

ACRS-2917

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December 9-11, 1993

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## APPENDICES

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# CERTIFIED

Issued: February 10, 1994

MINUTES OF THE 404TH MEETING OF THE  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
DECEMBER 9-11, 1993  
BETHESDA, MARYLAND

The 404th meeting of the Advisory Committee on Reactor Safeguards was held at Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland, on December 9-11, 1993. The purpose of this meeting was to discuss and take appropriate action on the items listed in the attached agenda. The meeting was open to public attendance, except a portion that dealt with matters of a personal nature. There were no written statements nor requests for time to make oral statements from members of the public regarding the meeting.

A transcript of selected portions of the meeting was kept and is available in the NRC Public Document Room at the Gelman Building, 2120 L Street, N.W., Washington, D.C. [Copies of the transcript are available for purchase from Ann Riley & Associates, Ltd., 1612 K Street, N.W., Washington, D.C. 20006.]

## ATTENDEES

ACRS Members: Dr. J. Ernest Wilkins, Jr. (Chairman), Mr. James Carroll (Vice-Chairman), Mr. William Lindblad (Member-at-Large), Dr. Ivan Catton, Mr. Peter Davis, Dr. Thomas Kress, Dr. Harold W. Lewis, Mr. Carlyle Michelson, Dr. Robert Seale, Dr. William J. Shack, and Mr. Charles Wylie. Dr. James G. Quintiere, ACRS Consultant, was also in attendance. [For a list of other attendees, see Appendix III.]

## I. CHAIRMAN'S REPORT (Open)

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

Dr. J. Ernest Wilkins, Jr., Committee Chairman, opened the meeting at 8:30 a.m. and reviewed the schedule for the meeting. Dr. Wilkins identified a number of items that he believed to be of interest to the Committee, including:

- The Nuclear Safety Research Review Committee will hold a meeting at the Holiday Inn, Bethesda, Maryland, on January 13-14, 1994. Radioactive waste management issues will be addressed.
- Mr. James H. Sniezek, Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, is retiring. Mr. James L. Milhoan, Administrator, Region IV, has been selected to succeed Mr. Sniezek.

- Dr. Herbert Isbin, former ACRS member, received the technical achievement award from the Thermal Hydraulics Division of the American Nuclear Society.
- Region III is moving from Glen Ellyn, Illinois, to Lisle, Illinois.
- Mr. Noel Dudley will be joining the ACRS staff as a Senior Staff Engineer in January 1994. Dr. Wilkins welcomed Mr. Dudley to the staff.
- Several ACRS members were invited to participate in a Reaktorsicherheitskommission (RSK) meeting on prevention of containment failures in case of hydrogen combustion during postulated severe accidents. The meeting will be held in Garchin, Germany, on January 17, 1994. [Subsequent to the ACRS meeting, Dr. Larkins notified Mr. Candeli, RSK, that Drs. Kress and Catton will attend along with Mr. Charles Tinkler, Office of Nuclear Regulatory Research (RES).]
- An invitation to board a Naval nuclear powered ship has been offered to the Committee. The members were invited to relay their interest in participating in such a visit to Mr. Paul Boehnert so that arrangements could be made.

The Committee discussed a motion and voted in favor of releasing a press release that announces the availability of positions on the ACRS in 1994. The Committee also voted in favor of a motion to authorize the Chairman to ratify future press releases that have been reviewed and approved of by the Planning and Procedures Subcommittee without bringing them to the full Committee.

## II. THERMO-LAG FIRE ENDURANCE TESTING PROGRAM (Open)

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

Dr. Ivan Catton, Chairman of the Secondary and Auxiliary Systems Subcommittee, discussed the Subcommittee meeting held on November 19, 1993, with representatives of the NRC staff, NUMARC and industry on the technical differences with NUMARC and staff on the NUMARC test program related to Thermo-Lag fire barriers. Dr. Catton stated that the full Committee will respond to a Commission Staff Requirements Memorandum (SRM) dated November 15, 1993, requesting that the ACRS review the NUMARC test program and prepare a letter on the NUMARC test program and related issues.

#### Tennessee Valley Authority Staff Presentation

Mr. Mark Salley, Senior Fire Protection Engineer and Specialist, Tennessee Valley Authority (TVA), discussed the fire testing program for the Watts Bar nuclear power plant. Mr. Salley stated that, to meet the Appendix R requirements, TVA uses one-hour fire barriers with automatic detection and suppression capabilities for their electrical raceway systems. The TVA test bed consisted of a conduit with no cables. Thermocouples were attached to the exterior of the conduit, junction box or whatever item they were looking at. The acceptance criteria, according to Mr. Salley, are based on thermal performance. The acceptance criteria for raceway external temperature is that delta T average is less than 250 degrees Fahrenheit and delta T maximum is less than or equal to 325 degrees Fahrenheit.

Mr. Brown, Electrical Engineer, TVA, discussed the cables issues associated with the TVA test program. Mr. Brown stated that there are two concerns when wrapping a raceway system with a fire barrier. One concern is that cable integrity must be ensured as a result of the long-term effects of the presence of that barrier. Secondly, the transient effect of the barrier must be considered (i.e., when does the Appendix R event occur). TVA has developed an enhanced version of a compressive load test to ensure cable integrity during transient events. As for the long term degradation to the barrier, TVA has performed a series of ampacity tests as a result of wrapping it.

#### NUMARC Staff Presentation

Mr. Bill Rasin, Vice President and Director of the Technical Division, NUMARC, discussed the fire protection objectives of the NUMARC test program. Mr. Rasin stated that NUMARC is focusing on fire barrier performance. Fire barrier is only one area of a defense-in-depth approach to fire protection according to Mr. Rasin.

NUMARC is proposing to test a series of prototypical configurations of Thermo-Lag protected cable trays, conduits, and junction boxes. They propose to include the cables in the cable trays to represent a prototypical thermal capacitance. They further propose placing thermocouples within the bundle of cables, arguing that this will avoid undue conservatism.

#### NRR Staff Presentation

Mr. Conrad McCracken, Chief of Plant Systems Branch, NRR, was present to discuss or answer any concerns related to the staff views on Thermo-Lag testing. Mr. McCracken stated that the purpose of the fire protection criteria was to try to come up with one-size-fit-all. Instead of having separate criteria based on

fuel loading, barrier design, type of fuel loading, ventilation effects in a given area, or the amount of transient fuel in a given area. Mr. McCracken stated that the two basic issues that the staff were trying to address and get ACRS views on were the issues of thermocouple placement and the plant-specific applicability.

#### Conclusion

The Committee provided a report on this matter dated December 16, 1993, to Chairman Selin.

### III. EXTENDED STATION BLACKOUT EVENT AT NARORA ATOMIC POWER STATION (INDIA) (Closed)

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

The Committee was briefed by and held discussions with representatives of the Office of Nuclear Reactor Regulation (NRR) on the lessons learned from the severe turbine building fire that resulted in an extended station blackout on March 31, 1993, at the Narora Atomic Power Station (India).

#### Conclusion

This briefing was for information only. Mr. James Carroll requested that Dr. Larkins convey to Chairman Selin the Committee's interest in receiving more detailed information regarding this event.

