



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

October 24, 2012

The Honorable Allison M. Macfarlane
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT - 598th MEETING OF THE ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, OCTOBER 4-5, 2012

Dear Chairman Macfarlane:

During its 598th meeting, October 4-5, 2012, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report, letters, and memoranda:

REPORT

Report to Allison M. Macfarlane, Chairman, NRC, from J. Sam Armijo, Chairman, ACRS:

- SECY-12-0064, "Recommendations for Policy and Technical Direction to Revise Radiation Protection Regulations and Guidance," dated October 16, 2012

LETTERS

Letter to R. W. Borchardt, Executive Director for Operations, NRC, from J. Sam Armijo, Chairman, ACRS:

- Draft Safety Evaluation of WCAP-16793-NP, Revision 2, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous and Chemical Debris in the Recirculating Fluid," dated October 18, 2012

Letter to Dr. Brian Sheron, Director, Office of Nuclear Regulatory Research, NRC, from J. Sam Armijo, Chairman, ACRS:

- ACRS Assessment of the Quality of Selected NRC Research Projects – FY 2012, dated October 22, 2012

MEMORANDA

Memoranda to R. W. Borchardt, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- Withdrawal of Regulatory Guide 1.182, dated October 16, 2012
- Proposed Regulatory Guide DG-1294, dated October 16, 2012

HIGHLIGHTS OF KEY ISSUES

1. Proposed Revision of 10 CFR Part 20 for Conformance with International Commission on Radiological Protection (ICRP) Recommendations

The Committee met with representatives of the NRC staff to review SECY-12-0064, "Recommendations for Policy and Technical Direction to Revise Radiation Protection Regulations and Guidance." SECY-12-0064 provides to the Commission the staff's proposed options and recommendations to revise the NRC requirements and guidance for radiation protection to conform to 2007 recommendations of the International Commission on Radiological Protection. The Committee also met with the staff on this matter during the 595th Committee Meeting in June 2012. The staff presented additional information concerning its recommended changes regarding the occupational dose limits in NRC regulations and its rationale for the changes.

Committee Action

The Committee issued a report to the NRC Chairman on this matter dated October 16, 2012, recommending that rulemaking to revise occupational dose limits as proposed by the staff in Option 3 of the SECY Paper should not be undertaken. The report also recommends that the staff proceed with improvements in NRC regulations and guidance by updating the scientific bases for dose calculation methodologies in NRC regulations and making them consistent throughout. The report also recommends that the staff improve NRC guidance on as low as is reasonably achievable (ALARA) programs for some licensee groups, and continue interactions with stakeholders on alternative approaches for implementing other improvements to the NRC's occupational radiation protection requirements. Additional comments, representing the views of seven members of the Committee, are also included in the report.

2. Draft Safety Evaluation of WCAP-16793-NP, Revision 2, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous and Chemical Debris in the Recirculating Fluid,"

The Committee met with the NRC staff to discuss the draft safety evaluation of WCAP-16793-NP, Revision 2, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous and Chemical Debris in the Recirculating Fluid," and its use towards closure of Generic Safety Issue-191, "Assessment of Debris Accumulation on PWR Sump Performance." The staff stated

that licensees may use the guidance contained in WCAP-16793-NP to demonstrate that in-vessel debris effects will not compromise long-term core cooling over an extended period of time following a loss-of-coolant accident, provided specified conditions and limitations are met. The staff's evaluation found that, taking into account the many uncertainties in the experimental results, up to 15 grams of fiber per fuel assembly could be carried to the core inlet while still not compromising long-term core cooling.

Committee Action

The Committee issued a letter to the Executive Director for Operations (EDO) on this matter dated October 18, 2012, concluding that the draft safety evaluation of WCAP-16793-NP, Revision 2, should be finalized and issued to support closure of Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors." The Committee concurred with the staff's conclusions in the draft safety evaluation that WCAP-16793-NP, Revision 2, can be used to evaluate the effects of in-vessel debris on long-term core cooling provided the draft safety evaluation's conditions and limitations are met, and that 15 grams per fuel assembly is an acceptable limit on fiber that bypasses the sump strainers.

3. Reactor Pressure Vessel Fabrication and Flaw Assessment

The Committee met with representatives of the NRC staff to discuss the preliminary evaluation regarding issues related to reactor pressure vessel fabrication and flaw assessment of the Doel-3 nuclear power plant. In-service inspection of the reactor pressure vessel revealed what may be potential flaw indications. Doel-3 is located in Belgium and is inspected according to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components." The staff discussed the inspection results, metallurgical aspects, and the preliminary flaw evaluation. The staff also discussed plans regarding U.S. participation in the Doel-3 flaw assessment.

Committee Action

This was an information briefing. No Committee action was necessary.

Note: In order to protect sensitive information, this briefing was closed to the public.

4. Assessment of the Quality of Selected NRC Research Projects

The Committee finalized its annual report on its assessment of the quality of NRC research projects on NUREG-1953, "Confirmatory Thermal-Hydraulic Analysis to Support Specific Success Criteria in the Standardized Plant Analysis Risk Models – Surry and Peach Bottom," and NUREG/CR-7040, "Evaluation of JNES Equipment Fragility Tests for Use in Seismic Probabilistic Risk Assessments for U.S. Nuclear Power Plants."

Committee Action

The Committee issued a letter, dated October 22, 2012, transmitting its report on the assessment of the quality of selected NRC research projects to the Director, Office of Nuclear Regulatory Research. The Committee found both projects to be professional efforts which satisfied the research objectives.

5. Regulatory Guides

a. Withdrawal of Regulatory Guides

The Committee considered the staff's plan to withdraw Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." The Committee has no objection to the withdrawal of this regulatory guide.

b. Draft Final Regulatory Guides

The Committee considered draft final Revision 1 to RG 1.63, "Performance-Based Containment Leak-Test Program," and decided to review this regulatory guide.

c. Proposed Regulatory Guides

The Committee considered proposed Revision 1 to Regulatory Guide 1.41 (DG-1294), "Pre-Operational Testing of Onsite Electric Power Systems to Verify Proper Load Group Assignments, Electrical Separation, and Redundancy," and decided not to review this regulatory guide. The Committee has no objection to the staff issuing this regulatory guide for public comment, but would like an opportunity to review the draft final version of this regulatory guide following the public comment period.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

The Committee considered the EDO's response of August 15, 2012, to recommendations included in the July 17, 2012, ACRS letter regarding draft interim staff guidance documents in support of the Near-Term Task Force Tier 1 Orders. The Committee decided that it was not fully satisfied with the EDO's response since the Committee's recommendations were not fully adopted in the final version of the interim staff guidance documents (issued by the end of August 2012). In some cases, a recommendation was not fully accepted, but provisions included the elements of the recommendation in the program in a different or additional manner than suggested. However, that was not the case for all recommendations on the spent fuel pool instrumentation interim staff guidance. The ACRS plans to write a report on this issue.

SCHEDULED TOPICS FOR THE 599th ACRS MEETING

The following topics are scheduled for the 599th ACRS meeting, to be held on November 1-3, 2012:

- Preparation for ACRS meeting with the Commission
- Long-Term Core Cooling Approach for the ABWR Design
- Filtered Vents
- Economic Consequences / Land Contamination Initiatives

Sincerely,

/RA/

J. Sam Armijo
Chairman

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J. Sam Armijo
Chairman

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