



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

October 9, 2002

The Honorable Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Meserve:

**SUBJECT: SUMMARY REPORT - 495th MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS, SEPTEMBER 12-14,
2002, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE**

During its 495th meeting, September 12-14, 2002, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report and letters. In addition, the Committee authorized Dr. John T. Larkins, Executive Director, ACRS, to transmit the memoranda noted below:

REPORT

The following report was issued to Richard A. Meserve, Chairman, NRC, from George E. Apostolakis, Chairman, ACRS:

- Report on S9G Nuclear Propulsion Plant for Virginia Class Submarines, dated September 19, 2002 (Confidential/Restricted Data)

LETTERS

The following letters were issued to William D. Travers, Executive Director for Operations, NRC, from George E. Apostolakis, Chairman, ACRS:

- Human Factors and Human Reliability Analysis Research Plans, dated September 24, 2002
- Draft Regulatory Guide DG-1120 and Standard Review Plan Section 15.0.2 Concerning NRC Reviews of Transient and Accident Analysis Methods, dated October 1, 2002

The Honorable Richard A. Meserve

MEMORANDA

The following memoranda were issued to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS:

- Draft Regulatory Guide DG-1122, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated September 17, 2002
- Proposed Rulemaking on 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI 00-04, dated September 18, 2002

OTHER

The following memorandum was issued to Samuel J. Collins, Director, Office of Nuclear Reactor Regulation, NRC, from John T. Larkins, Executive Director, ACRS:

- Review of DOE Division of Naval Reactors Virginia Class Nuclear Propulsion Plant Design, dated September 18, 2002

HIGHLIGHTS OF KEY ISSUES

1. DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design

In a closed session, the Committee heard presentations by and held discussions with representatives of the NRC staff and the Department of Energy/Department of Defense (DOE/DOD) Naval Reactors Organization regarding the Virginia class nuclear propulsion submarine design.

Committee Action

The Committee issued a report to Chairman Meserve on this matter dated September 19, 2002. This report contains information designated "Confidential/Restricted Data".

2. Human Reliability Analysis Research Plan

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding the Human Reliability Research Plan. Studies of operating

experience demonstrate that human performance contributes to a large percentage of events and has a significant impact on the risk from nuclear power plants. Consideration of human factors and the quantification of reliability of human performance plays an important role in the regulatory process.

The NRC staff has initiated a human reliability analysis (HRA) research program that identifies potentially important human failure events and assesses their likelihood as an essential component in the probabilistic risk analysis (PRA). Uncertainties in the human factors and HRA are often important sources of uncertainty in the PRA results. Given the increased role of PRA in the regulatory decisionmaking, it is important to have HRA methods, tools, and human factor data that adequately address the human contribution to the overall risk. The overall purpose of the HRA research program is to support the NRC's risk-informed regulation implementation plan, which has been developed to implement the NRC's strategic plan. The HRA research program builds on the results conducted at NRC as well as the international organizations.

Committee Action

The Committee issued a letter to the EDO on this matter dated September 24, 2002, commending the staff on a well directed effort, and recommending that the HRA Program needs to articulate its long-term vision of the technology necessary to the agency. Also, the NRC should consider development of a control room simulator devoted to support research on human factors and human reliability.

3. Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04

The Committee heard presentations by and held discussions with representatives of NRC staff and the industry concerning the proposed 10 CFR 50.69: "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors," Draft Regulatory Guide DG-1121: "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance"; and the Nuclear Energy Institute document NEI-00-04: "10 CFR 50.69 SSC Categorization Guideline."

Committee Action

In a memorandum to William D. Travers, EDO, NRC, from John T. Larkins, Executive Director, ACRS, dated September 18, 2002, the committee stated that it agreed with the staffs proposal to issue the proposed 10 CFR 50.69 and DG-1121, which endorses

The Honorable Richard A. Meserve

NEI 00-04 for public comment. The Committee plans to review the draft final version of these documents after reconciliation of public comments.

4. Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding draft Regulatory Guide DG-1120, "Transient and Accident Analysis Methods," and draft final Standard Review Plan Section 15.0.2, "Review of Transient and Accident Analysis Methods." The NRC staff has developed DG-1120 and SRP Section 15.0.2 to document a set of general principles and specific expectations applicable to both the form and content of applicants' code submittals, and the staff's review of these submittals. This effort was undertaken in response to concerns identified by the NRC staff (Maine Yankee Lessons Learned Report) and by the ACRS (review of the AP600 passive plant design).

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter dated October 1, 2002, recommending that the draft Regulatory Guide and Standard Review Plan Section be issued for public comment, subsequent to reconciling minor differences in wording between the two documents.

5. Subcommittee Report on Fire Protection

The Chairman of the ACRS Subcommittee on Fire Protection provided a report to the Committee regarding matters discussed at the September 11, 2002, Subcommittee meeting. The Subcommittee found that a lot of good research in the area of fire protection is being performed, however, none on the fire protection for advanced reactors. Also, little research is being performed on the effects of multiple fires on plant operations. Since the performance of the fire brigade was very important to control and suppress fires, the staff should brief the Committee once better guidance for the inspection of fire brigades is developed. Also, the staff should provide a briefing once it completes the fire risk requantification project.

6. Subcommittee Report - Review of Resolution Approach for Generic Safety Issue (GSI) -185, "Control of Recriticality Following Small-Break LOCAs in PWRs"

The Thermal-Hydraulic Phenomena (T/H-P) Subcommittee met with representatives of RES on September 9, 2002 to discuss the resolution approach for the subject GSI. The

issue concerns the potential for a recriticality event given a SB LOCA and use of boiler/condenser cooling. The Subcommittee decided that RES needed to conduct additional work to successfully close out this issue. RES was requested to provide a report detailing its resolution approach and meet again with the T/H-P Subcommittee prior to ACRS review of this matter.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the EDO's response of July 23, 2002, to comments and recommendations included in the ACRS report dated June 17, 2002, concerning Policy Issues Related to Advanced Reactor Licensing.

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the EDO's response of July 18, 2002, to comments and recommendations included in the ACRS letter dated June 17, 2002 concerning Recommendations Proposed by the Office of Nuclear Regulatory Research for Resolving Generic Safety Issue-189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident."

The Committee decided that it was satisfied with the EDO's response. The Committee plans to review the proposed final resolution of GSI-189.

- The Committee considered the EDO's response of August 29, 2002, to comments and recommendations included in the ACRS letter dated July 18, 2002, concerning the Draft Advanced Reactor Research Plan.

The Committee decided that it was satisfied with the EDO's response. However, the Committee plans to continue its follow-up on the questions and concerns that were raised by ACRS members Dana A. Powers, Stephen L. Rosen, and Graham B. Wallis as added comments.

- The Committee considered the response from the EDO, dated July 19, 2002, to comments and recommendations included in an ACRS report dated May 10, 2002, concerning the Core Power Uprate for the Brunswick Steam Electric Plant, Units 1 and 2.

The Committee decided that it was satisfied with the EDO's response.

The Honorable Richard A. Meserve

- The Committee discussed the EDO's response dated July 16, 2002 to comments and recommendations included in the ACRS report dated June 17, 2002, regarding the proposed revision to 10 CFR 50.48 endorsing NFPA-805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants."

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the response from the EDO, dated July 18, 2002, to comments and recommendations included in the ACRS letter dated June 17, 2002, regarding the Technical Assessment of Generic Safety Issue (GSI) 168, "Environmental Qualification of Low-voltage Instrumentation and Control Cables".

The Committee decided that it was satisfied with the EDO's response to the recommendations. However, in a separate issue, some members expressed concern that the EDO response did not sufficiently address the issue raised in the additional comments made by several members regarding significant loads that can be imposed on cables by other design-basis accidents (e.g., as main steamline breaks). The Committee plans to discuss this matter with the staff during a future meeting.

- The Committee considered the response from the EDO, dated August 22, 2002, to comments and recommendations included in the ACRS report dated July 23, 2002, regarding the Draft Final Revision 1 to Regulatory Guide 1.174 and to Chapter 19 of the Standard Review Plan (SRP).

The Committee was not satisfied with the response. The Committee continues to believe that Revision 1 to Regulatory Guide 1.174 and to SRP chapter 19 should not be issued.

- The Committee considered the response from the EDO, dated August 30, 2002, to comments and recommendations included in the ACRS report dated June 20, 2002, regarding Vessel Head Penetrations & Vessel Head Degradation.

The Committee decided that it was satisfied with the EDO response. The Committee plans to continue its discussion of this matter during future meetings.

The Honorable Richard A. Meserve

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from July 10, 2002, through September 11, 2002, the following Subcommittee meetings were held:

- Thermal-Hydraulic Phenomena - July 17-18, 2002

The Subcommittee reviewed the proposed resolution of Generic Safety Issue (GSI) 185 "Control of Reactivity Following Small-Break Loss-of- Coolant Accidents in Pressurized Water Reactors".

- Naval Reactors - August 27, 2002

The Subcommittee reviewed the DOE Division of Naval Reactors nuclear propulsion plant for the VIRGINIA-class submarine design. (This meeting was closed to the public to protect information designated "Confidential/Restricted Data".)

- Thermal-Hydraulic Phenomena - September 9, 2002

The Subcommittee continued its review of the proposed resolution of Generic Safety Issue (GSI) 185 "Control of Reactivity Following Small-Break Loss-of- Coolant Accidents in Pressurized Water Reactors".

- Planning and Procedures - September 9, 2002

The Subcommittee discussed proposed ACRS activities, practices, and procedures for conducting Committee business and organizational and personnel matters relating to ACRS and its staff.

- Human Factors - September 10, 2002

The Subcommittee reviewed the proposed Human Reliability Research Plan. Consideration of human factors and the quantification of reliability of human performance plans an important role in the regulatory process.

- Fire Protection - September 11, 2002

The Subcommittee reviewed the staff's Fire Protection Research Plan, status of the fire protection research activities, fire protection inspection process and findings, and other

The Honorable Richard A. Meserve

related matters including industry activities.

