processing and fuel fabrication plant.

**NOTE: This review is an update to the periodic review issued by the NRC staff in March 2024, and reflects the staff's knowledge of industry plans as of January 2025.**