



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

June 3, 2019

MEMORANDUM TO: Brian E. Thomas, Director
Division of Engineering
Office of Nuclear Regulatory Research

FROM: Frederick D. Brown, Director **/RA/**
Office of New Reactors

SUBJECT: RESULTS OF REVIEW OF REGULATORY
GUIDE 1.181

This memorandum documents the U.S. Nuclear Regulatory Commission (NRC) periodic review of Regulatory Guide (RG) 1.181, "Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)," published in September 1999. The RG provides guidance for periodically updating final safety analysis reports. The documentation of the NRC staff review is enclosed.

Based on the results of the periodic review, the staff concludes that a revision to RG 1.181 is warranted.

Enclosure:
Regulatory Guide Periodic Review

CONTACT: George Wunder, NRO/DLSE
(301) 415-1494

SUBJECT: RESULTS OF REVIEW OF REGULATORY GUIDE 1.181

DISTRIBUTION:

Public
LB3 Reading File
BHayes , NRO
LPerkins, NRR
JRankin, NRO
MOrenak, NRR
GWunder, NRO
MEudy, NRO
BThomas, RES
TBoyce, RES
RidsNroDlse
RidsNroDlseLb3
RidsNrr/Dorl/Lspb
RidsOgcMailCenter

ADAMS Accession No: ML19086A072

NRO-002

OFFICE	PM:NRO/DLSE/LB3	SUNSI	LA:NRO/DLSE/LB3
NAME	BHayes	BHayes	BAbeywickrama
DATE	3/21/19	3/21/19	3/28/19
OFFICE	BC:NRO/DLSE/LB3	BC:NRR/DORL/LSPB	DD:NRO/DLSE
NAME	JRankin	MOrenak*	ABradford
DATE	3/27/19	4/10/19	6/3/19

OFFICIAL RECORD COPY

Regulatory Guide Periodic Review

Regulatory Guide Number: **1.181**

Title: **Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)**

Office/division/branch: **NRO/DLSE/LB3**
Technical Lead: **Barbara Hayes**

Recommended Staff Action: **Revise**

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

RG 1.181, "Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)," issued in September 1999, provides guidance for periodically updating final safety analysis reports (FSARs) in accordance with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.71(e). RG 1.181 endorses Nuclear Energy Institute (NEI) 98-03, Revision 1, dated June 1999, by providing a regulatory position that states that it provides methods that are acceptable to the NRC staff for complying with the provisions of 10 CFR 50.71(e).

The U.S. Nuclear Regulatory Commission (NRC) last periodic review of RG 1.181 was issued in 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14346A207). The staff concluded that an update to RG 1.181 was not warranted at that time, however, the staff identified some technical or regulatory issues in the review that could warrant addressing in a future revision upon completion of a lessons-learned report. The referenced report, "San Onofre Steam Generator Tube Degradation Lessons Learned Report," (ADAMS Accession No. ML15015A419), issued on March 6, 2015, did not provide any recommendations for revision to RG 1.181.

The NEI submitted a proposed revision to NEI 98-03 (Draft Revision 2, ADAMS Accession No. ML15089A320) on March 24, 2015 with the intent to add new guidance related to FSARs for licensing activities under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." NRC staff provided preliminary comments on February 28, 2017 (ADAMS Accession No. ML16222A424) that referenced needed updates, clarifications, corrections, and additions to the previously endorsed guidance of NEI 98-03, Revision 1. The NRC staff comments included a discussion of key issues related to the treatment of historical information and updating of aging management and time limited aging analyses information and included a redline markup of NEI 98-03, Draft Revision 2 that requested specific changes in several general areas including:

- Updating outdated references;
- Removing internally inconsistent guidance concerning historical information;

- Clarifying the treatment of commitments in the FSAR;
- Providing recommendations on FSAR format for submittal of updates;
- Adding guidance for considering the need to update the FSAR to reflect third-party information (e.g., Army Corps of Engineers' Reports, National Geologic Survey, etc.);
- Referencing guidance for updating the FSAR to reflect license renewal and decommissioning activities; and
- Clarifying expectations regarding updating beyond-design-basis information.

In response to NRC staff's preliminary comments on the proposed revision, NEI submitted an updated revision of "NEI 98-03, Guidelines for Updating Final Safety Analysis Reports, Draft Revision 2," (ADAMS Accession No. ML17249A097), in response to a select group of preliminary comments related to licensing activities under 10 CFR Part 52. This revised draft version may contain new draft guidance beneficial to current and future holders of combined licenses (COL) issued under Part 52.

Revision of RG 1.181 would allow for appropriate update of guidance for operating reactors with licenses issued under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," as well as new guidance for holders of COLs issued under 10 CFR Part 52.

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?

The endorsed guidance related to 10 CFR 50.71(e) is out of date which impacts the fleet of operating reactors. Proper implementation of 10 CFR 50.71(e) by the applicant/licensee is essential to the proper maintenance of the design basis and thus impacts requirements for every license amendment approval (~500- 600 a year). Additionally, 10 CFR 50.71(e) governs updates to applications such as the COL DCD and license renewal and subsequent renewal submittals, while under review. Lack of revision of the RG would also not provide new guidance to holders of COLs issued under 10 CFR Part 52.

There may also be a need to update guidance to ensure proper 10 CFR 50.59 reviews and implementation of risk-informed TS change processes related to risk-informed completion time and surveillance requirement approvals and in the inspection realm. Additionally, the proper implementation of 10 CFR 50.71(e) is essential to the proper integration of MBDBE into the design basis and other beyond design basis concepts related to 10 CFR 50.54(hh). There is also a backfit component in that a properly updated FSAR is essential to making determination regarding whether a backfit is necessary. The current RG does not comprehensively cover these concepts for compliance for a facility in initial licensing review or construction, currently operating under initial or renewed license, pursuing license renewal, or in decommissioning.

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

NRC staff will rely primarily on previous reviews and will require approximately 2 FTE to prepare a draft and final revision.

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)?

Revise.

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

The staff plans to develop a draft guide by the fourth quarter of CY 2019, and issue it for public comment by the second quarter of CY 2020.

NOTE: This review was conducted in March 2019 and reflects the staff's plans as of that date. These plans are tentative and subject to change.