LIST OF MATTERS FOR THE ATTENTION OF THE EDO

- The ACRS will continue its review of the proposed resolution of GSI-185, "Control of Reactivity Following Small-Break Loss-of-Coolant Accidents in Pressurized Water Reactors". Final review of this matter by the Committee will pend receipt of RES's draft final report on its resolution approach and the outcome of subsequent review by the Thermal-Hydraulic Phenomena Subcommittee.
- The Committee plans to review the draft final version of 10 CFR 50.69, Regulatory Guide DG-1121 that endorses NEI 00-04 after reconciliation of public comments.
- The Committee plans to discuss the guidance for the inspection of fire brigade performance and the fire risk requantification project.
- The Committee plans to discuss the proposed final resolution of GSI-189, "Susceptibility of the Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident."
- The Committee continues to believe that Revision 1 to Regulatory Guide 1.174 and to SRP Chapter 19 should not be issued.
- The Committee plans to continue its discussion of matters associated with reactor vessel head penetrations and vessel head degradation during future meetings.
- The Committee plans to discuss the issues raised in the additional comments to the ACRS letter, dated June 17, 2002, regarding Proposed Technical Assessment of GSI-168 during a future meeting.
- The Committee plans to continue its discussion of the issues and concerns raised by several members in the additional comments to the July 18, 2002 ACRS letter regarding Draft Advanced Reactor Research Plan during future meetings.
- The Committee plans to continue its discussion of the Human Factors and Human Reliability Analysis Research Programs as results are obtained.

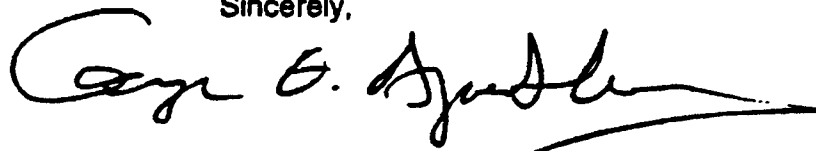
The Honorable Richard A. Meserve

PROPOSED SCHEDULE FOR THE 496th ACRS MEETING

The Committee agreed to consider the following topics during the 496th ACRS meeting, October 10-12, 2002:

- Confirmatory Research Program on High-Burnup Fuel
- Overview of European Simplified Boiling Water Reactor (ESBWR) SWR 1000 (Boiling Water Reactor), Advanced CANDU Reactor (ACR 700) Pre-Application Review
- Catawba and McGuire License Renewal Application
- Policy Issues Related to Advanced Reactor Licensing
- Program Plan for Low-Power Shutdown (LPSD) Standardized Plant Analysis Risk (SPAR) Model Development and Cancellation of Revision 4i of SPAR Models
- Guidance for Performance-Based Regulation

Sincerely,

A handwritten signature in black ink, appearing to read "George E. Apostolakis", with a long horizontal flourish extending to the right.

George E. Apostolakis
Chairman



Date Issued: 10/22/2002
Date Certified: 10/30/2002

TABLE OF CONTENTS
MINUTES OF THE 495th ACRS MEETING

SEPTEMBER 12-14, 2002

- I. Chairman's Report (Open)
- II. DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design (Closed)
- III. Human Reliability Analysis Research Plan (Open)
- IV. Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04 (Open)
- V. Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews (Open)
- VI. Thermal-Hydraulic Phenomena Subcommittee Report (Open)
- VII. Fire Protection Subcommittee Report (Open)
- VIII. Executive Session (Open)
 - A. Reconciliation of ACRS Comments and Recommendations
 - B. Report on the Meeting of the Planning and Procedures Subcommittee Held on September 9, 2002 (Open)
 - C. Future Meeting Agenda

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LETTERS:

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APPENDICES

- I. *Federal Register Notice*
- II. Meeting Schedule and Outline
- III. Attendees
- IV. Future Agenda and Subcommittee Activities
- V. List of Documents Provided to the Committee

495th ACRS Meeting
September 12-14, 2002

CERTIFIED

MINUTES OF THE 495th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
SEPTEMBER 12-14, 2002
ROCKVILLE, MARYLAND

The 495th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B3, Two White Flint North Building, Rockville, Maryland, on September 12-14, 2002. Notice of this meeting was published in the *Federal Register* on August 23, 2002 (65 FR 54683) (Appendix I). The purpose of this meeting was to discuss and take appropriate action on the items listed in the meeting schedule and outline (Appendix II). The meeting was open to public attendance. There were no written statements or requests for time to make oral statements from members of the public regarding the meeting.

A transcript of selected portions of the meeting is available in the NRC Public Document Room at the One White Flint North Building, Mail Stop 1F-15, Rockville, MD, 20852-2738. [Copies of the transcript are available for purchase from Neal R. Gross and Co., Inc., 1323 Rhode Island Avenue, NW, Washington, DC 20005-3701, and on the ACRS/ACNW Web page at (www.NRC.gov/ACRS/ACNW).]

ATTENDEES

ACRS Members: ACRS Members: Dr. George Apostolakis (Chairman), Dr. Mario V. Bonaca (Vice Chairman), Dr. F. Peter Ford, Dr. Thomas S. Kress, Mr. Graham M. Leitch, Dr. Dana A. Powers, Dr. Victor H. Ransom, Mr. Stephen L. Rosen, Dr. William J. Shack, Mr. John D. Sieber, and Dr. Graham B. Wallis. For a list of other attendees, see Appendix III.

I. Chairman's Report (Open)

[Note: Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting.]

Dr. George E. Apostolakis, Committee Chairman, convened the meeting at 8:30 a.m. and reviewed the schedule for the meeting. He summarized the agenda topics for this meeting and discussed the administrative items for consideration by the full Committee.

495th ACRS Meeting
September 12-14, 2002

II. DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design (Closed)

[Note: Mr. Paul A. Boehnert was the Designated Federal Official for this portion of the meeting.]

The Committee heard presentations and held discussions with representatives of the DOE Division of Naval Reactors, Knolls and Bettis Atomic Power Laboratories, and the NRC staff regarding the VIRGINIA class nuclear propulsion plant design. Discussions on this matter were closed to the public to protect information designated "Confidential/Restricted Data".

Committee Action

The Committee issued a report to Chairman Meserve dated September 19, 2002, on this matter. This report contains information designated "Confidential/Restricted Data".

III. Human Reliability Analysis Research Plan (Open)

[Note: Mr. Med El-Zeftawy was the Designated Federal Official and Mr. August W. Cronenberg was the cognizant staff engineer for this portion of the meeting.]

Dr. Dana Powers, Chairman of the Human Factors Subcommittee, stated that the Committee would hear from the staff to discuss current agency plans for research on human factors (HF) and human reliability analysis (HRA). He noted that HF/HRA is gaining in importance as the agency moves toward risk-informed regulatory activities. Dr. Powers stated that in the past the ACRS has been somewhat critical of the HF/HRA research program. The general concern of the members during the subcommittee on September 10, 2002 was advancement with the more recent direction of the HF/HRA research activities. The staff presented a summary of subcommittee discussions with emphasis on future research plans.

Mr. Cunningham (RES) began his presentation by introducing Dr. Nathan Siu (RES), Ms. Erasmia Lois (RES), and Mr. Julius Persensky (RES). Mr. Cunningham stated that the goal of the briefing was to provide an overview of HRA/HF research programs/plans and to obtain feedback from the ACRS members. He presented the briefing outline and HF/HRA relationship, with a schematic of the relationship between HF and HRA activities.

Mr. J. Persensky started his portion of the presentation with an overview of the human factor (HF) research program. He noted that the primary objective of the HF research was to provide the agency with "tools" to accomplish the licensing and monitoring tasks. He stated that the "tools" as an analytical model, not only encompassed analysis codes, but also input to regulatory guides or simply factor HF insights into other regulatory matters. He noted that NRC relies heavily on HF work done by other agencies. As an example, he cited operator fatigue data, developed by the transportation department, to assess driver fatigue for commercial delivery trucks. He stated that such data has been used to formulate rules on how much time a driver is allowed before a rest period is stipulated. He said that although such data may not be directly applicable to NRC guidance on control room operator fatigue, similarities exist. He noted that the agency has done considerable work in areas related to control room habitability with regards to noise, temperature, and ergonomics. He also noted that although the end product might not be an algorithm, the "tool" would be input to regulatory guidance on control room habitability.

Mr. Rosen stated that the presenters had spent a lot of time on telling the committee about human performance data for individuals and some data on crew performance, but nothing on organizational factors. He stated that he felt this was a "glaring" hole in the research program and that organizational factors are clearly noted to have a significant, if not predominant, role in overall plant performance. Mr. Persensky stated that RES is attempting to broaden the scope of research efforts to crew interactions and organizational factors. Dr. Apostolakis stated that RES should try to educate the rest of the agency regarding human performance organizational factors. Dr. Powers noted that much of the Halden data is not well archived. Mr. Persensky stated that this is largely the result that the Halden reports are provided only to the sponsoring and member agencies for a period of 7 years, and then made available to the public. He did note that overall data trends are generally reported at technical meetings and conferences prior to the 7 years, and that such presentations may not contain detailed data.

Ms. Lois began her portion presentation centering on human reliability analysis (HRA) research efforts. She stated that the prime objective of the HRA program was to support risk-informed regulatory decisions by providing the technical basis for decisionmaking related to HRA for rules, licensing, and monitoring activities. She noted that HRA does not always involve quantitative input to such activities and such input is often qualitative. Mr. Lietch questioned the deliverable for the Standard Plant Analysis Risk (SPAR). Ms. Lois responded that human factors data is used in the SPAR

program. She continued by summarizing some of the human performance data and Performance Shaping Factors (PSFs) that were derived from the Halden project.

Dr. Siu concentrated his remarks on factors that were not presently being studied, which included "organizational" effects which were the subject of much discussion at the Human Factors Subcommittee meeting of September 10, 2002. He also noted that interactions between various crews was not being assessed, or crews of different makeup. Mr. Leitch asked if the agency had a specific program devoted to performance of fire brigades, to which Dr. Siu responded no.

Dr. Powers presented some final remarks regarding the manner in which HF data are correlated. He noted that originally HF data was correlated primarily in terms of "time for operator response," subsequently HF data has been correlated to a number of different parameters indicating the complexity of the subject. He stated that it seemed to him that this proliferation of variables is now at the point of "diminished returns" and asked Dr. Siu for his point of view. Dr. Siu responded that RES was working toward a "consensus/high-level" model and that there is agreement to crystalize toward a singular high-level model.