### IV. ABWR AND SBWR WATER-LEVEL INSTRUMENTATION DIVERSITY (Open)

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

Dr. Ivan Catton, the Chairman of the Thermal Hydraulics Subcommittee, introduced this matter to the Committee by noting that the NRR staff has prepared a draft SECY Paper that contains a proposal that the Commission require that reactor vessel water level instrumentation diverse in function from the currently used level instrumentation be installed on the General Electric Nuclear Energy (GE) Advanced Boiling Water Reactor (ABWR) and Simplified Boiling Water Reactor (SBWR) designs.

#### NRR Staff Presentation

Mr. Timothy E. Collins, NRR, noted the following points in his presentation:



- Regarding the process for establishing new requirements under design certification rulemaking for advanced LWR reactors, the Backfit Rule does not apply (during the design certification review). The staff can impose new requirements based on operating experience and the results of engineering studies. These new requirements are codified for the specific affected design as part of the certification process. The NRR staff believe that the need for diverse instrumentation on the A/SBWR designs may be specified under the post Three Mile Island (TMI) event requirements as codified in (10 CFR 50.34(f)).
- The history of this issue dates from the safety concerns arising from the post-TMI lessons-learned activities. Although some modifications to the water level instrumentation in existing BWRs were made, the staff did not impose a requirement to backfit diverse instrumentation, due to concerns regarding both costs and a lack of maturity in the alternate level technologies. Subsequent operating experience has shown a potential for common cause failures in the differential pressure level systems both in use and proposed for the advanced BWR designs.
- Alternate level instrumentation considered available for use in the advanced BWRs includes heated-junction thermocouples, float switches (used in Swedish BWRs), and ultrasonic systems (used in a two-unit German BWR plant).
- Given the above, the NRR staff recommends that GE install supplemental vessel water level instrumentation in the ABWR and SBWR advanced designs. This instrumentation need not be used for automatic actuation but it should be highly reliable, redundant, and capable of being powered from onsite sources.

During the discussion that followed, Mr. Carroll asked the NRR staff why they did not consider this issue in a timely manner. Dr. Thadani indicated that NRR has become more sensitized to this issue given recent operating experience (e.g., level errors due to non-condensable gas saturation of the instrument reference leg). Dr. Thadani also noted that other countries are imposing requirements related to BWR level instrument diversity that are more comprehensive than what NRR is recommending be required. The crux of the issue for NRR is the concern with potential common-mode failure mechanisms that could disable all vessel level indicators.

#### GE Staff Presentation

Comments on the above NRR proposal were given by Dr. C. Sawyer, GE Nuclear Energy (GENE). He noted that the ABWR design will include, among other vessel water level measurement instruments, a set of

four narrow-range and four wide-range level meters. He also noted that GENE has modified the ABWR level instrumentation with a backfill system to address the recent concern regarding the potential for the buildup of non-condensable gases in the instrument's reference legs.

Turning to the details of the ABWR level system backfill feature, Dr. Sawyer said that tests conducted in Japan have shown that non-condensable gases do not accumulate in the condensing chamber of the level instrumentation as long as the chamber is oriented within three millimeters of the horizontal.

Dr. Sawyer indicated that, for the following reasons, installation of diverse water level sensors is not necessary for the ABWR:

- The presently-used delta-pressure devices are simple, rugged, and well-proven by service.
- Alternative sensors, such as the ultrasonic and heated junction thermocouples, are not qualified for service as safety-grade devices.
- To install additional water level instruments that are to be relied on only in emergency situations violates good man-machine practices.
- Other information about vessel level is available to the operators; if it is suspected that the vessel water level is indeterminate, the EPGs instruct the operators to scram the reactor and flood the RPV.
- Use of common-mode failure as an arbitrary design basis sets a dangerous precedent.

Mr. Carroll asked why other countries are exploring the use of other types of water level instrumentation. Dr. Sawyer responded by indicating that GE does not see that its worth implementing use of these other instrument types. In further discussion, it was noted that the float-switch-type level system used in some Swedish BWRs is tied to the trip system. As a result of Committee questioning, the status of the ultrasonic level system that was installed in a pair of German BWR units was not made very clear (i.e., whether the system is in a developmental or operational status).

The Committee instructed Dr. Catton to draft a letter that indicated a lack of support for the staff's proposed position in this matter.



### Subcommittee Activities

During the Committee's discussion of Subcommittee activities, Dr. Catton noted that Dr. Eric Beckjord, RES, had established a "Thermal Hydraulic Task Group to formulate recommendations regarding the NRC RES advanced thermal hydraulic experimental and analytical programs. The Group consists of Ashok Thadani, NRR, Group Chairman, and Warren Minners and Brian Sheron, both of the RES.

Dr. Catton noted that he had met with the Group and that they had solicited his opinion concerning the above topics. As a result of discussion, the Committee instructed Dr. Catton to be sensitive to the issue of providing advice to this Group, versus a potential conflict if the Committee later conducts a review of this Group's final work product.

### Conclusion

The Committee provided a report on this matter dated December 16, 1993, to Mr. James M. Taylor, Executive Director for Operations.

### V. ITAAC PROCESS AND CERTIFIED DESIGN MATERIAL FOR ABWR (Open)

[Note: Dr. Medhat El-Zeftawy was the Designated Federal Official for this portion of the meeting.]

Mr. James Carroll, the Chairman of the Ad Hoc Subcommittee on Design Acceptance Criteria, introduced the subject and speaker.

Mr. Anthony James, GE, described the certified design material (CDM) for the ABWR design. He stated that General Electric Nuclear Energy (GENE) submittal of August 31, 1993, of the CDM (considered as Tier 1 material) consists of:

- Section 1 - Definitions and General Provisions;
- Section 2.0 CDM - Design descriptions and ITAAC for approximately 100 individual plant systems;
- Section 3.0 - Additional CDM for those aspects of the certified design that do not lend themselves to the Section 2.0 system-by-system coverage. This section consists of the CDM for the four subject areas referred to as Design Acceptance Criteria (DAC) and the initial Test Program. Each CDM/DAC section consists of a design description and an ITAAC;

- Section 4.0 - Interface Requirements that must be met by those portions of the complete nuclear power plant that are not within the scope of the certified design;
- Section 5.0 - Site Parameters used as a basis for the certified design;
- Two Appendices providing Legends for Figures and Abbreviations and Acronyms.

The design certification material consists of design descriptions of systems and their associated ITAAC; descriptions of design and construction activities that are applicable to more than one system, together with their associated ITAAC; interface requirements for those systems that are not within the scope of the ABWR Standard Design but are necessary to support the ABWR; and site parameters that identify bounding conditions for an acceptable site for the ABWR Standard Design.

The certified design descriptions consist of top level design criteria and performance standards that pertain to the safety of the plant. The following criteria were considered in determining the information for inclusion in the CDM:

- The information is taken from the SSAR.
- Not all information in the SSAR warrants inclusion in the CDM. Instead, the CDM would contain that information in the SSAR that is most significant to safety.
- Non-safety features and functions of safety-related structures, systems, and components (SSC) are not discussed in the CDM.
- The CDM focus is on hardware. The CDM does not contain requirements related to operating conditions or maintenance.
- The CDM does not discuss the process of designing and constructing a plant that references the ABWR standard design.
- The CDM does not contain any proprietary information.

