



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

October 16, 2026

The Honorable Ho K. Nieh
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT AND CERTIFIED MINUTES – 738th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, SEPTEMBER 3
THROUGH 4, 2026

Dear Chairman Nieh:

During its 738th meeting held September 3 through 4, 2026, which was conducted in person and virtually, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters. The Committee's efforts continued to be focused on statutorily required functions as directed in Executive Order (EO) 14300, "Ordering the Reform of the Nuclear Regulatory Commission." The EO and subsequent Commission guidance direct the Committee to focus its efforts on those safety matters that are unique, novel, or noteworthy (UNN).

This document serves as the certified minutes as required by the Federal Advisory Committee Act (FACA) and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 7.

During this meeting the ACRS completed the following correspondence:

MEMORANDUM

Memorandum to Michael F. King, Executive Director for Operations, U.S. NRC, from Marissa G. Bailey, Executive Director, ACRS:

- September 2026 ACRS Full Committee Meeting – Topical Reports (TR), Interim Staff Guidance (ISG), Regulatory Guides, and Official Agency Notices, dated September 16, 2026, Agencywide Documents Access and Management System (ADAMS) Accession No. [ML26264A269](#).

HIGHLIGHTS OF KEY ISSUES

The agenda for this meeting was published in the [Federal Register](#) on August 7, 2026. The transcripts of the meeting are available on the [ACRS public website](#). A list of acronyms may be found as Enclosure 1 to this document and an attendance list may be found in Enclosure 2.

A. Proposed Rulemaking on Regulatory Enhancements for Licensing, Decommissioning, and Operational Oversight (Relating to Executive Order 14300)

Please note that the first topic on the agenda was deferred to the October 2026 Full Committee (FC) meeting because, at the time of this meeting, the proposed rule was not yet published and could not be discussed by the Committee.

B. Information Session on Artificial Intelligence

The NRC staff provided a [presentation](#) to the Committee on updates regarding use of artificial intelligence at the NRC. The Committee expressed its intention to continue to follow this issue with a focus on the safety of operating and new advanced reactors.

C. Discussions during the Planning and Procedures (P&P) Session

1. The Committee discussed the FC and Subcommittee (SC) schedules through February 2027 as well as the planned agenda items for FC meetings.
2. The Executive Director led a discussion about potential review of regulatory guides and ISG documents as follows:
 - a. Draft Guide (DG)-1478, proposed new Regulatory Guide 1.272, "Validation of Human Factors Designs and Integrated Operations Using IEEE [Institute of Electrical and Electronics Engineers] Std 2411-2021," (ADAMS Accession No. ML26202A380, Non-Public). Member Roberts led a discussion of this document and recommended the Committee not review at this time but requests an opportunity to review after public comments are received and before the guide is finalized. The Committee agreed with this recommendation.
3. The Committee heard from the responsible SC Chairmen regarding the following meetings and engagements that occurred since the last FC meeting in September 2026:
 - a. Member Martin discussed the Long Mott Generating Station (LMGS) construction permit application (CPA) topic including details surrounding a closed SC engagement held with the NRC staff on July 29, and the SC meetings held on September 1 and 2. These details are described below in Section 4 (with additional information on the LMGS CPA project).
 - b. Chairman Halnon discussed a SC engagement on the topic of functional containment that was held on July 30. A white paper on this topic will be made public shortly and the Committee members were informed where this document and other white paper documents are placed on the ACRS SharePoint site.
 - c. Member Roberts discussed an engagement with the NRC staff on August 5, 2026, on the topic of digital instrumentation and control activities by the NRC staff. Member Roberts, along with ACRS staff, met with NRC staff to discuss changes the NRC staff is considering as part of their "Reform of Instrumentation and Controls Regulatory Framework" effort. This effort is intended to reflect: (1) the updated NRC mission statement, (2) EO 14300, (3) Accelerating Deployment of Versatile, Advanced Nuclear Energy (ADVANCE) Act, (4) lessons learned from Limerick digital review and other recent digital licensing interactions, and (5) feedback from

stakeholders (including Nuclear Energy Institute and NRC staff representatives). This effort has been the subject of three public meetings so far this year. The purpose of the closed engagement was to understand the scope of this effort, primarily whether elements of it may warrant ACRS review because they affect safety and are unique, novel, or noteworthy. The NRC staff expects that the resulting changes will be reflected in documents such as new/revised regulatory guides or revisions to the standard review plan, and that the ACRS, per current processes, will have an opportunity to determine whether or not Committee review is warranted when these revised documents are ready. Meeting attendees agreed to meet again when these revised documents are mature enough for a useful update.

4. The Committee discussed the following ongoing and near-term new reactor application reviews:

a. Long Mott Generating Station CPA review. Member Martin led this discussion.