Committee Action

The Committee issued a letter to the Executive Director for Operations dated September 24, 2002, on this matter.

IV. Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04 (Open)

[Note: Mr. Howard J. Larson was the Designated Federal Official and Mr. August W. Cronenberg was the cognizant staff engineer for this portion of the meeting.]

Dr. George Apostolakis opened the session by stating that the Committee would hear presentations by the staff and the Nuclear Energy Institute (NEI) on the staff's intention to release for public comment the proposed rule 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors," and draft Regulatory Guide DG-1121, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance." He stated that since the rule and DG-1121 endorses the use of NEI-00-04 for risk-informed categorization of structures, systems, and components

(SSCs), the Committee would also hear from NEI on the categorization process and methodology and associated guidance (NEI 00-04, Revision C).

Mr. Timothy Reed (NRR) open the presentation by introducing himself and the other speakers at the presenter's table, Mr. Christopher Grimes (NRR) and Donald Harrison (NRR). He noted that Mr. Anthony Petrangelo and Mr. Adrian Hammer of NEI would also be making presentations. Mr. Reed began by stating that the objectives were to seek Committee agreement to issue the proposed rule and guidance for public comment. He outlined the history of efforts and prior Committee comments on risk-informed categorization of SSCs which has been referred to as "Option-2" of the Risk-Informed Regulation Implementation Plan (RIRIP). He noted that the South Texas exemption was proof of the concept for 50.69. He presented an overview of the proposed rule including some of the specific requirements for the risk categorization process. He noted that the intent of the rule would be to maintain the defense-in-depth philosophy and design basis functions for safety-significant components.

At this time Dr. Apostolakis noted that Mr. Reed had stated that there had been numerous interactions with stakeholders prior to the draft rule, and that there were still outstanding technical issues. Mr. Reed replied that they anticipate additional stakeholder feedback during the public comment period, and there may be some differences between industry and the staff that still need to be resolved. Dr. Apostolakis asked how long was the public comment period. Mr. Grimes replied that it was 75 days.

Mr. Rosen asked if the procedure outlined regarding the overview of proposed rule 50.69 could be applied to advanced reactors. Mr. Reed replied yes, but that you would still need to start with some initial listing and specification of "safety-related" and "non-safety related" SSCs, and then apply the risk-classification procedures to categorize specific components into the 4-bin RISC classes (i.e. RISC-1=Safety-Related/Safety-Significant; RISC-2=Non-safety Related/Safety-Significant; RISC-3=Safety-Related/Low Safety-Significant; and RISC-4=Non-Safety-Related/Low Safety-Significant).

Mr. Reed continued with his presentation and summarized the major outstanding technical issues to be addressed, most notably staff comments on the NEI 00-04 document, how the Integrated Decision-Making Panel (IDP) fits into the RISC scheme; and finally, the level of detail in the proposed rule for treatment of RISC-3 classified SSCs. Mr. Reed completed his presentation with follow-on steps for rulemaking, including a request to the Committee for agreement to move forward with release of the draft documents for public comment. He noted the final steps in the process would

involve continued interactions with NEI to resolve open items on NEI 00-04, and final preparation of the regulatory guide.

Mr. Hammer's (NEI) presentation centered on Revision-C to the NEI method for classification of SSCs according to their risk-significance as documented in the report NEI 00-04, "10 CFR 50.69: SSC Categorization Guidelines, June 2002. He stated that Rev.-B was based on preparation for the pilot plants while Rev. C incorporates lessons learned from the pilot plant applications and NRC observations. Dr. Apostolakis asked what again were the four pilot plants. Mr. Hammer said the pilot plants were Surry, Wolf Creek, Quad Cities, and Palo Verde. Dr. Apostolakis asked why the South Texas plant was not part of the pilot applications being they had a very advanced probabilistic risk assessment. Mr. Hammer responded that the four pilots were identified early and before the South Texas risk-informed request for exemption from special treatment requirements.

Mr. Hammer then proceeded to note that NEI 00-04-Rev-C contained improvements for the functional categorization process and an improved guidance for the IDP. Dr. Apostolakis asked for clarification of the criteria used by the IDP for how a SSC is ultimately binned in four-tier RISC scheme. Mr. Hammer stated that you first look at the results from the PRA and assess it's safety significance. The engineering staff would then recommend the RISC class. If there were any differences between the engineering staff, the subject component or system would be sent to the IDP for classification, then returned to the engineers to be re-factored into the PRA as a final check to the RISC classification impact on all event scenarios.

Dr. Bonaca noted that the South Texas Project modeled about 2400 components in its PRA but included over 40,000 in its evaluation. He asked if all such components have to be classified in the 4-tier RISC-scheme for 10 CFR 50.69 applications. Dr. Shack interjected that the default is a component would remain classified in the RISC-1 bin, unless you justify via the NEI 00-04 IDP process and associated engineering analysis that such a component could be moved to a lower RISC category. Mr. Hammer stated that this indeed was the case. For example, South Texas might only want to bin a certain number of components into a lower category and thus only those components would go through the RISC/IDP process. He went on to note that Rev. C of NEI 00-04 clarified this process compared to Rev. B.

Mr. Hammer proceeded with a discussion of the RISC change control process and referred to Figure 6-1 in NEI 00-04. Dr. Kress asked if Figure 6-1 referred to the system/component itself or its function. Mr. Hammer said that Figure 6-1 refers to the

classification of the system or component. Dr. Apostolakis interjected that the event frequency shown in Figure 6-1 of NEI 00-04 essentially relates to core damage frequencies and does not address a prior concern of the Committee regarding other sources of radioactivity release, due to rupture of on-site waste tanks holding radioactive waste. Mr. Hammer stated that Figure 6-1 refers to an initiating event at a course level, and all sources of radioactive release need to be considered in the RISC classification scheme. Mr. Rosen noted that Figure 6-1 puts more structure into the RISC process than was done for the South Texas risk-informed exemption request, and that having such a formalized structure was a "good thing." Mr. Hammer continued his presentation by showing a list a future anticipated revisions to NEI 00-04; namely, an additional appendix describing more fully the technical basis for RISC categorization and input from the rulemaking and draft regulatory guide process.

Mr. Donald Harrison, NRR, presented an overview of draft Regulatory Guide DG-1121, "Guidelines for Categorizing System, Structures, and Components in Nuclear Power Plants according to Their Safety Significance." He first described NRC staff interactions with NEI on revisions to NEI 00-04 (Rev-C). He then noted that the staff anticipates that it will eventually endorse use of the RISC classification guidelines outlined in NEI 00-04, once all staff concerns have been addressed. Mr. Harrison outlined notable staff concerns, including PRA quality attributes and the use of simplified or non-PRA approaches that would be allowed. Mr. Rosen asked if non-PRA approaches do not apply to internal events. Mr. Harrison stated that this was correct. He then outlined the risk-impact on CDF and LERF due to changes in SSC classification. He noted that DG-1121 would only allow such changes in classification for small changes in CDF/LERF. Dr. Apostolakis noted that he could not see how the issue of sensitivity of PRA results was addressed in DG-121, and that he hoped the staff would go beyond the Fussel-Vesely (F-V) and Risk Achievement Worth (RAW) indicators outlined in NEI 00-04, Section 5.5. Mr. Harrison stated that the staff had not reached any conclusion on the use of Section 5.5 of NEI 00-04. Dr. Apostolakis then noted that DG-1121 was essentially telling the user to go to RG 1.174, "An Approach for Using PRA in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" for guidance on the quality of PRAs, yet the recent ACRS letter of July 23, 2002, stated that ACRS had outstanding issues on the quality of PRAs needed to support risk-informed request for a change in the licensing basis. Mr. Gareth Parry, NRR, indicated that changes and fixes to RG 1.174 were ongoing and that it was simply a guide at this point.

Mr. Harrison continued the discussion and made particular note that if an SSC is identified as RISC-1 (Safety-Related/Safety-Significant) for any event, that system or component cannot be downgraded by the IDP for any other initiating event. Mr.

Grimes summarized DG-1121 objectives by noting that NEI 00-04, Rev. C contains numerous changes in approach from and prior drafts, and he expects NEI to address all outstanding issues with the staff. He anticipates that the staff will endorse the final NEI 00-04 with few or any conditions or exceptions.

Committee Action

A memorandum was issued to the Executive Director for Operations dated September 18, 2002, on this matter.

V. Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews (Open)

[Note: Mr. Paul A. Boehnert was the Designated Federal Official for this portion of the meeting.]

Dr. Graham B. Wallis, Chairman, Thermal-Hydraulic Phenomena Subcommittee introduced this topic to the Committee. He noted that the Subcommittee first reviewed this issue in 1998. Following a couple of subsequent subcommittee meetings, it was concluded that although the Standard Review Plan Section was ready to be issued for public comment, the regulatory guide needed more work. Following revision, the guide and SRP Section was issued for public comment. Comment from industry representatives cited concerns that centered on regulatory burden, and the guide was again revised. This latest revision is now before the Committee for review. Dr. Wallis noted that the RG and SRP Section contain some differences in wording, but he believes that this is not significant and can be addressed by the staff. The Thermal-Hydraulic Phenomena Subcommittee reviewed DG-1120 and SRP Section 15.0.2. on July 17, 2002.

NRC Staff Presentation

Mr. N. Lauben, RES, discussed draft Regulatory Guide, DG-1120. Issues discussed included the purpose, background and need, contents of DG-1096 (previous version of the guide), response to public comments, the new content of the DG-1120 version, and status and summary. RES and NRR developed a draft regulatory guide (DG-1120) and Standard Review Plan Section (SRP 15.0.2) to document a set of general principles and specific expectations applicable to both the form and content of applicants' code submittals, and the staff's review of these submittals. This effort was undertaken in response to concerns identified by the NRC (Maine Yankee Lessons Learned Report)

495th ACRS Meeting
September 12-14, 2002

and by the ACRS (review of the AP600 passive plant design). The RG is based on the principles of evaluation model development and assessment, pursuant to the Code Scaling, Assessment and Uncertainty methodology.