The ITAAC for the certified design consists of those inspections, tests, and analyses that are necessary and sufficient to demonstrate that a plant that references the ABWR design is built and will operate in accordance with the certified design descriptions.

For safety-related systems, the certified design descriptions generally include the following information, as applicable: the

system's name and scope; the system's purpose; the system's safety-related modes of operation; the system's classification (i.e., safety-related, Seismic Category, and ASME Code Class); the system's location; the basic configuration of the system's safety-significant components (usually shown by means of a figure); the type of electrical power provided for the system; the electrical independence and physical separation of divisions within the system; the system's important instruments, controls, and alarms, to the extent located in the Main Control Room or Remote Shutdown System; identification of which of the important Class 1E electrical equipment within the system is qualified for a harsh environment; motor-operated valves within the system that have an active safety-related function; any other features or functions that are significant to safety.

Mr. James briefly described the DAC for the ABWR design. The ABWR certified design involves four DAC. These are instrumentation and control (I&C); Piping Design; Radiation Protection; and Human Factors Engineering. These four DAC will be associated with 121 detailed system entries. The limited use of DAC necessitated and justified by considerations of need for as-built data and the rapidly evolving technology. The DAC are based on extensive SSAR design and supporting information. The DAC entries do not represent high risks for future design problems.

Mr. Thomas Boyce, NRR, summarized the Tier 1 development process as follows:

- Design information is provided in SSAR.
- The NRC staff's safety decisions are based on SSAR.
- Tier 1 material (including ITAAC) is derived from SSAR information.
- ITAAC confirm acceptability of as-built facility.
- Other programs ensure ongoing safe design, construction, and operation of a facility are Quality Assurance (QA), Reliability Assurance Program (RAP), Initial Test Program, in-service inspection (ISI), in-service testing (IST), and Technical specifications.

All ITAAC will be specified in Tier 1 material prior to design certification, except for those site-specific systems. The NRC staff will inspect licensee for compliance with respective ITAAC.

The NRC staff has acknowledged, as a result of discussion with the ACRS, that there will be an increased burden of DAC on the combined operating license (COL) applicant as the trade-off for the flexibility to incorporate changing technology.

Conclusion

The Committee expressed a general satisfaction regarding this subject and considered a draft report on the use of the design acceptance criteria process in the certification of the GE ABWR design. The Committee will continue deliberation on this subject during the next meeting.

VI. REPORT FROM THE SUBCOMMITTEE ON ADVANCED BOILING WATER REACTORS (Open)

[Note: Dr. Medhat El-Zeftawy was the Designated Federal Official for this portion of the meeting.]

Mr. Carlyle Michelson, Chairman of the Advanced Boiling Water Reactors Subcommittee, reported on the November 17, 1993, meeting, in which the Subcommittee continued its review of the NRC Final Safety Evaluation Report (FSER) for the GE ABWR design. He provided a synopsis of the chapters reviewed and what chapters remain to be reviewed. Severe accident PRA questions are expected to be addressed during the December 15, 1993 subcommittee meeting.

The Committee discussed the schedule for completing its review of the FSER for the ABWR. The Committee expects to consider a draft report during the 407th ACRS meeting in March 1994, and, barring untimely receipt of needed information or completion of the FSER revision, to issue a final report in April 1994.

Conclusion

The Committee provided a report on this matter dated December 15, 1993, to Chairman Selin.

VII. INDIVIDUAL PLANT EXAMINATION (IPE) PROGRAM (Open)

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

Mr. Davis, Chairman of the Individual Plant Examinations Subcommittee, indicated that the subcommittee had met on November 18, 1993, in Bethesda, Maryland to discuss the status of the Individual Plant Examination (IPE) program, the IPE Database and Insights program, the status of the Individual Plant Examination of External Events (IPEEE) program, and some aspects of generic safety issues resolution by the IPE/IPEEE programs. He indicated that the subcommittee had agreed upon a presentation to the Committee with the focus on the IPE program and the generic safety issue resolution.

Dr. John Flack, RES, discussed the overview and status of the IPE program. He indicated that about 80% of the IPE submittals had been received and that 35 IPE reviews had been initiated (31 Step 1 reviews and 4 Step 2). He described the review process and objectives. This review is mostly one to determine completeness and not correctness. He discussed some preliminary findings from the reviews carried out to date and described safety enhancements that had been instituted at some plants due to the IPE process. He indicated that the benefits from the IPE program had greatly exceeded the staff's expectations and that most licensees have opted to maintain their IPE as a "living" PRA for future use.

Ms. Mary Drouin, RES, described the objectives and structure of the database program for use to gain insights from the IPE results. This program is being carried out at Brookhaven National Laboratory (BNL). The results of 45 IPEs have been entered into the database and the 45 plants represent all BWR and PWR reactor and containment types. She indicated that a draft report based on 50 IPEs would be available in the Fall of 1994. In 1996, some IPEEE results will be added and a final report listing insights from the IPE and IPEEE studies will be issued in 1998.

Dr. Charles Ader, RES, discussed some aspect of the resolution of generic issues by the IPE/IPEEE process. He noted that only USI-45 is required to be addressed as part of the IPE process, but licensees were given the option to propose resolution of other generic issues based on their IPE. In regard to the IPEEE, he stated that USI-45, GSI-131 and GSI-57 were required to be addressed in the study. He indicated that the staff recognized other USIs and GSIs to be resolved by the IPE/IPEEE process if it could be assumed that a licensee would reasonably address the issue during the performance of their IPE/IPEEE. He further indicated that most of the generic issues were of low safety significance to begin with and the IPE/IPEEEs offered a convenient way to resolve the issues.

### Conclusion

The Committee expressed its satisfaction with the manner in which the IPE program was being performed, but had a couple of concerns in regard to the characterization of containment failure and the resolution of generic issues. The Committee provided comments about the IPE program and their concerns in a report to Mr. James M. Taylor, EDO, dated December 16, 1993.



VIII. ELECTRIC POWER RESEARCH INSTITUTE (EPRI) ADVANCED LIGHT WATER REACTOR (ALWR) UTILITY REQUIREMENTS DOCUMENT FOR PASSIVE PLANTS (Open)

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

Mr. Charles J. Wylie, Chairman of the Improved Light Water Reactors Subcommittee, reported on the subcommittee meeting, held on October 6, 1993, to review the NRC staff's Final Safety Evaluation Report for Volume III of the EPRI passive LWR Utility Requirements document. The Committee discussed a proposed ACRS report on the EPRI Passive LWR Requirements Document for Passive Plants. Representatives of the NRC and EPRI participated.

Conclusion

The Committee provided a report on this matter dated December 20, 1993, to Chairman Selin.

IX. SAFEGUARDS AND SECURITY REQUIREMENTS (Closed)

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

The Committee was briefed by and held discussions with Robert M. Bernero, Director, Office of Nuclear Material Safety and Safeguards (NMSS), and Mr. Robert F. Burnett, Director, Division of Fuel Cycle Safety and Safeguards, on the proposed Commission paper SECY-93-270, "Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants."

