



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

March 8, 2024

The Honorable Christopher T. Hanson
Chair
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT – 712th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, FEBRUARY 7-8, 2024

Dear Chair Hanson:

During its 712th meeting, February 7-8, 2024, which was conducted in person and virtually, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters. The ACRS completed the following correspondence:

LETTER REPORT

Letter to Christopher T. Hanson, Chair, U.S. Nuclear Regulatory Commission (NRC)
from Walter L. Kirchner, Chair, ACRS:

- 10 CFR Part 61 – Revisions to Low-Level Radioactive Waste Disposal Requirements, dated February 26, 2024, Agencywide Documents Access and Management System (ADAMS) Accession No. ML24051A106.

MEMORANDA

Memoranda to Daniel H. Dorman, EDO, NRC, from Scott W. Moore, Executive Director, ACRS:

- Documentation of Receipt of Applicable Official NRC Notices to the Advisory Committee on Reactor Safeguards for February 2024, dated February 16, 2024, ADAMS Accession No. ML24044A003.
- Regulatory Guides, dated February 20, 2024, ADAMS Accession No. ML24044A002.

HIGHLIGHTS OF KEY ISSUES

- a. 10 CFR Part 61 – Revisions to Low-Level Radioactive Waste Disposal Requirements

The Committee heard from the NRC staff and issued the aforementioned February 26, 2024, letter report, with the following conclusions and recommendations:

1. The proposed rule represents a significant step forward in the management of a broad range of low-level radioactive wastes.
2. The inclusion of licensing flexibility and pathways for disposition of greater-than-Class C (GTCC) waste, depleted uranium, and other transuranic waste streams in the proposed rule represent a comprehensive approach to the disposal of low-level radioactive waste and will ensure that facilities meet Commission public health and safety objectives.
3. The proposed rule should be issued for public comment.

b. NuScale Topical Reports on Subchannel Analysis and Rod Ejection Accident Methodologies

The NuScale Design-Centered Subcommittee met with representatives of NuScale Power, LLC, and the staff on February 6, 2024, to discuss the staff's evaluation of Revision 4 to the NuScale Statistical Subchannel Analysis Methodology Topical Report (ML23277A001) and Revision 3 to the NuScale Rod Ejection Accident Methodology Topical Report (ML23306A176).

Subcommittee Chair, Walter Kirchner, recommended that the Committee not review these two safety evaluation reports. The Committee will review the application of these methodologies as part of their review of Chapter 4, "Reactor," and Chapter 15, "Transient and Accident Analyses," submitted in support of the NuScale standard design approval application.

The Committee agreed with Chair Kirchner's recommendation.

c. Discussions at the Planning and Procedures Session

1. The Committee discussed the Full Committee and Subcommittee schedules through June 2024 as well as the planned agenda items for Full Committee meetings.
2. The ACRS Executive Director led a discussion of significant notices issued by the Agency since the last Full Committee meeting in November 2023. The Executive Director documented this activity in a memorandum dated February 16, 2024, ADAMS Accession No. ML24044A003.
3. The ACRS Executive Director led a discussion of one regulatory guide and the potential for Committee review. The Executive Director documented the Committee's decision in a memorandum dated February 20, 2024, ADAMS Accession No. ML24044A002.
4. Vice Chair Halnon led a discussion of the planned trip to Region II sites for the week of July 22, 2024. This visit will include a visit to the Technical Training Center, a Tennessee Valley Authority operating plant, and Region II offices including a Plant Operations Subcommittee meeting while at Region II. Additional logistical information will be provided in the future.

