



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

April 21, 2022

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

SUBJECT: SUMMARY REPORT – 693rd MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, MARCH 2 - 4, 2022

Dear Chairman Hanson:

During its 693rd meeting, March 2 – 4, 2022, which was conducted virtually in response to the COVID-19 pandemic, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters. The ACRS completed the following correspondence:

LETTER REPORTS

Letter Reports to Christopher T. Hanson, Chairman, U.S. Nuclear Regulatory Commission (NRC) from Joy L. Rempe, Chairman, ACRS:

- Preliminary Proposed Rule Language and Guidance to Align Licensing Processes and Lessons Learned from Recent Reactor Licensing Activities, dated March 23, 2022, ADAMS Accession No. ML22069A269, and
- Integration of Source Term Activities in Support of Advanced Reactor Initiatives, dated April 4, 2022, ADAMS Accession No. ML22069A083.

MEMORANDA

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

- Regulatory Guide, dated March 10, 2022, ADAMS Accession No. ML22068A060, and
- Documentation of Receipt of Applicable Official NRC Notices to the Advisory Committee on Reactor Safeguards for March 2022, dated March 10, 2022, ADAMS Accession No. ML22068A062.

Memorandum to John Lubinski, Director, Office of Nuclear Material Safety and Safeguards, from Scott W. Moore, Executive Director, ACRS:

- 10 CFR [Title 10 of the *Code of Federal Regulations*] Part 50, Appendix I, Rulemaking, dated March 15, 2022, ADAMS Accession No. ML22068A065.

HIGHLIGHTS OF KEY ISSUES

1. Preliminary Proposed Rule Language and Guidance to Align Licensing Processes and Lessons Learned from Recent Reactor Licensing Activities

The Committee heard from the NRC staff on this topic and issued its letter on March 23, 2022, with the following conclusion and recommendations:

- a. The proposed changes to the regulation and accompanying guidance documents address the identified objectives for this rulemaking. Staff should proceed with this rulemaking package.
- b. The Committee offers several comments that staff should consider as they move forward with this package.

2. Integration of Source Term Activities in Support of Advanced Reactor Initiatives

The Committee discussed this topic and issued its letter dated April 4, 2022, with the following conclusions and recommendations:

- a. The NRC's dedicated web page for source term related documents is commendable and should keep potential applicants up to date on latest developments in this area.
- b. The staff should provide an overview on the web page explaining how an applicant can best use the available information in concert with pre-application consultations to be better prepared to develop high quality submittals.
- c. NRC staff has expended significant effort related to computer code model development and application for non-light water reactor (non-LWR) technologies. This activity should substantially increase the readiness of the staff and promote expeditious reviews of current and future non-LWR applications.
- d. Although design specific evaluations are needed, application of these codes (as part of the NRC staff reference plant evaluations) has identified key phenomena, data gaps, and accident system response features that impact source terms. Staff insights from these evaluations should be documented.
- e. Clear and consistent guidance that aligns the use of the terms "maximum hypothetical accident" and "maximum credible accident" should be developed to assist potential applicants that would use this concept in their licensing strategy.
- f. Source terms should consider both radioactive and chemically hazardous materials in advanced reactor designs.

3. Discussions at the Planning and Procedures (P&P) Session

- a. The Committee discussed the Full Committee and Subcommittee schedules through July 2022 as well as the planned agenda items for Full Committee meetings.
- b. The ACRS Executive Director also led a discussion of significant notices issued by the Agency since the last Full Committee meeting in February 2022 (this activity is documented in the memorandum dated March 10, 2022).
- c. The Committee discussed recommendations on review of a draft regulatory guide as documented in the memorandum mentioned above, dated March 10, 2022.
- d. The Committee discussed and approved Member Halnon's recommendation for the Committee not to review the 10 CFR Part 50, Appendix I, rulemaking package as documented in the memorandum mentioned above, dated March 15, 2022.
- e. Member Brown led a discussion about the desire for the Committee to review topics that will appear in a draft SECY paper to the Commission regarding Common Cause Failure. It was decided that the Committee would meet with the staff on this important topic in an open Subcommittee meeting that is scheduled for May 20, 2022.
- f. The Committee discussed preparations for the next Commission meeting with the ACRS which is scheduled for June 3, 2022. As part of the P&P discussions, the Committee approved a draft scheduling note that will be sent to SECY. The topics proposed include: (1) Overview and research activities (Chairman Rempe), (2) 10 CFR Parts 50 and 52 alignment rulemaking (Member Bier), (3) Rulemaking activities to support small modular reactors and other new technologies (Member Halnon), and (4) Non-LWR source term (Member-at-large Petti).
- g. Member Halnon led a discussion about a planned Committee visit to Region 3 during the week of August 15, 2022. It was mentioned that a visit to an operating plant (likely Byron) and to the SHINE construction site would be part of the visit. A meeting with Region 3 staff and management is also planned as part of the visit.
- h. Member Ballinger led a discussion about the Committee's activities regarding the SHINE operating license application review. It was discussed that Members who have leads for specific chapters of the final safety analysis report will draft memoranda regarding the review of these chapters as the Committee did for the NuScale review. These memoranda will be discussed at future ACRS meetings.
- i. Member Ballinger also led a discussion about future interactions with fuel vendors. Currently, there are plans for the Framatome fuel performance meeting and facility tour in Richland, WA to occur in September 2022. Initial travel planning will begin in May. There will be a WEC fuel performance and tour of facility in late 2023. At this time, GNF is only conducting virtual tours.
- j. Members Ballinger and Halnon discussed plans to interact with the staff on the Seabrook alkali-silica reaction (ASR) inspection findings at a subcommittee meeting scheduled for April 27, 2022, which will be conducted virtually.

- k. Executive Director Moore led a discussion of reconciliations for the following topics: (1) Regulatory Guide 1.247, "Acceptability of Probabilistic Risk Assessment Results for Advanced Non-light Water Reactor Risk-informed Activities" [Dimitrijevic/Widmayer]; (2) Research Information Letter (RIL) 2021-13 on Interpretation of Research on Fuel Fragmentation, Relocations, and Dispersal at High Burnup [Ballinger/Abdullahi]; and (3) Proposed Draft Regulatory Guide 5.71, Revision 1, Cyber Security Programs for Nuclear Power Reactors [Brown/Antonescu].

The Committee decided to take no further action on these issues.

- l. The Committee held a closed portion of the P&P session to discuss administrative and personnel issues, as advertised in the agenda published in the *Federal Register*.

4. Scheduled Topics for the 694th ACRS Meeting

The following topics were on the agenda for the 694th ACRS meeting scheduled for April 6 - 8, 2022:

- Radiation Embrittlement of Reactor Vessel Materials
- BWRX-300 Topical Report on Containment Evaluation Methodology
- Point Beach Subsequent License Renewal Application
- SHINE Operating License Application Review – Interim Letter
- BWRX-300 Topical Report on Advanced Civil Construction and Design Approach

Sincerely,



Signed by Rempe, Joy
on 04/21/22

Joy L. Rempe
Chairman

April 21, 2022

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