Conclusion

The Committee discussed a slight revision to a report that had been approved during the 403rd ACRS meeting, but not sent. The Committee provided a revised letter on this matter dated December 10, 1993, to Chairman Selin.

X. ELECTION OF OFFICERS (Open)

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

Dr. Wilkins was reelected Chairman, Mr. Kress was elected Vice-Chairman, and Mr. Lindblad was reelected Member-at-Large to the Planning and Procedures Subcommittee for calendar year 1994.

XI. REPORT ON THE MEETING OF THE PLANNING AND PROCEDURES SUBCOMMITTEE HELD ON DECEMBER 8, 1993

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

The Committee heard a report from Dr. Wilkins on the Planning and Procedures Subcommittee meeting held on December 8, 1993.

- Several ACRS members were invited by Prof. Birkhofer to participate in a proposed RSK meeting to be held in Garching, Germany, on January 17, 1994. The meeting will be on AM-measures to prevent containment failure in case of hydrogen combustion processes during postulated severe accidents. Dr. Larkins was asked to solicit Chairman Selin's endorsement for these members to attend the meeting. [Subsequent to the meeting, Dr. Larkins received approval from Chairman Selin for Drs. Catton and Kress to attend this meeting.]
- Dr. Wilkins announced that Mr. Gary Quittschreiber recently retired and Mr. Herman Alderman will be retiring on December 30, 1993.
- Dr. Wilkins reminded the members that members cannot hire consultants directly. Only the ACRS staff can hire consultants. The Vice Chairman is authorized to endorse hiring. Members should make their requests known to the staff engineer.

XII. RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS (Open)

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

The responses of the Executive Director for Operations (EDO) to previous ACRS reports were discussed as follows:

- EDO letter, dated October 29, 1993, responding to the ACRS report dated September 22, 1993, concerning ACRS Comments on Proposed Generic Letter Regarding Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators from Plant Technical Specifications.

Conclusion

The Committee concluded that the EDO's response did not satisfactorily address the Committee's concern over the "trigger value" approach proposed by Regulatory Guide

1.160. The Committee provided a report on this matter dated December 14, 1993, to Chairman Selin.

- EDO letter, dated December 6, 1993, responding to the ACRS report dated November 10, 1993, concerning ACRS Comments on SECY-93-289, "Issuance of the Draft Preapplication Safety Evaluation Report (PSER) for the Power Reactor Innovative Small Module (PRISM) Liquid-Metal Reactor."

#### Conclusion

The above EDO letter satisfactorily addressed the Committee's comments.

### XIII. EXECUTIVE SESSION (Open)

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

#### A. Reports and Memoranda

Thermo-Lag Fire Barriers (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 16, 1993)

Electric Power Research Institute Advanced Light Water Reactor Utility Requirements Document -- Volume III Passive Plants (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 23, 1993)

Diversity in the Method of Measuring Reactor Pressure Vessel Water Level in the Advanced and Simplified Boiling Water Reactor Designs (Report to James M. Taylor, Executive Director for Operations, from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 16, 1993)

Individual Plant Examination Program (Report to James M. Taylor, Executive Director for Operations, from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 16, 1993)

ACRS Review of the Advanced Boiling Water Reactor Final Safety Evaluation Report (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 15, 1993)

Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated December 10, 1993)

Diesel Generator Accelerated Testing (Trigger Value Approach)  
(Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS  
Chairman, dated December 14, 1993)

Proposed Supplement 6 to Generic Letter 89-10, "Information on  
Scope Grouping, Prioritization, Schedule, and Public Ques-  
tions" (Memorandum to L. Joseph Callan, Acting Associate  
Director for Projects, NRR, from John T. Larkins, Executive  
Director, dated December 21, 1993) Consistent with the  
Committee's decision, Dr. Larkins informed Mr. Callan that the  
Committee decided not to review the proposed Supplement 6 to  
Generic Letter 89-10.

Draft Rulemaking Package Eliminating the Emergency Planning  
Annual Exercise (Memorandum to Warren Minners, Director,  
Division of Safety Issue Resolution, RES, from John T.  
Larkins, Executive Director, dated December 20, 1993) Consis-  
tent with the Committee's decision, Dr. Larkins informed Mr.  
Minners that the Committee decided to postpone its review of  
the subject matter until after the public comments have been  
reconciled by the staff.

B. Audio/Visual System for the Conference Room in the Two  
White Flint North Building

Mr. Michael MacWilliams, ACRS/ACNW staff, briefed the Com-  
mittee on the planned audio/visual system that will be  
installed in the Two White Flint North (TWFN) building meeting  
room. The Committee discussed the merits of a video con-  
ferencing system.

Dr. Lewis asked whether a wireless sound system was considered  
for the new room? Mr. MacWilliams agreed to investigate this  
question and provide a response. Several members expressed  
interest in a walkthrough of the TWFN building, possibly  
following the next meeting with the Commissioners.

C. Future ACRS Activities

Dr. Lewis recommended that the Committee consider a report  
that addresses the use of diversity as a protection against  
common-cause failures in redundant components or systems. The  
Committee agreed to consider a draft report during the next  
meeting.

D. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the  
Committee for the 405th ACRS Meeting, January 6-8, 1994, and  
future Subcommittee meetings.

404th ACRS Meeting  
December 9-11, 1993

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The 404th ACRS meeting was adjourned at 3:10 p.m. on Saturday,  
December 11, 1993.



404th  
12/9-11/93

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Federal Register / Vol. 98, No. 226 / Tuesday, November 30, 1993 / Notices

Wednesday, December 15, 1993—8:30 a.m. Until the Conclusion of Business

The Subcommittee will continue its review of the NRC staff's Final Safety Evaluation Report for the General Electric Nuclear Energy (GE) Advanced Boiling Water Reactor (ABWR) design and related matters. The purpose of this meeting is to gather information, analyze relevant issues and facts, and to formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman; written statements will be accepted and made available to the Committee. Electronic recordings will be permitted only during those portions of the meeting that are open to the public, and questions may be asked only by members of the Subcommittee, its consultants, and staff. Persons desiring to make oral statements should notify the ACRS staff member named below as far in advance as is practicable so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will hear presentations by and hold discussions with representatives of the NRC staff and other interested persons regarding this review. Representatives of GE and its consultants will participate, as appropriate.

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 therefore can be obtained by contacting the cognizant ACRS staff engineer, Dr. Medhat El-Zeftawy (telephones 301/492-9901) between 7:30 a.m. and 4:15 p.m. (EST). Persons planning to attend this meeting are urged to contact the above named individual five days before the scheduled meeting to be advised of any changes in schedule, etc., that may have occurred.