As noted above, the guide was initially issued for public comment as DG-1096. Based on comments received and the results of a public workshop held in April 2001, the staff revised the guide to respond to industry concerns relative to regulatory burden. This matter was addressed by use of a "Graded Approach" for addressing code model revisions. As a result of comments from the T/H Phenomena Subcommittee, RES modified the guide to address concerns pertaining to addressing risk and conservatism as part of the Graded Approach noted above.

In response to Dr. Wallis, NRR said that DG-1120 and the SRP Section will be revised to ensure the guidance in both documents is consistent. NRR said that they may also reissue SRP Section 15.0.2 for public comment as well.

Committee Action

The Committee issued a letter to the EDO on this matter dated October 1, 2002, recommending that the draft regulatory guide and standard review plan section be issued for public comment, subsequent to reconciling minor differences in wording between the two documents.

VI. Thermal-Hydraulic Phenomena Subcommittee Report (Open)

[Note: Mr. Paul A. Boehnert was the Designated Federal Official for this portion of the meeting.]

Dr. Graham Wallis reported on the results of the September 9, 2002 Thermal-Hydraulic Phenomena Subcommittee meeting. The Subcommittee continued its review of RES's proposed resolution of Generic Safety Issue (GSI)-185, "Control of Recriticality Following Small-Break LOCAs in PWRs." The subcommittee initially met on June 26, 2002 to discuss this matter.

The issue concerns the potential for a recriticality event given a SB LOCA and use of boiler or condenser cooling. The condensate formed from this cooling mechanism is unborated and can collect in the reactor coolant system. A slug of this condensate could enter the core, via natural circulation or by starting a reactor coolant pump, thereby causing a recriticality event and subsequent fuel damage. RES analyzed two

cases, unborated water entering the core by natural circulation, and, a slug of unborated water propelled into the core by "pump bump." The results for a B&W reactor design are acceptable for the natural circulation case, but are not acceptable for the "pump bump" case. For the latter case, it is argued that procedures and training ensure that the pumps will not be "bumped," and that the event probability is low.

The subcommittee found that RES has yet to complete its work for the B&W case as well as satisfactorily address the impact of this issue for the other PWR designs. Dr. Wallis said that the subcommittee requested RES to provide a report on its resolution approach and meet with the subcommittee again, prior to full Committee review of this matter.

VII. Fire Protection Subcommittee Report (Open)

The Committee received a briefing from the Chairman of the Fire Protection Subcommittee regarding the highlights of the September 11, 2002, subcommittee meeting. The Subcommittee concluded that a lot of good research in the area of fire protection was being performed, however, none on advanced reactors. The Subcommittee found that little research was being performed on the affects of multiple fires on plant operations. In addition, it was concluded that the performance of the fire brigade was very important to control and suppress fires, and recommended that the staff brief the Committee once better guidance for the inspection of fire brigades is developed. The Committee also recommended that the staff provide a briefing once it completes the fire risk requantification project.

X. Executive Session (Open)

[Note: Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting.]

A. Reconciliation of ACRS Comments and Recommendations

[Note: Mr. Sam Duraiswamy was the Designated Federal Official for this portion of the meeting.]

The Committee discussed the response from the NRC Executive Director for Operations (EDO) to ACRS comments and recommendations included in recent ACRS reports:

- The Committee considered the EDO's response of July 23, 2002, to comments and recommendations included in the ACRS report dated June 17, 2002, concerning Policy Issues Related to Advanced Reactor Licensing.

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the EDO's response of July 18, 2002, to comments and recommendations included in the ACRS letter dated June 17, 2002 concerning Recommendations Proposed by the Office of Nuclear Regulatory Research for Resolving Generic Safety Issue-189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident."

The Committee decided that it was satisfied with the EDO's response. The Committee plans to review the proposed final resolution of GSI-189.

- The Committee considered the EDO's response of August 29, 2002, to comments and recommendations included in the ACRS letter dated July 18, 2002, concerning the Draft Advanced Reactor Research Plan.

The Committee decided that it was satisfied with the EDO's response. However, the Committee plans to continue its follow-up on the questions and concerns that were raised by ACRS members Dana A. Powers, Stephen L. Rosen, and Graham B. Wallis as added comments.

- The Committee considered the response from the EDO, dated July 19, 2002, to comments and recommendations included in an ACRS report dated May 10, 2002, concerning the Core Power Uprate for the Brunswick Steam Electric Plant, Units 1 and 2.

The Committee decided that it was satisfied with the EDO's response.

- The Committee discussed the EDO's response dated July 16, 2002 to comments and recommendations included in the ACRS report dated June 17, 2002, regarding the proposed revision to 10 CFR 50.48 endorsing NFPA-805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants."

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the response from the EDO, dated July 18, 2002, to comments and recommendations included in the ACRS letter dated June 17, 2002, regarding the Technical Assessment of Generic Safety Issue (GSI) 168, "Environmental Qualification of Low-voltage Instrumentation and Control Cables".

The Committee decided that it was satisfied with the EDO's response to the recommendations. However, in a separate issue, some members expressed concern that the EDO response did not sufficiently address the issue raised in the additional comments made by several members regarding significant loads that can be imposed on cables by other design-basis accidents (e.g., as main steamline breaks). The Committee plans to discuss this matter with the staff during a future meeting.

- The Committee considered the response from the EDO, dated August 22, 2002, to comments and recommendations included in the ACRS report dated July 23, 2002, regarding the Draft Final Revision 1 to Regulatory Guide 1.174 and to Chapter 19 of the Standard Review Plan (SRP).

The Committee was not satisfied with the response. The Committee continues to believe that Revision 1 to Regulatory Guide 1.174 and to SRP chapter 19 should not be issued.

- The Committee considered the response from the EDO, dated August 30, 2002, to comments and recommendations included in the ACRS report dated June 20, 2002, regarding Vessel Head Penetrations & Vessel Head Degradation.

The Committee decided that it was satisfied with the EDO response. The Committee plans to continue its discussion of this matter during future meetings.

B. Report on the Meeting of the Planning and Procedures Subcommittee (Open)

The Committee heard a report from the ACRS Chairman and the Executive Director, ACRS, regarding the Planning and Procedures Subcommittee meeting held on September 9, 2002. The following items were discussed:

495th ACRS Meeting
September 12-14, 2002

Review of the Member Assignments and Priorities for ACRS Reports and Letters for the September ACRS meeting

Member assignments and priorities for ACRS reports and letters for the September ACRS meeting was discussed. Reports and letters that would benefit from additional consideration at a future ACRS meeting were also discussed.

Anticipated Workload for ACRS Members

The anticipated workload for ACRS members through November 2002 was discussed. The objectives were:

- Review the reasons for the scheduling of each activity and the expected work product and to make changes, as appropriate
- Manage the members' workload for these meetings
- Plan and schedule items for ACRS discussion of topical and emerging issues

Quadripartite Meeting Update

The Quadripartite meeting is scheduled to be held the week of October 23-25, 2002, in Berlin, Germany. On August 26, 2002, RSK sent the current agenda for this meeting. The following technical papers, prepared by cognizant members for discussion at the Quadripartite meeting, have been sent to RSK and the Commissioners:

- Safety Culture in the Nuclear Industry (Bonaca/Powers)
- Risk-Informed Regulation (Apostolakis/Kress)
- Assessing Uncertainty in Code Predictions (Wallis/Ransom)
- Environmentally Assisted Cracking in Light-Water Reactors: Technical Management and Regulatory Challenges (Ford/Shack)
- Risk Analysis of Spent Fuel Storage (Kress/Powers)

In connection with the Quadripartite meeting trip, 8 members will visit a MOX facility in France prior to the meeting in Berlin, Germany.

Celebration of the 500th ACRS Meeting

As agreed to by the members, invitations were sent to the NRC Commissioners to participate in the celebration of its 500th ACRS meeting "A symposium on the Role of Advisory Committees in Nuclear Regulation and Safety," scheduled for March 4-5,

495th ACRS Meeting
September 12-14, 2002

2003. (This is also coincidental with the Committee's 50th Anniversary.) NRC Chairman Meserve, the Commissioners, and Dr. Travers, EDO, have agreed to participate. Invitations were also sent to those who are expected to serve as panel members.

Drs. Hal Lewis, Robert Seale, Bill Stratton, J. Ernest Wilkins, and Mr. Dave Ward, have agreed to serve on the panels. Because of his health problems, Dr. Okrent has decided not to be a lunch time speaker. As a result, Dr. Remick has agreed to be the lunch time speaker. As decided by the Committee at the June 2002 meeting, invitations were sent to Mr. Ralph Beedle, NEI, and Mr. Bert Wolf, GE, to participate in the celebration. They have agreed to participate as Panel members. The Subcommittee agreed with Dr. Larkins' proposal to invite selected foreign dignitaries (senior members of advisory committees) and certain members of the Congressional Committees.

Workshop on Nuclear Regulatory Decisionmaking Process in Switzerland

The Swiss Federal Safety Inspectorate (HSK), in coordination with the International Atomic Energy Agency (IAEA), is organizing a Workshop on Nuclear Regulatory Decisionmaking Process to be held in Switzerland on October 16-18, 2002. Additionally, they have included ACRS participation in two places on the agenda. The first is a presentation on ACRS Perspective on Regulatory Decisionmaking and the second is a Panel Discussion. Both are on Wednesday, October 16, 2002. At the May meeting, the Committee had approved Drs. Bonaca, Kress, and Ransom to participate at this workshop. In addition, the Committee stated that Dr. Kress, with the assistance of Dr. Apostolakis, should prepare a paper, for Committee review and presentation at the workshop, on the ACRS "Perspectives on Regulatory Decisionmaking." Dr. Bonaca will represent the ACRS during the panel discussion on "Issues and Opportunities for the Evaluation and Improvement of Nuclear Regulatory Decisionmaking Process." A proposed outline of points prepared by Dr. Bonaca was provided to the Committee members during the July 2002 meeting. A draft paper prepared by Dr. Kress was also provided.