5. Chair Kirchner led a discussion about the plan for ACRS review of the NuScale standard design approval application. On March 19, 2024, the NuScale Design-Centered Subcommittee will review the staff's safety evaluation reports for standard design approval Chapters 2, 10, 11, 13, 17, 18, and 19.4. On August 22, 2024, the NuScale Design-Centered Subcommittee will review the staff's safety evaluation reports for standard design approval Chapters 7, 8, 9, and 12.
6. Member-At-Large Petti led a discussion of the planned review of the Kairos 2 construction permit application and emphasized that the focus of the Committee's review will be on the significant differences in the application as compared to the just-completed Kairos Hermes construction permit application.
7. Chair Kirchner led a discussion of proposed changes to the Subcommittee structure and workload. He previously discussed the proposed changes with ACRS members and support staff. He requested if anyone had any additional comments to please contact him shortly as the intent is to publish the reviewed subcommittee chart and descriptions on the ACRS public website in the next several weeks.
8. Member Roberts led a discussion about ACRS review of topical reports that included a recommendation to document the Committee's decision more clearly as to why it does or doesn't review a specific topical report. He proposed a system similar to that used for regulatory guides with appropriate documentation in the summary.

Member Roberts volunteered to provide additional edits to Section 2.4 of the ACRS Member Guidance on Design-Centered Reviews.

9. Vice Chair Halnon led a discussion on the use of committee engagement plans (CEPs). With an emphasis on the following:
 - the CEP is a tool to be used by the ACRS staff engineer and to help populate the rainbow chart,
 - the lead member should review and be aware of the CEP, especially if there are changes, and
 - it is not necessary for the full committee to review a CEP at a meeting unless there is a significant change (as determined by the lead member).
10. Member-At-Large Petti led a discussion of plans to produce the triennial research program report. The information included the following:

Research Topics and Leads for Members for 2024 RES Review

Note: Letter report is slated for the November 2024 Full Committee (FC) (Member-At-Large Petti will not be present for the December 2024 FC). Backup would be the February 2025 FC to meet March 2025 deadline.

Topic	Subcommittee (SC) and FC Meeting dates	ACRS Member Lead
Integration of Source Term Activities in Support of Advanced Reactor Initiatives	SC: February 17, 2022 FC: March 2-4, 2022 ACRS Letter: April 4, 2022	Petti
Digital Twins Information Briefing	FC: May 4, 2022	Bier
Update on NRC Materials Harvesting Activities	FC: October 6, 2022	Sunseri
Level 3 Probabilistic Risk Assessment	SC: June 22, 2022, and October 19, 2023 FC: November 1, 2023 ACRS Letter: November 24, 2023	Dimitrijevic
Implementing the NRC's Artificial Intelligence (AI) Strategic Plan Fiscal Years 2023-2027	SC: November 15, 2023	Bier
High Burnup Fuel Source Term Accident Analysis	SC: November 16, 2023	Petti
Research Information Letter 2021-13 on Fuel Fragmentation Relocation and Dispersal	FC: December 1, 2021 ACRS Letter: December 20, 2023	Ballinger
Advanced Manufacturing	FC: July 6, 2022	Sunseri
How Machine Learning is Influencing Nondestructive Examination and Inservice Inspection	March 2024	Ballinger
High Energy Arc Faults	March 2024	Roberts/Brown
Non-Light Water Reactor Code Development Update	April 2024	Martin
Risk Assessment Beyond the Current Fleet: Non-Light Water Reactors, Transportation, Waste, and Human Factors	New: date TBD 2024	Dimitrijevic and Bier
Internal uses of Artificial Intelligence	New: date TBD 2024	Bier
Radiation Dose/Dosimetry in Support of Non-Reactor Applications	New: date TBD 2024	Roberts

11. There were no reconciliations at this meeting.

d. Scheduled Topics for the 713th ACRS Meeting

The following topics are on the agenda for the 713th ACRS meeting scheduled for March 7-9, 2024:

- Final proposed Revision 9 to Branch Technical Position (BTP) 7-19,
- Research topic on artificial intelligence and machine learning in non-destructive examination and in-service inspection, and
- Research topic on high energy arc faults.

Sincerely,



Signed by Kirchner, Walter
on 03/08/24

Walter L. Kirchner
Chair

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