Dated: November 22, 1993

Sam Duraiswamy,

Chief, Nuclear Reactors Branch

[FR Doc. 93-29304 Filed 11-29-93; 8:45 am]

BILLING CODE 7590-01-88

**Advisory Committee on Reactor Safeguards Subcommittee Meeting on Materials and Metallurgy; Meeting**

The ACRS Subcommittee on Materials and Metallurgy will hold a meeting on December 16, 1993, in room P-110, 7920 Norfolk Avenue, Bethesda, MD.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Thursday, December 16, 1993—8:30 a.m. Until the Conclusion of Business

The Subcommittee will discuss the steam generator operating experience and related rulemaking activities. The purpose of this meeting is to gather information, analyze relevant issues and facts, and to formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman; written statements will be accepted and made available to the Committee. Electronic recordings will be permitted only during those portions of the meeting that are open to the public, and questions may be asked only by members of the Subcommittee, its consultants, and staff. Persons desiring to make oral statements should notify the ACRS staff member named below as far in advance as is practicable so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will hear presentations by and hold discussions with representatives of the NRC staff, NUMARC, their consultants and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled 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 the cognizant ACRS staff engineer, Mr. Elpidio G. Igne (telephone 301/492-8192) between 7:30 a.m. and 4:15 p.m. (EST). Persons planning to attend this meeting are urged to contact the above named individual five days before the scheduled meeting to be advised of any changes in schedule, etc., that may have occurred.

Dated: November 22, 1993

Sam Duraiswamy,

Chief, Nuclear Reactors Branch

[FR Doc. 93-29305 Filed 11-29-93; 8:45 am]

BILLING CODE 7590-01-88

**Advisory Committee on Reactor Safeguards; Meeting Agenda**

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 will hold a meeting on December 9-11, 1993, in room P-110, 7920 Norfolk Avenue, Bethesda, Maryland. Notice of this meeting was published in the Federal Register on September 23, 1993.

Thursday, December 9, 1993

8:30 a.m.—8:45 a.m.: Opening Remarks by ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding conduct of the meeting and comment briefly regarding items of current interest. During this session, the Committee will discuss priorities for preparation of ACRS reports.

8:45 a.m.—11:30 a.m.: Proposed Supplement to Generic Letter 86-10 on Fire Endurance Testing and Related Matters (Open)—The Committee will review and comment on the proposed supplement to Generic Letter 86-10 on Fire Endurance Testing, and the technical differences between NUMARC and the NRC staff on the NUMARC test program related to the thermo-lag fire barrier. Representatives of the NRC staff and industry will participate.

11:30 a.m.—12 noon: Report on the Extended Station Blackout Event at Narora Atomic Power Station, India (Open/Closed)—The Committee will hear a briefing by and hold discussions with representatives of the NRC staff on the lessons learned from the severe turbine building fire that resulted in an extended station blackout on March 31, 1993, at the Narora Atomic Power Station, India.

A portion of this session may be closed pursuant to 5 U.S.C. 552b(c)(4), as implemented by 10 CFR 2.790(d)(2), to discuss information provided in confidence by a foreign source.

1 p.m.—3:45 p.m.: ABWR Certified Design Material/ITAAC Process (Open)—The Committee will review and comment on the Certified Design Material for the ABWR in the areas of piping design, human factors, and radiation protection. Also, it will discuss the process of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC). Representatives of the

NRC staff and General Electric Nuclear Energy (GE) will participate.

**4 p.m.-5:30 p.m.: ABWR and SBWR Water-Level Instrumentation (Open)**—The Committee will review and comment on the NRC staff's recommendation that diversity of reactor pressure vessel water-level measurement be required for the ABWR and SBWR designs. Representatives of the NRC staff and industry will participate.

**5:30 p.m.-6 p.m.: Report of the ACRS Subcommittee on Advanced Boiling Water Reactors (Open)**—The Committee will discuss the status of the activities of the ACRS Subcommittee on Advanced Boiling Water Reactors.

**6 p.m.-6:30 p.m.: Preparation of ACRS Reports (Open)**—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

**Friday, December 10, 1993**

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

**8:35 a.m.-10:30 a.m.: Status of Individual Plant Examination (IPE) Program (Open)**—The Committee will hear a briefing by and hold discussions with representatives of the NRC staff on the status of the IPE program, the insights gained from these studies, and the use of the IPE/IPEEE programs to resolve generic issues.

**10:45 a.m.-11:45 p.m.: EPRI Passive LWR Requirements Document (Open)**—The Committee will discuss the proposed ACRS report on the EPRI Passive LWR Requirements Document. Representatives of the NRC staff will participate, as appropriate.

**1:30 p.m.-2:30 p.m.: Safeguards and Security Requirements (Open/Closed)**—The Committee will hear a briefing by the Director of the Office of Nuclear Material Safety and Safeguards (NMSS) on the activities of NMSS in the safeguards and security area.

A portion of this session may be closed pursuant to 5 U.S.C. 552b(c)(3) to discuss safeguards and security information, which is specifically exempted from disclosure by section 147 of the Atomic Energy Act of 1954.

**2:30 p.m.-3:30 p.m.: Preparation of ACRS Reports (Open)**—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

**3:45 p.m.-4:30 p.m.: Future ACRS Activities (Open)**—The Committee will discuss topics proposed for consideration during future ACRS meetings.

**4:30 p.m.-5:30 p.m.: Election of Officers (Open/Closed)**—The Committee will discuss qualifications of nominees for Chairman and Vice-Chairman and will elect Chairman and Vice-Chairman to the ACRS, and Member-at-Large to the Planning and Procedures Subcommittee for calendar year 1994.

A portion of this session may be closed pursuant to 5 U.S.C. 552b(c)(6) to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy.

**5:30 p.m.-5:45 p.m.: Reconciliation of ACRS Comments and Recommendations (Open)**—The Committee will discuss responses from the NRC Executive Director for Operations to recent ACRS comments and recommendations.

**5:45 p.m.-6:30 p.m.: Preparation of ACRS Reports (Open)**—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

**Saturday, November 6, 1993**

**8:30 a.m.-12 noon: Preparation of ACRS Reports (Open)**—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

**12 noon-12:45 p.m.: Report of the Planning and Procedures Subcommittee (Open/Closed)**—The Committee will hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business and internal organizational and personnel matters relating to ACRS staff members.

A portion of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy.

**12:45 p.m.-1:30 p.m.: ACRS Subcommittee Activities (Open)**—The Committee will hear reports and hold discussions regarding the status of ACRS subcommittee activities.

**1:30 p.m.-2 p.m.: Miscellaneous (Open)**—The Committee will discuss miscellaneous matters related to the conduct of Committee activities and complete discussion of topics that were not completed during previous meetings as time and availability of information permit.

Procedures for the conduct of the participation in ACRS meetings were published in the *Federal Register* on September 30, 1993 (58 FR 51118). In accordance with these procedures, oral or written statements may be presented by members of the public, electronic

recordings will be permitted only during the open portions of the meeting, and questions may be asked only by members of the Committee, its consultants, and staff. Persons desiring to make oral statements should notify the ACRS Executive Director, Dr. John T. Larkins, as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during this 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 ACRS Executive 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 ACRS Executive Director if such rescheduling would result in major inconvenience.

I have determined in accordance with subsection 10(d) of the Federal Advisory Committee Act (Pub. L. 92-463) that it is necessary to close portions of this meeting noted above to discuss information that involves the internal personnel rules and practices of this advisory Committee per 5 U.S.C. 552b(c)(2), to discuss safeguards and security information exempted from disclosure by a statute that establishes particular criteria for withholding or refers to particular types of matters to be withheld per 5 U.S.C. 552b(c)(3), to discuss information provided in confidence by a foreign source per 5 U.S.C. 552b(c)(4), and to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy per 5 U.S.C. 552b(c)(6).