Role and Use of PRA in the Regulatory Decisionmaking Process

During its June 2002 meeting, the Committee discussed the issues raised by several members regarding the role and use of PRA in the review of regulatory issues (e.g., power uprates, license renewal, etc.). The Committee decided that a "White Paper" addressing the role and use of PRA in the regulatory decisionmaking process would be

helpful, and suggested that the ACRS Executive Director get a specialist under contract to prepare a draft "White Paper." Accordingly, Barbara Jo White of the ACRS staff prepared and forwarded a statement of work to the Division of Contracts and worked with a contract specialist to expedite the issuance of the contract. After evaluating the two bids received, a contract was awarded to Mr. Karl Fleming of Technology Insights on August 30, 2002.

Staff Requirements Memorandum

In a July 17, 2002 Staff Requirements Memorandum resulting from the ACRS meeting with the NRC Commissioners on July 10, 2002, the Commission stated that:

"The ACRS should consider providing a recommendation as to how license renewal guidance documents should be updated to reflect supporting information, particularly with regard to time-limited aging analyses (TLAAs) that should, as a minimum be included in license renewal applications to maximize the efficiency of the review process and minimize requests for additional information."

Based on discussion with SECY, the Commission does not expect an ACRS response immediately. Instead, the Commission expects the ACRS to keep track of improvements that could be made to the license renewal guidance documents (GALL report, SRP, Regulatory Guide 1.188, and NEI 95-10, Rev. 3). SECY was informed that the ACRS would be in a better position to recommend potential improvements to the guidance documents after it has reviewed the Fort Calhoun license renewal application, which is the first one based on the guidance documents. The ACRS plans to review the Fort Calhoun application in May 2003.

Based on discussion with the staff and review of documents, the following information is provided for committee use:

- 10 CFR 54.21, "Contents of Application -- Technical Information," requires that each applicant provide a list of TLAAs and demonstrate that: the analyses remain valid for the period of extended operation; the analyses have been projected to the end of the period of extended operation; or the effects of aging on the intended functions will be adequately managed for the period of extended operation.

- Chapter 4 of the Standard Review Plan, which provides guidance to the staff for reviewing license renewal applications, specifies that an application that provides information to support the staff review should be efficient and minimize requests for additional information.
- Chapter X of the GALL report specifies that an application that references the aging management programs associated with particular TLAAs should be efficient and minimize RAIs.
- NEI 95-10, Revision 3, which is endorsed by Regulatory Guide 1.188 discusses TLAAs, but no detailed guidance is provided.

In view of the above, coupled with the insights gained from the review of several license renewal applications, it is apparent that adequate requirements and guidance already exist on TLAAs. The adequacy of, and possible enhancements to, these requirements and guidance could be determined by the Committee after reviewing the Fort Calhoun license renewal application which is the first application developed by using generic license renewal guidance documents.

Meeting with the Executive Director of Operations

The Planning and Procedures Subcommittee members met with the EDO and the Deputy EDOs (DEDOs) on Friday, October 11, 2002, to discuss several issues including the following:

- ACRS/NRC staff coordination
- Adequacy of the NRC staff's review of power uprate applications
- License Renewal Issues
- High Burnup Fuel Issues
- Revision to Reg. Guide 1.174
- Significant issues that the NRC staff expects to submit to the ACRS for review in the next two years.

Quad Cities Unit 2 - Damage to Steam Generator Dryer Resulting from Power Uprate Operation

On July 11, 2002, Quad Cities Unit 2 was shut down to investigate the irregularities in the steam flow, reactor pressure and level, and moisture carryover in the main steamlines. The results of the investigation revealed that a cover plate of the steam

495th ACRS Meeting
September 12-14, 2002

dryer was missing. Subsequent investigation led to the identification of pieces of the cover plate. A large piece was found in the separator and there were indications that pieces had been transported into "A" main steamline and the vessel. Most of the pieces have been retrieved.

The cause of the damage is believed to be due to high-cycle fatigue induced by the cover plate natural frequency, nozzle chamber standing wave acoustic frequency, and vortex shedding frequency, all coinciding at 180 Hz. The licensee has initiated a robust effort to repair the cover plate. A summary of this event prepared by Mr. Boehnert, ACRS staff, and correspondences between the ACRS staff and some members were discussed.

ACRS Senior Fellow

As a result of the President's direction in Circular A-76, the U.S. Government is looking to increase the amount of work done by contractors and reduce FTEs. The remaining ACRS Senior Fellow position will be filled through contractor support. A forum and solicitation was issued in early August 2002 for technical support to the ACRS, similar to that performed by a Senior Fellow. The ACRS Executive Director will keep the Committee informed on the results of that solicitation.

ACRS Retreat for 2003

The Committee currently holds a retreat in January of each new year to discuss various issues. The Planning and Procedures Subcommittee proposes that the retreat be held on January 23-25, 2003 in one of the following locations Arizona, New Orleans, California, or Las Vegas.

Topics proposed by the Planning and Procedures Subcommittee include:

- Dr. Fleming's draft "White Paper" on PRA.
- Dr. Rosen's report on operating plant issues
- Certification process for advanced reactors
- Member issues

Meeting Dates for CY 2003

Proposed ACRS meeting dates for calendar year 2003 was discussed. The Committee should discuss and confirm these dates during the October ACRS meeting.

2003 International Congress on Advanced Nuclear Power Plants

The 2003 International Congress on Advanced Nuclear Power Plants meeting is scheduled to be held in Cordoba, Spain, on May 4-7, 2003. Dr. Powers and Dr. Kress plan to attend this meeting. The abstract for the papers is due on October 15, 2002.

Significant Recent Operating Events

Recently, the Committee agreed to schedule time during each full Committee meeting to hear a report from Mr. Leitch regarding significant recent operating events. This will enable the Committee to keep abreast of operating plant issues.

Reappointment of Dr. Bonaca

The Commission has reappointed Dr. Bonaca for a second term. Dr. Bonaca's current term expires on January 5, 2003.

Member Issues

- Mr. Gil Zigler, Vice-President of Innovative Technical Solutions sent an e-mail to Dr. Powers on July 7, 2002, expressing concerns about the delay in resolving PWR sump issue. Mr. Zigler stated that even though the ACRS recommended expeditious resolution of GSI-191, "Assessment of Debris Accumulation on PWR Sump Pump Performance," about a year ago it has not yet been resolved. Dr. Powers proposes that this matter be discussed with the EDO.
- Dr. Ford asked for an opportunity to discuss the status of the members' work on their assignments for the next ACRS research report to the Commission. The purpose would be to discuss briefly what the individual members have done and to address any questions as to assignments and objectives. The discussion could begin at the end of the P&P Subcommittee report on Friday and as necessary be carried over to Saturday.
- To support the ACRS review of advanced reactor designs, the Subcommittee suggested obtaining contractors with expertise in the areas of reactor physics (Dr. Michael Driscoll, MIT) and seismology.

495th ACRS Meeting
September 12-14, 2002

- Dr. Kress seeks Committee approval and support to attend the International Topical Meeting on Probabilistic Safety Assessment, scheduled to be held in Detroit, Michigan, on October 6-9, 2002.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 496th ACRS Meeting, October 10-12, 2002.

The 495th ACRS meeting was adjourned at 11:15 am on Saturday, September 14, 2002.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555



October 22, 2002

MEMORANDUM TO: ACRS Members

FROM: Sherry Meador *Sherry Meador*
 Technical Secretary

SUBJECT: PROPOSED MINUTES OF THE 495th MEETING OF THE
 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS -
 SEPTEMBER 12-14, 2002

Enclosed are the proposed minutes of the 495th meeting of the ACRS. This draft is being provided to give you an opportunity to review the record of this meeting and provide comments. Your comments will be incorporated into the final certified set of minutes as appropriate.

Attachment:
As stated

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555



October 31, 2002

MEMORANDUM TO: Sherry Meador, Technical Secretary
Advisory Committee on Reactor Safeguards

FROM: George E. Apostolakis, Chairman
Advisory Committee on Reactor Safeguards

SUBJECT: CERTIFIED MINUTES OF THE 495th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
(ACRS), September 12-14, 2002

I certify that based on my review of the minutes from the 495th ACRS full Committee meeting, and to the best of my knowledge and belief, I have observed no substantive errors or omissions in the record of this proceeding subject to the comments noted below.

Sincerely,

A handwritten signature in black ink, appearing to read "George E. Apostolakis", with a long horizontal flourish extending to the right.

George E. Apostolakis
Chairman

The Commission had previously issued a Notice of Consideration of Issuance of Amendments published in the *Federal Register* on August 9, 2000 (65 FR 48761). However, by letter dated July 17, 2002, the licensee withdrew the proposed change.

For further details with respect to this action, see the application for amendments dated June 22, 2000, supplemental letters dated January 19, 2001, and July 26, 2001, and the licensee's letter dated July 17, 2002, which withdrew the application for license amendments. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management Systems (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams/html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 19th day of August 2002.

For the Nuclear Regulatory Commission.
Stephen R. Monarque,
Project Manager, Section 1, Project Directorate II, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

[FR Doc. 02-21523 Filed 8-22-02; 8:45 am]
 BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards; Meeting Notice

In accordance with the purposes of sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232b), the Advisory Committee on Reactor Safeguards (ACRS) will hold a meeting on September 12-14, 2002, in Conference Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The date of this meeting was previously published in the *Federal Register* on Monday, November 26, 2001 (66 FR 59034).

Thursday, September 12, 2002

8:30 a.m.—8:35 a.m.: Opening Statement by the Acting ACRS Chairman (Closed)—The ACRS Chairman will make opening remarks

regarding the Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design. [This session will be held in the NRC auditorium]

8:35 a.m.—11:45 a.m.: DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design (Closed)—The Committee will hear presentations by and hold discussions with representatives of the Department of Energy (DOE)/Department of Defense (DOD) Naval Reactors Organization and the NRC staff regarding the Virginia Class Nuclear Propulsion Plant Submarine Design. [This session will be held in the NRC auditorium]

[Note: The above two sessions will be closed to discuss classified information applicable to this matter.]

1 p.m.—1:05 p.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

1:05 p.m.—2:30 p.m.: Human Reliability Analysis Research Plan (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the Human Reliability Analysis Research Plan and related matters.

2:45 p.m.—4:15 p.m.: Proposed Resolution of Generic Safety Issue-185, "Control of Recriticality Following Small-Break LOCAs in PWRs" (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the proposed recommendations by the Office of Nuclear Regulatory Research for resolving Generic Safety Issue-185.