The ACRS review of the LMGS CPA has progressed through the documentation of the UNN list in the [July Summary Report and Certified Minutes](#), development of the Committee review framework, the July 29 staff engagement meeting, the September 1 and 2 LMGS SC meeting, and preparation for a September 15 SC meeting.

On July 29, the Committee received NRC staff briefings on inherent reactivity control and xenon stability, continuous fueling and online pebble management, startup fuel-free pebbles, diverse shutdown and protective actuation, deterministic analysis model continuity, and high-temperature materials and American Society of Mechanical Engineers (ASME) Section III, Division 5 conformance. Staff also described expectations for the preliminary safety analysis report (PSAR), revision 1, including a new Chapter 13 on research-and-development material.

The revised Xe-100 Fuel Qualification Topical Report has been identified for ACRS review and is further discussed in Section 6.b of this summary. While the TR is not formally accompanying the LMGS CPA, key reactor safety content is included in PSAR chapters revisions and the new Chapter 13. To support the September 1 and 2 SC meeting, draft safety evaluations for Chapters 3, 4, 5, 6, 7 and 13 and counterpart drafts of the CPA Rev 1 were provided.

The September 1 through 2 meeting with X-energy, NRC staff, and Long Mott Energy management addressed functional containment, mechanistic source-term modeling, maintenance of core geometry, licensing modernization project and defense-in-depth implementation, and hazard completeness and cliff-edge effects. The remaining UNN topics (passive heat removal, reactor cavity cooling system and cross-duct performance, steam-generator interactions, water, steam, and air ingress, oxidation, radionuclide release, and accident progression) will be addressed at the September 15 Subcommittee meeting. A draft letter is being prepared for review and revision during the October FC meeting.

b. Mr. Burkhart, Chief of the ACRS's Technical Support Branch, discussed the Duke Energy early site permit application (Belews Creek). The application was accepted on February 8, 2026. Following are the current milestones:

- a safety evaluation (SE) version for ACRS reviews in November 2026,

- an SC meeting to discuss SE in December 2026, and
- an ACRS letter report in December 2026 FC meeting.

Mr. Burkhart stated that his staff would distribute a briefing book to the Committee members about the application and the plan for review.

- c. Mr. Burkhart also discussed the Eden Radioisotopes CPA (near Eunice, New Mexico). The application was accepted by the staff on June 15, 2026. Tentatively, an ACRS letter is needed in the July 2027 FC meeting. Member Palmtag is the lead on this project, and he and the staff will coordinate interactions to support this timeline.
 - d. Project Matador (Fermi America) Combined License Application (COLA).
Mr. Burkhart led this discussion and stated that a partial application was accepted for docketing, but no ACRS review schedule established yet. The 18-month schedule means potential issuance of an NRC staff SE by February 2027 (ACRS letter report needed prior to that time frame). Mr. Burkhart noted that there may be other applicants applying for COLAs referencing the AP1000 certified design.
5. The Committee discussed the status of high-priority rulemaking activities, which included:

EO 14300 Rulemakings. Vice Chairman Petti and Technical Assistant Rob Krsek led a discussion on this topic.

The letter report on the proposed rulemaking on Regulatory Enhancements for Reactor Licensing, Decommissioning, and Operational Oversight was part of this meeting's agenda but was deferred because the proposed rule was not yet public. This topic is planned for the October 2026 FC meeting. There are also two draft DGs that are related to this topic but will not be made public until a later date. The Committee is planning to discuss these issues and write a letter report at the November 2026 FC meeting.

It was also mentioned that the Committee will plan to hold closed SC engagements to discuss public comments on 10 CFR Part 57 and other EO 14300 proposed rules with the NRC staff.

6. The ACRS Executive Director led a discussion on the following TR review recommendations and documented the Committee's decision in a memorandum dated September 16, 2026 (ADAMS Accession No. [ML26264A269](#)):
- a. WCAP-18950-NP, Revision 0 — "Westinghouse BWR [Boiling Water Reactor] ECCS [Emergency Core Cooling System] Evaluation Model: Supplement 6 to Code Description, Qualification and Application to TRITON11 Fuel Design," (ADAMS Accession Package No. [ML25085A310](#))

In March 2025, Westinghouse submitted this TR which extends the previously approved conservative 10 CFR Part 50, Appendix K, Westinghouse BWR emergency core cooling system evaluation model to the TRITON11 fuel design. The resulting version is designated the USA8 Evaluation Model and is intended to establish BWR maximum average planar linear heat generation rate operating limits and demonstrate compliance with the 10 CFR 50.46 ECCS acceptance criteria.

To accommodate the TRITON11 geometry, the TR describes fuel-specific nodalization for the GOBLIN and CHACHA-3D codes, application of a separately submitted critical-power correlation, TRITON11-specific spray-cooling heat-transfer coefficients, and qualification of the existing counter-current-flow-limitation correlation using TRITON11 test data. It also extends the qualification database for the existing CHACHA-3D cladding-burst correlation to include additional modern cladding data and incorporates a transient fission-gas-release treatment consistent with a previously approved Westinghouse loss of coolant accident methodology.