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and time allotted therefore can be obtained by contacting the ACRS Executive Director, Dr. John T. Larkins (telephone 301-492-4516), between 7:30 a.m. and 4:15 p.m. EST.

Dated: November 23, 1993.

John C. Hoyie,

Advisory Committee Management Officer  
(FR Doc. 93-29306 Filed 11-29-93; 8:45 am)  
BILLING CODE 7590-01-00



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

Revised: December 6, 1993

SCHEDULE AND OUTLINE FOR DISCUSSION  
404TH ACRS MEETING  
December 9-11, 1993

Thursday, December 9, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD.

1) 8:30 - <sup>9:00</sup>~~8:45~~ A.M.

Opening Remarks by the ACRS Chairman (Open)  
1.1) Opening statement (JEW/SD)  
1.2) Items of Current Interest (JEW/JTL)  
1.3) Priorities for preparation of ACRS reports (JEW/SD)

2) <sup>9:00</sup>~~8:45~~ - <sup>Noon</sup>~~11:30~~ A.M.  
(BREAK: ~~10:30-10:45~~  
11:05-11:15)

Thermo-Lag Fire Barrier (Open) (IC/DC)  
2.1) Remarks by the Subcommittee Chairman  
2.2) Briefing by and discussions with representatives of the NRC staff, NUMARC, and TVA regarding the proposed Supplement to Generic Letter 86-10 on Fire Endurance Testing, with emphasis on the technical differences between the NRC staff and NUMARC on the NUMARC test program related to the thermo-lag fire barrier

3) <sup>Noon</sup>~~11:30~~ - <sup>12:35 P.M.</sup>~~13:00 Noon~~

Extended Station Blackout Event at the Narora Atomic Power Station, India  
(~~Open~~/Closed) (JCC/HA/EGI)  
3.1) Remarks by the Subcommittee Chairman  
3.2) Briefing by and discussions with representatives of the NRC staff on the lessons learned from the turbine building fire that resulted in an extended station blackout on March 31, 1993, at the Narora Atomic Power Station in India

(Note: A portion of this session may be closed to discuss information provided in confidence by a foreign source.)

<sup>35</sup>~~12:00~~ - <sup>35</sup>~~1:00~~ P.M.

LUNCH

[ = Transcribed Portion of the Meeting

4) <sup>35</sup> 1:00 - <sup>50</sup> 2:30 P.M.

ABWR and SBWR Water Level Instrumentation  
(Open) (CJW/IC/PAB)

- 4.1) Remarks by the Subcommittee Chairmen  
4.2) Briefing by and discussions with representatives of the NRC staff and GE regarding the proposed NRC staff's requirement for reactor pressure vessel water level measurement for the ABWR and SBWR designs

5) <sup>50</sup> 2:30 - <sup>45</sup> 5:30 P.M.  
(Break 3:45 - 4:00)

ITAAC Process and Design Certification  
Material for ABWR (Open) (JCC/CM/MME)

- 5.1) Remarks by the Subcommittee Chairmen  
5.2) Briefing by and discussions with representatives of the NRC staff and General Electric Nuclear Energy (GE) regarding:
- Anticipated uses of the Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) process (30 minutes)
  - Certified Design Material for ABWR in the areas of Piping Design, Human Factors Engineering, and Radiation Protection

6) <sup>45</sup> 5:30 - <sup>10</sup> 6:00 P.M.

Report of the Advanced Boiling Water Reactors Subcommittee (Open) (CM/MME)

- 6.1) Hear a report and hold discussions regarding:
- 6.1-1) Proposed schedule for completing the ACRS review of the NRC staff's Final Safety Evaluation Report and GE's Standard Safety Analysis Report for the ABWR Design
- 6.1-2) Form and content of the proposed ACRS report on the ABWR design

7) <sup>10</sup> 6:00 - <sup>25</sup> 6:30 P.M.

Preparation of ACRS Reports (Open)  
Discussion of proposed ACRS reports

- 7.1) Thermo-lag Fire Barrier (IC/DC)  
7.2) Design Certification Material for ABWR (JCC/MME)  
7.3) ABWR and SBWR Water-Level Instrumentation (CJW/IC/PAB)



7.4) Proposed Schedule for Completing the ACRS Review of the ABWR Design (CM/MME)

Friday, December 10, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD

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

Opening Remarks by the ACRS Chairman (Open) (JEW/SD)

9) 8:35 - 10:30 A.M.

Individual Plant Examination (IPE) Program (Open) (PRD/MDH)

- 9.1) Remarks by the Subcommittee Chairman
- 9.2) Briefing by and discussions with representatives of the NRC staff on the status of the IPE program, the insights gained from these examinations, and the use of the IPE/IPEEE programs to resolve generic issues

10:30 - 10:45<sup>50</sup> A.M.

BREAK

10) 10:45<sup>50</sup> - 11:45<sup>50</sup> A.M.

EPRI Passive LWR Requirements Document (Open) (CJW/EGI/JM)

- 10.1) Remarks by the Subcommittee Chairman
- 10.2) Discussion of the proposed ACRS report on the EPRI Passive LWR Requirements Document. Representatives of the NRC staff and industry will participate, as appropriate

11:45<sup>50</sup> - 1:30<sup>40</sup> P.M.

LUNCH

11) 1:30<sup>40</sup> - 2:30<sup>50</sup> P.M.

Safeguards and Security Requirements (Open/Closed) (HWL/HA)

- 11.1) Remarks by the Subcommittee Chairman
- 11.2) Briefing by and discussions with the Director of the Office of Nuclear Material Safety and Safeguards (NMSS) regarding the activities of NMSS in the safeguards and security areas

(Note: A portion of this session may be closed to discuss safeguards and security information.)

2:50-3:00 p.m. Break

12) 3:00 - 5:05<sup>50</sup> P.M.

Preparation of ACRS Reports (Open)

Discussion of proposed ACRS reports on:

- 12.1) Individual Plant Examination Program (PRD/MDH)
- 12.2) Proposed amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants (HWL/HA)



- 12.3) Thermo-lag Fire Barrier (IC/DC)
- 12.4) Design Certification Material for ABWR (JCC/MME)
- 12.5) ABWR and SBWR Water-Level Instrumentation (CJW/IC/PAB)
- 12.6) Proposed Schedule for Completing the ACRS Review of the ABWR Design (CM/MME/EGI)
- 12.7) EPRI Requirements Document for the Passive Plant Designs (CJW/EGI/JM)
- 12.8) Diesel Generator Accelerated Testing (HWL/DC)

4:00 - 4:15

3:30 - ~~5:45~~ P.M.

BREAK

13) 5:05 - 5:30  
3:45 - 4:30 P.M.

Future ACRS Activities (Open) (JEW/RPS)

- 13.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future meetings

5:30 - 6:00

14) 4:30 - ~~5:30~~ P.M.

Election of Officers (~~Open~~/Closed)  
(JTL/MFL)

- 14.1) Discuss, as needed, qualifications of nominees for, and elect Chairman and Vice-Chairman to the ACRS and Member-at-Large to the Planning and Procedures Subcommittee for Calendar Year 1994

(Note: A portion of this session may be closed to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy.)