4:30 p.m.—5:00 p.m.: Subcommittee Report Regarding D. C. Cook Switchyard Fire (Open)—Report by the Chairman of the ACRS Subcommittee on Plant Operations regarding the switchyard fire event that occurred at the D. C. Cook Nuclear Power Plant on June 12, 2002.

5 p.m.—5:30 p.m.: Subcommittee Report Regarding the Reactor Oversight Process (Open)—Report by the Chairman of the ACRS Subcommittee on Plant Operations regarding matters discussed at the September 9, 2002 Subcommittee meeting.

5:30 p.m.—7:00 p.m.: Proposed ACRS Reports (Open/Closed)—The Committee will discuss proposed ACRS reports on matters considered during this meeting. [Discussion of the report on Virginia Class Nuclear Propulsion Plant Submarine Design, which will be closed to the public, will be held in Room T-8E8.]

Friday, September 13, 2002

8:30 a.m.—8:35 a.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

8:35 a.m.—10:45 a.m.: Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04 (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and Nuclear Energy Institute (NEI) regarding proposed 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors," draft Regulatory Guide DG-1121, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," and NEI 00-04, "10 CFR 50.69 SSC Categorization Guidelines."

11 a.m.—12:30 p.m.: Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding draft Regulatory Guide DG-1120, "Transient and Accident Analysis Methods," and draft final Standard Review Plan Section 15.0.2, "Review of Transient and Accident Analysis Methods."

1:30 p.m.—2 p.m.: Subcommittee Report on Fire Protection (Open)—Report by the Chairman of the ACRS Subcommittee on Fire Protection regarding matters discussed during the September 11, 2002 Subcommittee meeting.

2 p.m.—3 p.m.: Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open)—The Committee will discuss the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future meetings. Also, it will hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, and organizational and personnel matters relating to the ACRS.

3 p.m.—3:15 p.m.: Reconciliation of ACRS Comments and Recommendations (Open)—The Committee will discuss the responses from the NRC Executive Director for Operations (EDO) to comments and recommendations included in recent ACRS reports and letters. The EDO responses are expected to be made available to the Committee prior to the meeting.

3:30 p.m.–7 p.m.: Proposed ACRS Reports (Open/Closed)—The Committee will discuss proposed ACRS reports. [Discussion of the report on Virginia Class Nuclear Propulsion Plant Submarine Design, which will be closed to the public, will be held in Room T-8E8.]

Saturday, September 14, 2002

8:30 a.m.–12 Noon: Proposed ACRS Reports (Open)—The Committee will discuss proposed ACRS reports.

1 p.m.–1:30 p.m.: Miscellaneous (Open)—The Committee will discuss matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

Procedures for the conduct of and participation in ACRS meetings were published in the *Federal Register* on October 3, 2001 (66 FR 50462). In accordance with those procedures, oral or written views may be presented by members of the public, including representatives of the nuclear industry. Electronic recordings will be permitted only during the open portions of the meeting. Persons desiring to make oral statements should notify the Associate Director for Technical Support named below five days before the meeting, if possible, so that appropriate arrangements can be made to allow necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during the meeting may be limited to selected portions of the meeting as determined by the Chairman. Information regarding the time to be set aside for this purpose may be obtained by contacting the Associate Director prior to the meeting. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with the Associate Director if such rescheduling would result in major inconvenience.

In accordance with Subsection 10(d) Pub. L. 92-463, I have determined that it is necessary to close a portion of this meeting noted above to discuss classified information per 5 U.S.C. 552b (c)(1).

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements, and the time allotted therefor can be obtained by contacting Dr. Sher Bahadur, Associate Director for Technical Support (301-415-0138), between 7:30 a.m. and 4:15 p.m., EDT.

ACRS meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room at pdr@nrc.gov, or by calling the PDR at 1-800-397-4209, or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS) which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> or <http://www.nrc.gov/reading-rm/doc-collections/> (ACRS & ACNW Mtg schedules/agendas).

Videoteleconferencing service is available for observing open sessions of ACRS meetings. Those wishing to use this service for observing ACRS meetings should contact Mr. Theron Brown, ACRS Audio Visual Technician (301-415-8066), between 7:30 a.m. and 3:45 p.m., EDT, at least 10 days before the meeting to ensure the availability of this service. Individuals or organizations requesting this service will be responsible for telephone line charges and for providing the equipment and facilities that they use to establish the videoteleconferencing link. The availability of videoteleconferencing services is not guaranteed.

Dated: August 19, 2002.

Andrew L. Bates,
Advisory Committee Management Officer.
[FR Doc. 02-21521 Filed 8-22-02; 8:45 am]
BILLING CODE 7590-01-P

**OFFICE OF PERSONNEL
MANAGEMENT**

**Proposed Collection; Comment
Request for Review of a Revised
Information Collection: Forms RI 38-
117, RI 38-118, AND RI 37-22**

AGENCY: Office of Personnel
Management.

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction Act of 1995 (Public Law 104-13, May 22, 1995 and 5 CFR 1320), this notice announces that the Office of Personnel Management (OPM) intends to submit to the Office of Management and Budget a request for review of a revised information collection. RI 38-117, Rollover Election, is used to collect information from each payee affected by a change in the tax code (Public Law 102-318) so that OPM can make payment in accordance with the wishes of the payee. RI 38-118, Rollover Information, explains the election. RI 37-22, Special Tax Notice Regarding Rollovers, provides more detailed information.

Comments are particularly invited on: Whether this collection of information is necessary for the proper performance of functions of the Office of Personnel Management, and whether it will have practical utility; whether our estimate of the public burden of this collection is accurate, and based on valid assumptions and methodology; and ways in which we can minimize the burden of the collection of information on those who are to respond, through the use of the appropriate technological collection techniques or other forms of information technology.

Approximately 1,000 RI 38-117 forms will be completed annually. We estimate it takes approximately 30 minutes to complete the form. The annual burden is 500 hours.

For copies of this proposal, contact Mary Beth Smith-Toomey on (202) 606-8358, FAX (202) 418-3251 or e-mail to mbtoomey@opm.gov. Please include your mailing address with your request.

DATES: Comments on this proposal should be received within 60 calendar days from the date of this publication.

ADDRESSES: Send or deliver comments to Ronald W. Melton, Chief, Operations Support Division, Retirement and Insurance Service, U.S. Office of Personnel Management, 1900 E Street, NW., Room 3349A, Washington, DC 20415-3450.

FOR INFORMATION REGARDING

ADMINISTRATIVE COORDINATION CONTACT: Cyrus S. Benson, Team Leader, Desktop Publishing & Printing Team, Budget and Administrative Services Division, (202) 606-0623.

U.S. Office of Personnel Management.

Kay Coles James,

Director.

[FR Doc. 02-21410 Filed 8-22-02; 8:45 am]

BILLING CODE 6325-50-P

**OFFICE OF PERSONNEL
MANAGEMENT**

Excepted Service

AGENCY: Office of Personnel
Management.

ACTION: Notice.

SUMMARY: This gives notice of OPM decisions, granting authority to make appointments under Schedule C in the excepted service as required by 5 CFR 6.1 and 213.103.

FOR FURTHER INFORMATION CONTACT: Pam Shivery, Director, Washington Service Center, Employment Service (202) 606-1015.

SUPPLEMENTARY INFORMATION: Appearing in the listing below are the individual



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D.C. 20555-0001

August 19, 2002

SCHEDULE AND OUTLINE FOR DISCUSSION
495th ACRS MEETING
SEPTEMBER 12-14, 2002

THURSDAY, SEPTEMBER 12, 2002, NRC AUDITORIUM, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND

- 1) 8:30 - 8:35 A.M. Opening Statement by the Acting ACRS Chairman (Closed)
(MVB/JTL)
- 2) ~~8:35 - 11:45~~ ^{8:30 - 11:30} A.M. DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant
(10:00-10:20 A.M.- BREAK) Submarine Design (Closed) (JDS/PAB)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the Department of Energy (DOE)/Department of Defense (DOD) Naval Reactors Organization and the NRC staff regarding the Virginia Class Nuclear Propulsion Plant Submarine Design.

[NOTE: The entire session will be closed to discuss classified information applicable to this matter.]

11:45 - 1:00 P.M. ***LUNCH***

THURSDAY, SEPTEMBER 12, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND

- 3) 1:00 - 1:05 P.M. Opening Remarks by the ACRS Chairman (Open)
 - 3.1) Opening Statement (GEA/JTL/SD)
 - 3.2) Items of current interest (GEA/SD)
- 4) 1:05 - ~~2:30~~ ^{2:43} P.M. Human Reliability Analysis Research Plan (Open) (DAP/MME/AWC)
 - 4.1) Remarks by the Subcommittee Chairman
 - 4.2) Briefing by and discussions with representatives of the NRC staff regarding the Human Reliability Analysis Research Plan and related matters.

Representatives of the nuclear industry may provide their views, as appropriate.

~~2:30 - 2:45~~ ^{2:43 - 3:00} P.M. ***BREAK***

5) ^{3:00-3:15}
~~2:45-4:15~~ P.M.

Proposed Resolution of Generic Safety Issue-185, "Control of Recriticality Following Small-Break LOCAs in PWRs" (Open)
(VHR/PAB)

- 5.1) Remarks by the Cognizant ACRS Member
5.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed recommendations by the Office of Nuclear Regulatory Research for resolving Generic Safety Issue-185.

Representatives of the nuclear industry may provide their views, as appropriate.

6) ^{3:20-3:40} ~~Operating Events (Open)~~ (GML/MWW)

^{4:15 - 4:30 P.M.} ~~***BREAK***~~

7) ^{3:42-4:03} ~~Subcommittee Report on Fire Protection (Open)~~ (SR/TJK/SD)

~~8) 4:30-5:00 P.M.~~
^{4:03-4:30}

Subcommittee Report Regarding D.C. Cook Switchyard Fire (Open)
(JDS/MWW)

Report by the Chairman of the ACRS Subcommittee on Plant Operations regarding the Switchyard fire event that occurred at the D. C. Cook Nuclear Power Plant on June 12, 2002.