Member Martin's assessment was that the report does not rise to the level of "unique, novel, and noteworthy." It applies exclusively to a conservative Appendix K methodology and does not change the 10 CFR 50.46 acceptance criteria or the fundamental framework of the previously approved evaluation models. The work represents an evolutionary, fuel-specific application of an established methodology whose results remain dominated by prescribed Appendix K conservatisms.

Member Martin recommended that the Committee not review this document. The Committee agreed.

- b. Xe-100 Tri-Structural Isotropic (TRISO) Pebble Fuel Qualification Methodology, Revision 4 (ADAMS Accession Package No. [ML26131A069](#))

Member Martin led a discussion of this TR. This document includes updating the fuel qualification methodology, describing how the Xe-100 TRISO fuel meets the NUREG 2246 framework, and establishing a multi-phased path to eventual fuel qualification in support of future licensing applications. It also summarizes key reactor and fuel system attributes, highlighting the passive safety features of the Xe-100 High-Temperature Gas-Cooled Reactor and the inherent containment capabilities of TRISO coated uranium oxycarbide (UCO) fuel particles embedded in graphite pebbles. This specific TR addresses safety matters that are unique, novel, and noteworthy. Revision 4 is not referenced by the applicant in the LMGS CPA or in the staff's SE for the CPA but will be reviewed by the Committee as part of the Operating License application.

Member Martin recommended the Committee review this TR. The Committee agreed.

- 7. The Executive Director of ACRS led a discussion of the following important NRC announcements ACRS members were required to review, which is documented in a memorandum to the Executive Director for Operations dated September 16, 2026 (ADAMS Accession No. [ML26264A269](#)).
- 8. There was a brief closed portion of the P&P session to discuss sensitive information such as personnel issues and project schedule details.
- 9. The following topics are on the agenda for the 739th ACRS FC meeting, which will be held October 2 through 6, 2026:

- a. Proposed rulemaking on regulatory enhancements for reactor licensing, decommissioning, and operational oversight (Related to EO 14300), and
- b. Long Mott construction permit application.

I hereby certify, to the best of my knowledge and belief, that the above minutes of the subject meeting are an accurate record of the proceedings for that meeting. In accordance with FACA and 10 CFR Part 7, "ADVISORY COMMITTEES," Section 7.13, "Minutes of advisory committee meetings."

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory H. Halnon", written in a cursive style.

Gregory H. Halnon
Chairman

Enclosures:

- 1.) List of Acronyms
- 2.) List of Attendees

LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ACRS	Advisory Committee on Reactor Safeguards
ADVANCE Act	Accelerating Deployment of Versatile, Advanced Nuclear Energy Act
ASME	American Society of Mechanical Engineers
BWR	Boiling Water Reactor
COLA	Combined License Application
CPA	Construction Permit Application
DG	Draft Guide
ECCS	Emergency Core Cooling System
EO	Executive Order
FACA	Federal Advisory Committee Act
FC	Full Committee
IEEE	Institute of Electrical and Electronics Engineers
ISG	Interim Staff Guidance
LMGS	Long Mott Generating Station
NRC	Nuclear Regulatory Commission
P&P	Planning and Procedures
PSAR	Preliminary Safety Analysis Report
SC	Subcommittee
SE	Safety Evaluation
TR	Topical Report
TRISO	Tri-Structural Isotropic
UCO	Uranium Oxycarbide
UNN	Unique, Novel, or Noteworthy

ATTENDEES

<u>ACRS Members</u>
Gregory Halnon - Chairman
David Petti – Vice Chairman
Craig Harrington – Member-at-Large
Walter Kirchner
Robert Martin
Thomas Roberts
Scott Palmtag
Annie Kammerer
<u>ACRS Consultants</u>
Ronald Ballinger
Vicki Bier (virtual)
<u>ACRS Staff</u>
Marissa Bailey
Hossein Nourbakhsh
Larry Burkhart
Alesha Bellinger
Rob Krsek
Weidong Wang
Christopher Brown
Kent Howard
Christina Antonescu
Quynh Nguyen
Andrea Torres
Sandra Walker
Janet Riner
Shandeth Walton
Tammara Skov
<u>NRC Staff Participants</u>
Amy D'Agostino
Amy Sharp
Anderson Wolfe
Andrey Korsak
Andy Bielen
Anya Kim
Brian Greene
Camille Peres

Charles McFeaters
Clinton Hobbs
DaBin Gibbs
Dong Jin KIM (International Assignee)
Duane Hardesty
Edward Robinson
Elena Yegorova
Heather Watkins
Ian Jung
Jeff Correll
Jim Beardsley
Joey McPherson
Joseph Bass
Kaitlyn Cottrell
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