10:15 - 10:20 A.M.

15) 5:30 - ~~5:45~~ P.M.

(Saturday)

Reconciliation of ACRS Comments and Recommendations (Open) (JEW, et al./SD)

- 15.1) Discussion of responses from the NRC Executive Director for Operations to comments and recommendations made in recent ACRS reports

6:00 - 6:50

16) 5:45 - 6:30 P.M.

Preparation of ACRS Reports (Open)

Discussion of Proposed ACRS Reports on:

- 16.1) Individual Plant Examination Program (PRD/MDH)
- 16.2) Proposed amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants (HWL/HA)
- 16.3) Thermo-lag Fire Barrier (IC/DC)

- 16.4) Design Certification Material for ABWR (JCC/MME)
- 16.5) ABWR and SBWR Water-Level Instrumentation (CJW/IC/PAB)
- 16.6) Proposed Schedule for Completing the ACRS Review of the ABWR Design (CM/MME)
- 16.7) EPRI Requirements Document for the Passive Plant Designs (CJW/EGI/JM)
- 16.8) Diesel Generator Accelerated Testing (HWL/DC)

Saturday, December 11, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD

- 17) 8:30 - <sup>3:10</sup>~~12:00~~ Noon Preparation of ACRS Reports (Open)  
Complete discussion of proposed ACRS reports listed under Item 16
- 18) 12:00 - <sup>15</sup>~~12:45~~ P.M. Report of the Planning and Procedures Subcommittee (Open/~~Closed~~) (JEW/JTL)  
18.1) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business and organizational and personnel matters relating to ACRS staff members  
(Note: A portion of this session may be closed to discuss organizational and personnel matters that relate solely to the internal personnel rules and practices of this advisory Committee and matters the release of which would represent a clearly unwarranted invasion of personal privacy.)
- 19) 12:45 - 1:30 P.M.  
(not presented) ACRS Subcommittee Activities (Open)  
19.1 Report on the November 15-16, 1993 Environmental Qualification of Electric Equipment Workshop (CM/CJW/EGI)  
19.2) Report on the December 8, 1993 Subcommittee meeting on ABB-CE Standard Plant Designs (JCC/DC)
- 20) 1:30 - 2:00 P.M. Miscellaneous (Open)  
20.1) Complete discussion of matters considered during this meeting and matters considered but not completed at 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.
  - Number of copies of the presentation materials to be provided to the ACRS - 35.

APPENDIX III: MEETING ATTENDEES

404TH ACRS MEETING  
 DECEMBER 9-11, 1993

NRC STAFF

C. Abbott	OC	J. Sebrosky	AEOD
C. Ader	RES	K. Shembarger	NRR
R. Architzel	NRR	T. Su	RES
R. Bernero	NMSS	M. Taylor	OEDO
B. Boger	NRR	D. Terao	NRR
R. Borchardt	NRR	A. Thadani	NRR
T. Boyce	NRR	D. Thatcher	NRR
H. Brammer	NRR	J. Wiggins	NRR
W. Burton	NRR	J. Wilson	NRR
D. Carter	NRR	J. Yardumian	NMSS
M. Case	NRR		
A. Chaffee	NRR		
T. Chang	RES		
M. Chiramal	NRR		
T. Collins	NRR		
A. Cubbage	NRR		
J. Davidson	NMSS		
R. Eckenrode	NRR		
R. Emch	NRR		
R. Emrit	RES		
J. Flack	RES		
M. Frouin	RES		
J. Giitter	AEOD		
C. Goodman	NRR		
E. Goodwin	NRR		
K. Henderson	OIP		
R. Hernan	NRR		
W. Huffman	AEOD		
J. Ibarra	OCM		
R. Jenkins	NRR		
R. Jones	NRR		
N. Kadambi	RES		
D. Lange	NRR		
C. McCracken	NRR		
T. McGinty	AEOD		
P. McKee	NRR		
J. Murphy	RES		
L. Nicholson	NRR		
H. Pastis	NRR		
R. Pedersen	NRR		
A. Ramey-Smith	NRR		
E. Rodrick	RES		
D. Scaletti	NRR		
G. Scarfo	AEOD		
J. Schiffgens	NRR		

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

W. Adcock	TVA
P. Allen	AECL
H. Barbeito	Bechtel SERCH
M. Beaumont	Westinghouse
A. Beard	GE-NE
B. Bradley	NUMARC
K. Brown	TVA
R. Feldman	TSI
N. Fletcher	DOE
S. Franks	DOE
R. Huston	TVA
T. James	GE
J. Juliano	NUS
A. Marion	NUMARC
T. Meisenheimer	Bechtel
J. Raleigh	STS, Inc.
B. Rasin	NUMARC
L. Rib	AFCLT
M. Salley	TVA
C. Sawyer	GE
B. Schofield	TVA
M. Schreim	NUMARC
D. Stellfox	McGraw-Hill
J. Trotter	EPRI
H. Yasui	Tokyo Electric Power Co.
M. Woolf	Winston & Strawn



#### APPENDIX IV: FUTURE AGENDA

- A. Proposed Supplement to Generic Letter 86-10 on Fire Endurance Testing - Review and comment on the proposed supplement to Generic Letter 86-10 on Fire Endurance Testing, and the technical differences between NUMARC and the NRC Staff on the NUMARC test program related to the thermo-lag fire barrier. Representatives of the NRC staff and industry will participate.
- B. EPRI Passive LWR Requirements Document - Discuss proposed ACRS report on the EPRI Passive LWR Requirements document. Representatives of the NRC staff will participate, as appropriate.
- C. ABWR Certified Design Material - Review and comment on the Certified Design Material for the ABWR in the areas of piping design, human factors, and radiation protection. Representatives of the NRC staff and General Electric Nuclear Energy (GE) will participate.
- D. ABWR and SBWR Water-Level Instrumentation - Review and comment on the NRC staff's recommendation that diversity of reactor pressure vessel water-level measurement be required for the ABWR and SBWR. Representatives of the NRC staff and industry will participate.
- E. Insights Gained from the NRC Staff Reassessment of the Fire Protection Program - Hear a briefing by and hold discussions with representatives of the NRC staff on the lessons learned from the staff's recent reassessment of the fire protection program. Representatives of the industry will participate, as appropriate.
- \*F. Report on the Extended Station Blackout Event at Narora Atomic Power Station (India) - Hear a briefing by and hold discussions with representatives of the NRC staff on the lessons learned from the severe turbine building fire that resulted in an extended station blackout on March 31, 1993, at the Narora Atomic Power Station (India). A portion of this session may be closed pursuant to 5 U.S.C. 552 b(c)(4) to discuss information provided in confidence by a foreign source.
- G. Status of Individual Plant Examination (IPE) Program - Hear a briefing by and hold discussions with representatives of the NRC staff on the status of the IPE program, the methodologies used by the licensees in performing IPEs and the insights gained from these studies, and the use of the IPE/IPEEE programs to resolve generic issues.
- H. First-of-a-Kind Engineering - Hear a briefing by and hold discussions with representatives of the DOE and EPRI on a program at Advanced Reactors Corporation in the area of first-of-a-kind engineering.
- I. Resolution of ACRS Comments and Recommendations - Discuss responses from the NRC Executive Director for Operations to recent ACRS comments and recommendations.
- \*J. Report of the Planning and Procedures Subcommittee - Hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business. A portion of this

session may be closed pursuant to 5 U.S.C. 552 b(c)(2) and (6) to discuss personnel matters that relate solely to internal personnel rules and practices of ACRS and matters the release of which would represent a clearly unwarranted invasion of personal privacy.