~~9) 5:00-5:30 P.M.~~
^{4:40}

Subcommittee Report Regarding the Reactor Oversight Process (Open) (JDS/GEA/MWW)

Report by the Chairman of the ACRS Subcommittee on Plant Operations regarding matters discussed at the September 9, 2002 Subcommittee meeting.

~~10) 5:30 - 7:00 P.M.~~

Proposed ACRS Reports (Open/Closed)

Discussion of proposed ACRS reports on:

- 8.1) Human Reliability Analysis Research Plan (DAP/MME/AWC)
8.2) Proposed Resolution of GSI-185 (VHR/PAB)
8.3) Virginia Class Nuclear Propulsion Plant Submarine Design (Closed) (JDS/PAB) [Room T-8E8]

^{5:00-6:45}

FRIDAY, SEPTEMBER 13, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

~~11) 8:30 - 8:35 A.M.~~

Opening Remarks by the ACRS Chairman (Open) (GEA/JTL/SD)

~~12) 8:35 - 10:45 A.M.~~
^{10:50}

Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04 (Open) (GEA/AWC/HJL)

- 10.1) Remarks by the Subcommittee Chairman
10.2) Briefing by and discussions with representatives of the NRC staff and Nuclear Energy Institute (NEI) regarding proposed 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors," DG-1121, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," and NEI 00-04, "10 CFR 50.69 SSC Categorization Guidelines."

10:50 - 11:05

10:45 - 11:00 A.M.

BREAK

11:05 - 12:00
11:00 - 12:30 P.M.Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews (Open) (GBW/PAB/MVW)

- 11.1) Remarks by the Subcommittee Chairman
- 11.2) Briefing by and discussions with representatives of the NRC staff regarding draft Regulatory Guide DG-1120, "Transient and Accident Analysis Methods," and draft final Standard Review Plan Section 15.0.2, "Review of Transient and Accident Analysis Methods."

Representatives of the nuclear industry may provide their views, as appropriate.

12:05 - 1:15

12:30 - 1:30 P.M.

LUNCH

12) 1:30 - 2:00 P.M.

Subcommittee Report on Fire Protection (Open) (SR/TJK/SD)
Report by the Chairman of the ACRS Subcommittee on Fire Protection regarding matters discussed during the September 11, 2002 Subcommittee meeting.

13) 1:30 - 2:50
2:00 - 3:00 P.M.Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open) (GEA/JTL/SD)

- 13.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future ACRS meetings.
- 13.2) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, and organizational and personnel matters relating to the ACRS.

14) 4:30 - 4:35
3:00 - 3:15 P.M.Reconciliation of ACRS Comments and Recommendations (Open) (GEA, et al./SD, et al.)

Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

~~3:15 - 3:30 P.M.~~~~***BREAK***~~

15) 3:30 - 7:00 P.M.

Preparation of ACRS Reports (Open/Closed)

Discussion of proposed ACRS reports on:

- 6:15-7:20 5:05-5:55 15.1) Human Reliability Analysis Research Plan (DAP/MME/AWC) Final
- 3:14-4:07 15.2) Proposed Resolution of GSI-185 (VHR/PAB)
- 5:00-5:05 15.3) Virginia Class Nuclear Propulsion Plant Submarine Design (Closed) (JDS/PAB) [Room T-8E8] Final
- 6:00-6:15 15.4) Proposed 10 CFR 50.69, DG-1121, and NEI 00-04 (GEA/AWC/HJL) Larkingsgram
- 15.5) Draft Regulatory Guide DG-1120 and SRP Section Associated with NRC Code Reviews (GBW/PAB/MVW) Final

**SATURDAY, SEPTEMBER 14, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND**

- 16) 8:30 - ^{11:15}12:00 Noon Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under
Item 15. 8:30-9:05 DG1120 (Larkinsgram)
9:30-11:00 Research Report
- 12:00 -1:00 P.M. *****LUNCH*****
- 17) 1:00 - 1:30 P.M. Miscellaneous (Open) (GEA/JTL)
Discussion of matters related to the conduct of Committee
activities and matters and specific issues that were not
completed during previous meetings, as time and availability
of information permit.

NOTE:

- Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion.
- Thirty-Five (35) copies of the presentation materials should be provided to the ACRS.

APPENDIX III: MEETING ATTENDEES

495th ACRS MEETING
SEPTEMBER 12-14, 2002

NRC STAFF (9/12/2002)

A. Adams, Jr., NRR	S. LaVie, NRR
F. Akstulewicz, NRR	H. Li, NRR
S. Black, NRR	C.Y. Liang, NRR
R. Borchardt, NRR	J. Ma, NRR
P.Y. Chen, NRR	P. Madden, NRR
M. Chiramal, NRR	E. Marinos, NRR
R. Eckenrode, NRR	R. Palla, NRR
B. Elliot, NRR	K. Parczewski, NRR
J. Fair, NRR	G. Parry, NRR
F. Grubelich, NRR	R. Pedersen, NRR
D. Jeng, NRR	T. Scarbrough, NRR
J. Johnson, NRR	C. F. Sheng, NRR
K. Karwoski, NRR	J. Tatum, NRR
P. Lain, NRR	A. Ulses, NRR
J. Bongarra, NRR,	N. Siu, RES
J. Persensky, RES	J. Kramer, RES
E. Trager, RES	G. Lanik, RES
P. Lewis, RES	R. Eckenrode, NRR
W. Lyon, NRR	P. Koltay, NRR
J. Sorensen, NMSS	

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

C. Brinkman, Westinghouse

NRC STAFF (9/13/2002)

D. Harrison, NRR	T. Bergman, OEDO
T. Reed, NRR	G. Imbro, NRR
J. Fair, NRR	D. Mathews, NRR
E. McKenna, NRR	M. Rubin, NRR
T. Scarbrough, NRR	M. Cheok, RES
G. Parry, NRR	M. Kawal, NRR
C. Grimes, NRR	F. Akstulewicz, NRR
D. Terao, NRR	R. Caruson, NRR
D. Fischer, NRR	Y. Oreschwa, NRR
S. West, NRR	S. Bush-Goddard, NMSS
M. Johnson, NRR	
G. Kelly, NRR	
D. Diec, NRR	
R. Borchardt, NRR	
R. Barrett, NRR	

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

R. Graybeal, Inservice Engineering
J. Brown, Westinghouse
R. Huston, Licensing Support Services
T. Pietrangelo, NEI
A. Wyche, SERCH Licensing/Bechtel
M. Knapik, McGraw-Hill
D. Risher, Westinghouse

APPENDIX IV: FUTURE AGENDA

The Committee agreed to consider the following during the XXth ACRS Meeting, XX, 2000:



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
 WASHINGTON, D.C. 20555-0001

September 19, 2002

**SCHEDULE AND OUTLINE FOR DISCUSSION
 496thACRS MEETING
 OCTOBER 10-12, 2002**

**THURSDAY, OCTOBER 10, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
 ROCKVILLE, MARYLAND**

- 1) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open)
 - 1.1) Opening Statement (GEA/JTL/SD)
 - 1.2) Items of current interest (GEA/SD)

- 2) 8:35 - 10:00 A.M. Confirmatory Research Program on High-Burnup Fuel (Open)
 (DAP/TSK/MME)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the NRC staff and the Electric Power Research Institute (EPRI) regarding the confirmatory research program on high-burnup fuel and the EPRI topical report on reactivity insertion accidents.

- 10:00 - 10:15 A.M. *****BREAK*****

- 3) 10:15 - 12:15 P.M. Overview of European Simplified Boiling Water Reactor (ESBWR), SWR 1000 (Boiling Water Reactor), Advanced CANDU Reactor (ACR 700) Pre-Application Review (Open) (TSK/RPS)
 - 3.1) Remarks by the Subcommittee Chairman
 - 3.2) Briefing by and discussions with representatives of the NRC staff and industry on the ESBWR (General Electric 1380 Mwe), SWR 1000 (Framatome ANP-Siemens 1000 Mwe) and ACR 700 (Advanced CANDU Reactor 700 Mwe) advanced reactor designs.

- 12:15 - 1:15 P.M. *****LUNCH*****

- 4) 1:15 - 2:45 P.M. Catawba and McGuire License Renewal Application (Open)
 (MVB/GML/TJK/SD)
 - 4.1) Remarks by the Subcommittee Chairman
 - 4.2) Briefing by and discussions with representatives of the NRC staff and Duke Energy Company, as needed, regarding the license renewal application and draft Safety Evaluation Report for the Catawba Nuclear Station Units 1 and 2 and McGuire Nuclear Station Units 1 and 2.

- 5) 2:45 - 4:00 P.M. Policy Issues Related to Advanced Reactor Licensing (Open) (TSK/MME)
- 5.1) Remarks by the Subcommittee Chairman
 - 5.2) Briefing by and discussions with representatives of the NRC staff regarding changes to policy issues related to the licensing of advanced reactors resulting from the resolution of ACRS comments and recommendations included in its June 17, 2002 report.