- K. ACRS Subcommittee Activities - Hear reports and hold discussions regarding the status of ACRS subcommittee activities, including reports from the Subcommittees on Advanced Boiling Water Reactors and ABB-CE Standard Plant Designs.
- L. Future Activities - Discuss topics proposed for consideration by the full Committee during future meetings.
- \*M. Election of Officers - Elect new officers (Chairman, Vice-Chairman, and Member-at-Large to the Planning and Procedures Subcommittee) for calendar year 1994. A portion of this session may be closed pursuant to 5 U.S.C. 552 b(c)(6) to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy.
- N. Miscellaneous - Discuss miscellaneous matters related to the conduct of Committee activities and complete discussion of matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

APPENDIX V  
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

[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

- 2 Thermo-Lag Fire Barrier
  1. TVA Test Program Electrical Raceway Fire Barrier Systems (ERFBS) Testing, dated December 9, 1993 [Viewgraphs]
  2. NUMARC Industry Thermo-Lag Program, undated [Viewgraphs]
  3. Fire Barrier Testing Technical Issues, dated December 9, 1993, Prepared by Conrad McCracken [Viewgraphs]
  
- 3 Extended Station Blackout Event at Narora Atomic Power Station (India)
  4. Turbine Fire and Station Black-Out Event at Narora-1 [Handout #3-1 Proprietary Information - Official Use Only]
  5. Narora Station Blackout on March 31, 1993, undated, [Viewgraphs - Foreign Proprietary Information - Official Use Only]
  
- 4 ABWR and SBWR Water-Level Instrumentation
  6. ABWR Water Level Instrumentation Diversity, dated December 9, 1993, Presentation by Timothy Collins [Viewgraphs]
  7. Presentation Schedule: Diversity in the Method of Measuring Reactor Vessel Water Level in the ABWR and SBWR [Handout 4-1]
  8. ABWR Water Level Measurements, dated December 9, 1993, Presentation by C.D. Sawyer, GENE [Viewgraphs]
  - 8a. Proposed Requirement for Diverse Vessel Water Level Instrumentation for ABWR [Handout #4-2]
  
- 5 ITAAC Process and Certified Design Material for ABWR
  9. Anticipated Uses of ITAAC (Sections 3.3, 2.15.10, 2.15.12, and 2.15.11) [Handout #5-1]
  10. Design Acceptance Criteria/ITAAC, dated December 9, 1993, Presented by Thomas Boyce, PDST [Viewgraphs]
  
- 6 Report of the Advanced Boiling Water Reactors Subcommittee
  - 10a. ACRS Reports regarding ABWR Review [Handout #6-1]
  
- 8 Opening Remarks by the ACRS Chairman
  11. Memorandum to ACRS Members from Sam Duraiswamy, dated December 8, 1993, regarding Paper Entitled: "The Implications of Source Term Research for Ex-Plant Consequence Modeling," by Geoffrey D. Kaiser

- 9 Individual Plant Examination (IPE) Program
12. Individual Plant Examination (IPE) Overview and Status, dated December 10, 1993, Presented by John H. Flack [Viewgraphs]
  13. IPE Database and Insights, dated December 10, 1993, Presented by Mary T. Drouin [Viewgraphs]
  14. Resolution of Generic issues vs. IPE/IPEEE, undated [Viewgraphs]
- 12 Preparation of ACRS Reports
15. Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants.
    - Approved ACRS report approved by the Committee during the November ACRS meeting (version 1)
    - Changes to the ACRS report proposed by NMSS (version 2)
    - Changes proposed by Dr. Lewis subsequent to the November ACRS meeting (version 3)
  16. Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants.
    - SRM SECY 93-270
    - SRM 93-166, Staff Recommendation for Protection Against Malevolent Use of Vehicles at Nuclear Power Plants
    - Partial Transcript from Safeguards and Security Subcommittee Meeting on November 3, 1993
    - Partial Transcript from the 403rd ACRS Meeting on November 5, 1993
- 13 Future Activities
17. Future ACRS Activities [Handout #13-1]
- 14 Election of Officers
18. ACRS Bylaws, Section 7 - Election of Officers [Handout #14-1]
- 15 Reconciliation of ACRS Comments and Recommendations
19. Reconciliation of ACRS Comments and Recommendations [Handout #15]
- 18 Report of the Planning and Procedures Subcommittee
20. Minutes of the Planning and Procedures Subcommittee Meeting - December 8, 1993 [Handout #18-1]
- 20 Miscellaneous
21. Memorandum from Ashok Thadani, Director, Division of Systems Safety and Analysis, undated, regarding Thermal Hydraulics Task Group
  22. Portion of RFP for the Installation of the Audio/Visual System in Two White Flint North, dated December 11, 1993

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  5. Memorandum from Ashok Thadani, Director, Division of Systems Safety and Analysis, to John Larkins, dated November 10, 1993, regarding ACRS Subcommittee Meeting on Thermo-Lag, with Enclosures
  6. Memorandum from James Taylor to NRC Commissioners, dated October 8, 1993, regarding Quarterly Updates of the Thermo-Lag and Fire Protection Action Plans, with Enclosures
  
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  12. Draft SECY Paper, "Diversity in the Method of Measuring Reactor Pressure Vessel Level in Advanced Boiling Water Reactor and Simplified Boiling Water Reactor" (Draft Predecisional - Official Use Only)
  
- 5 ITAAC Process and Certified Design Material for ABWR
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  16. SRM to David Ward, ACRS Chairman, dated April 1, 1992, regarding the March 5, 1992 Meeting with the Commission
  17. ACRS Letter to Chairman Selin, dated June 16, 1992, regarding Interim Report on the Use of Design Acceptance Criteria in the Certification of the GE Nuclear Energy Advanced Boiling Water Reactor Design
  18. ACRS Letter to Chairman Selin, dated October 16, 1992, regarding Second Interim Report on the Use of Design Acceptance Criteria in the Certification of the GE Nuclear Energy Advanced Boiling Water Reactor Design

18. Design Certification Material/DAC - Section 3.0, "Additional Certified Design Material"
19. ACRS Letter to Chairman Selin, dated August 12, 1993, regarding Inspection, Testing, Analyses, and Acceptance Criteria Program for the GE ABWR Design
20. ABWR SSAR Section 14.3, "Methodology for Determining the Contents of the Design Certification Material"

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25. Selected slides used for Database Program presentation on November 18, 1993
26. Slides used for discussion of generic issue resolution via IPE/IPEEE on November 18, 1993
27. Consultant's report by Dave Ward dated November 22, 1993 regarding IPE Subcommittee Meeting
28. Portions of staff document re IPE Review Guidance (Draft Predecisional - Official Use Only)

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