4:00 - 4:15 P.M. ***BREAK***

- 6) 4:15 - 7:00 P.M. Proposed ACRS Reports (Open)
Discussion of proposed ACRS reports on:
- 6.1) Confirmatory Research Program on High-Burnup Fuel (DAP/TSK/MME)
 - 6.2) Catawba and McGuire License Renewal Application (tentative) (MVB/GML/TJK/SD)

FRIDAY, OCTOBER 11, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 7) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (GEA/JTL/SD)
- 8) 8:35 - 10:00 A.M. Program Plan for Low-Power Shutdown (LPSD) Standardized Plant Analysis Risk (SPAR) Model Development and Cancellation of Revision 4i of SPAR Models (Open) (DAP/SD)
- 8.1) Remarks by the Subcommittee Chairman
 - 8.2) Briefing by and discussions with representatives of the NRC staff regarding the program plan for LPSD SPAR Model Development, the reasons for canceling plans for the development of revision 4i of the SPAR Models, and insights from the onsite review of the LPSD SPAR Model for Surry Nuclear Plant Units 1 and 2.
- 10:00 - 10:15 A.M. ***BREAK***
- 9) 10:15 - 11:30 A.M. Guidance for Performance-Based Regulation (Open)(GEA/HJL)
- 9.1) Remarks by the Subcommittee Chairman
 - 9.2) Briefing by and discussions with representatives of the NRC staff regarding the draft NUREG/BR "Guidance for Performance-Based Regulation."
- 10) 11:30 - 11:45 A.M. Reconciliation of ACRS Comments and Recommendations (Open) (GEA, et al./SD, et al.)
Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

- 11:45 - 1:15 P.M. ***LUNCH*****
- 11) 1:15 - 2:15 P.M. Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open) (GEA/JTL/SD)
 11.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future ACRS meetings.
 11.2) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, and organizational and personnel matters relating to the ACRS.
- 12) 2:15 - 3:15 P.M. Report Regarding Recent Operating Events (Open) (GML/MWW)
 Report by the cognizant ACRS member regarding recent operating events of interest.
- 13) 3:15 - 7:00 P.M.
(4:00-4:15 P.M. BREAK) Preparation of ACRS Reports (Open)
 Discussion of proposed ACRS reports on:
 13.1) Confirmatory Research Program on High-Burnup Fuel (DAP/TSK/MME)
 13.2) Catawba and McGuire License Renewal Application (tentative) (MVB/GML/TJK/SD)
 13.3) Program Plan for LPSD SPAR Model Development (DAP/SD)
 13.4) Guidance for Performance-Based Regulation (GEA/HJL)

SATURDAY, OCTOBER 12, 2002, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 14) 8:30 - 1:00 P.M.
(10:30-10:45 A.M. BREAK) Preparation of ACRS Reports (Open)
 Continue discussion of the proposed ACRS reports listed under Item 13.
- 15) 1:00 - 1:30 P.M. Miscellaneous (Open) (GEA/JTL)
 Discussion of matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit. The Committee will also discuss its plans for preparing a "white paper" on the use of PRA in the regulatory decisionmaking process.

NOTE:

- **Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion.**
- **Thirty-Five (35) copies of the presentation materials should be provided to the ACRS.**

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE
495th ACRS MEETING
SEPTEMBER 12-14, 2002

[Note: Some documents listed below may have been provided or prepared for Committee use only. These documents must be reviewed prior to release to the public.]

MEETING HANDOUTS

AGENDA
ITEM NO.

DOCUMENTS

- | | |
|----|---|
| 1 | <u>Opening Remarks by the ACRS Chairman</u>
1. Items of Interest |
| 2 | <u>DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design (CLOSED)</u> |
| 3 | <u>Human Reliability Analysis Research Plan</u>
2. NRC Human Reliability Analysis and Human Factors Research Programs: Overview presentation by RES [Viewgraphs] |
| 6 | <u>Operating Events Update</u>
3. Monthly Operating Events Update presentation by G. Leitch, ACRS Member |
| 10 | <u>Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04</u>
4. Risk-Informed Part 50 Special Treatment Requirements Proposed Section 50.69 presentation by NRR [Viewgraphs]
5. Development of NEI 00-04, Rev. C presentation by NEI [Viewgraphs]
6. Draft Regulatory Guide DG-1121, Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance presentation by NRR [Viewgraphs] |
| 11 | <u>Draft Regulatory Guide DG-1120 and Standard Review Plan Section Associated with NRC Code Reviews</u>
7. Draft Regulatory Guide DG-1120 Transient and Accident Analysis Methods presentation by G. Norman Lauben, RES [Viewgraphs] |
| 13 | <u>Future ACRS Activities/Report of the Planning and Procedures Subcommittee</u>
8. Future ACRS Activities and Final Draft Minutes of Planning and Procedures Subcommittee Meeting [Handout #13.1] |
| 14 | <u>Reconciliation of ACRS Comments and Recommendations</u> |

9. Reconciliation of ACRS Comments and Recommendations [Handout #14.1]
MEETING NOTEBOOK CONTENTS

<u>TAB</u>	<u>DOCUMENTS</u>
2	<u>DOE/DOD Naval Reactors Virginia Class Nuclear Propulsion Plant Submarine Design</u> <ol style="list-style-type: none">1. Table of Contents2. Proposed Schedule3. Status Report
5	<u>Resolution of GSI-185: "Control of Recriticality Following SBLOCAs in PWRs"</u> <ol style="list-style-type: none">4. Table of Contents5. Project Status Report6. Report of ACRS Consultant S. Banerjee on June 26, 2002 T/H Phenomena Subcommittee Meeting7. Report of ACRS Consultant V. Shrock on June 26, 2002 T/H Phenomena Subcommittee Meeting8. Excerpt from Certified Minutes of June 26, 2002 Thermal-Hydraulic Phenomena Subcommittee Meeting Discussion RES Presentation on GSI-185, dated July 10, 20029. Memorandum dated June 6, 2002, from J. Rosenthal, RES, to P. Boehnert, ACRS, Transmitting Technical Report, "Analysis of Boron Dolution Transients in a PWR," D. Diamond, BNL10. Memorandum to F. Eltawila, RES, from J. Rosenthal, RES, Transmitting Task Action Plan for Resolving GSI-185, dated March 16, 200111. Memorandum to A. Thadano, RES, from F. Eltawila, RES, Transmitting Technical Screening Report on Resolution of GSI-185 dated July 7, 2000
10	<u>Proposed 10 CFR 50.69, Draft Regulatory Guide DG-1121, and NEI Document NEI 00-04</u> <ol style="list-style-type: none">12. Table of Contents13. Proposed Schedule14. Status Report
11	<u>Draft Regulatory Guide on Code Documentation - DG-1120/Draft Standard Review Plan Section on Code Reviews - SRP 15.0.2</u> <ol style="list-style-type: none">15. Table of Contents16. Presentation Schedule17. Project Status Report18. "Comments on DG-1120," G. Wallis, August 10, 2002

19. Report of ACRS Consultant S. Banerjee on July 17, 2002 T/H Phenomena Subcommittee Meeting
20. Report of ACRS Consultant F. Moody on July 17, 2002 T/H Phenomena Subcommittee Meeting
21. Report of ACRS Consultant V. Shrock on July 17, 2002 T/H Phenomena Subcommittee Meeting
22. Excerpt from Draft Minutes of July 17, 2002 Thermal-Hydraulic Phenomena Subcommittee Meeting Discussing RES Presentation on DG-1120 dated August 13, 2002
23. Memorandum from J. Larkins, ACRS, to W. Travers, EDO, "Draft Regulatory Guide DG-1096, "Transient and Accident Analysis Methods" and Standard Review Plan Section 15.0.1, "Review of Analytical Computer Codes," dated May 22, 2000
24. U.S. NRC Draft Regulatory Guide, DG-1120, "Transient and Accident Analysis Methods," dated June 2002, and Draft Standard Review Plan Section 15.0.2, "Review of Transient and Accident Analysis Methods," dated December 2000

P:\495.NRR.Navyattend.wpd

NRR staff at ACRS full committee meeting 9/12/02

Alexander Adams, Jr.
Frank Akstulewicz
Suzanne Black
Richard Borchardt
Pei-Ying Chen
Matthew Chiramal
Richard Eckenrode
Barry Elliot
JohnFair
Frank Grubelich
David Jeng
Jon Johnson
Kenneth Karwoski
Paul Lain
Steve LaVie
Hulbert Li
Chu-Yu Liang
John Ma
Patrick Madden
Evangelos Marinos
Robert Palla
Krzysztof Parczewski
Gareth Parry
Roger Pedersen
Thomas Scarbrough
Chia-Fu Sheng
James Tatum
Anthony Ulses

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
495th FULL COMMITTEE MEETING

SEPTEMBER 12-14, 2002

SEPTEMBER 12, 2002
Today's Date

NRC STAFF PLEASE SIGN IN FOR ACRS MEETING

PLEASE PRINT

NAME

NRC ORGANIZATION

J. BONGARRA

NRR/DIPM/IEHB

N. Sij

RES/DRAA/PRAB

J. PERSENYK

RES/DSARE/REAHFB

J. KRAMER

RES/DSARE/REAHFB

E. TRAGER

RES/DSARE/REAHFB

G. Lanik

Paul Lewis

RES/REAHFB

R. Eckenrode

NRR/DIPM/IEHB

WARREN LYON

NRR/DSSA/SRXB

SUZANNE BLACK

NRR/DSSA

P. KOLTAY

NRR/DIPM

J.N. SORENSON

NMSS/DWM

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
495th FULL COMMITTEE MEETING

SEPTEMBER 12-14, 2002

SEPTEMBER 12, 2002

Today's Date

ATTENDEES PLEASE SIGN IN FOR ACRS MEETING

PLEASE PRINT

NAME

AFFILIATION

Hulb.

Charles Brinkman

Westinghouse

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
495th FULL COMMITTEE MEETING

SEPTEMBER 12-14, 2002

SEPTEMBER 13, 2002

Today's Date

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<u>NAME</u>	<u>NRC ORGANIZATION</u>
Donnie Harrison	NRR/DSSA/SPSB
TJM REED	NRR/DRIP/RPRP
John Fair	NRR/DE
Eileen McKenna	NRR/DRIP/RPRP
Tom Scarborough	NRR/DE/EMEB
Gareth Pam	NRR/DSSA
Chris Grimes	NRR/DRIP
David Terao	NRR/DE
DAVID FISCHER	NRR/DE/EMEB
Steve West	NRR
Michael Johnson	NRR/DSSA/SPSB
Glenn Kelly	"
DAVID DIEZ	NRR
Bill Borchardt	NRR
Rich Barrett	NRR/DE
Tom Bergman	OEDO
Gene Stumbo	NRR
D MATTHEWS	NRR
Mark Rubin	NRR.
Mike Cheek	RES

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
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NAME

NRC ORGANIZATION

Mark Koval

NRR

FRANK AKSTULEWICZ

NRR

RALPH CARUSO

NRR

Y. Brechwa

NRR

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
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NAME

AFFILIATION

Robin Graybeal

Inservice Engineering

Jason Brown

WESTINGHOUSE

Rogon Huston

Licensing Support Services

Tony Pictrangelo

NEI

Altheia Wyche

SERCH Licensing/Bechtel

MIKE KNADIK

McGraw-Hill

Dan Bisher

Westinghouse

Stephani Bush-Goddard

NRC