

CERTIFIED

Date Issued: 1/21/00
Date Signed: 2/2/00

ACRS - 3185
PDR

TABLE OF CONTENTS
MINUTES OF THE 468th ACRS MEETING

December 2-4, 1999

	<u>Page</u>
I. <u>Chairman's Report (Open)</u>	1
II. <u>Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month ISI and IST Programs Update Requirement (Open)</u>	2
III. <u>Low-Power and Shutdown Operations Risk Insights Report (Open)</u>	4
IV. <u>License Renewal Application for Calvert Cliffs Nuclear Power Plant and the Associated Safety Evaluation Report (Open)</u>	7
V. <u>Proposed Resolution of Generic Safety Issue (GSI)-190 and GSI-166 (Open)</u>	8
VI. <u>A Technique for Human Event Analysis (ATHEANA) (Open)</u>	10
VII. <u>Subcommittee Report (Open)</u>	12
VIII. <u>NRC Safety Research Program Report to the Commission (Open)</u> ...	13
IX. <u>Executive Session (Open)</u>	13
A. Reconciliation of ACRS Comments and Recommendations	
B. Report on the Meeting of the Planning and Procedures Subcommittee Held on December 1, 1999 (Open)	
C. Future Meeting Agenda	

REPORTS, LETTERS, AND MEMORANDA

REPORTS

- Draft Commission Paper Regarding the 120-Month Update Requirement for Inservice Inspection and Inservice Testing Programs (Report to Richard A. Meserve, Chairman, NRC, from Dana A. Powers, Chairman, ACRS, dated December 8, 1999)

RS01

- Report on the Safety Aspects of the License Renewal Application for Calvert Cliffs Nuclear Power Plant, Units 1 and 2 (Report to Richard A. Meserve, Chairman, NRC, from Dana A. Powers, Chairman, ACRS, dated December 10, 1999)

LETTERS

- Proposed Resolution of Generic Safety Issue-190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life" (Letter to William D. Travers, Executive Director for Operations, NRC, from Dana A. Powers, Chairman, ACRS, dated December 10, 1999)
- NUREG-1624, Revision 1, "Technical Basis and Implementation Guidelines for a Technique for Human Event Analysis (ATHEANA)" (Letter to William D. Travers, Executive Director for Operations, NRC, from Dana A. Powers, Chairman, ACRS, dated December 10, 1999)

MEMORANDA

- Proposed Final Amendment to 10 CFR 50.47, "Emergency Plans," Relating to a Reevaluation of Policy on the Use of Potassium Iodide (KI) for the General Public After A Severe Accident at a Nuclear Power Plant (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated December 7, 1999)
- NRC/Industry Collaborative Project to Support Resolution of Waterhammer Issues Pursuant to Generic Letter 96-06 (Memorandum to John N. Hannon, NRR, from Howard J. Larson, Acting Associate Director for Technical Support, ACRS/ACNW, dated December 22, 1999)

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

CERTIFIED

MINUTES OF THE 468th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
DECEMBER 2-4, 1999, 1999
ROCKVILLE, MARYLAND

The 468th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B3, Two White Flint North Building, Rockville, Maryland, on December 2-4, 1999. The purpose of this meeting was to discuss and take appropriate action on the items listed in the following meeting minutes. 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 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., 1025 Connecticut Avenue, N.W., Suite 1014, Washington, D.C. 20036, and on the ACRS/ACNW Web page at www.NRC.gov/ACRS/ACNW.]

ATTENDEES

ACRS Members: Dr. Dana A. Powers (Chairman), Dr. George Apostolakis (Vice-Chairman), Mr. John Barton, Dr. Mario V. Bonaca, Dr. Thomas S. Kress, Dr. William J. Shack, Dr. Robert L. Seale, Mr. John D. Sieber, Dr. Robert E. Uhrig, 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. Dana A. Powers, 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.

II. Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month Update Requirements of the Inservice Inspection and Inservice Testing (Open)

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

Dr. William J. Shack, ACRS Chairman of the Materials and Metallurgy Subcommittee, stated that the NRC staff issued a proposed rule on April 27, 1999, to solicit public comments on a proposal to eliminate the current requirement that licensees update their in-service inspection (ISI) and in-service testing (IST) programs every 120 months against the most recent edition of the American Society of Mechanical Engineers (ASME) Code incorporated by reference in 10 CFR 50.55a, "Codes and Standards." In a letter dated April 19, 1999, the ACRS recommended against eliminating the requirement.

In a staff requirements memorandum dated June 24, 1999, the Commission directed the staff to evaluate the public comments and to develop options and recommendations on the retention or elimination of the update requirement.

Mr. Thomas Scarbrough, Office of Nuclear Reactor Regulation (NRR), stated that the staff issued a proposed amendment to 10 CFR 50.55a for public comment on December 3, 1997. On January 13, 1999, the staff issued SECY-99-017, "Proposed Amendment to 10 CFR 50.55a," that proposed a supplemental amendment to 10 CFR 50.55a that would eliminate the 120-month update requirement.

The staff held a workshop on the 120-month update requirement on May 27, 1999. On the basis of comments made at the workshop and written comments received during the public comment period, the staff developed a draft Commission paper related to the elimination of the 120-month update requirement.

The draft Commission paper provides options and recommendations regarding the update requirement. The NRC staff has identified three options with respect to updating the ISI and IST programs. These options follow:

1. Replace the 120-month ISI/IST update requirement with a baseline of ISI and IST requirements and allow voluntary updating of subsequent NRC-approved ASME Code editions and addenda unless the baseline is revised

on the basis of 10 CFR 50.109, where the initial baseline will consist of the following:

- A The 1989 Edition of the ASME Boiler and Pressure Vessel Code (BPV Code) for ISI of Code Class 1, 2, and 3 components (including supports) and for IST of Code Class 1, 2, and 3 pumps and valves; the 1992 Edition with the 1992 Addenda of Subsections IWE and IWL of the ASME BPV Code for ISI of Class MC and Class CC components and their integral attachments; the 1995 Edition with the 1996 Addenda of Appendix VIII of the ASME BPV Code, Section XI, with limitations and modifications specified in 10 CFR 50.55a (as discussed in a proposed rule dated April 27, 1999);
 - B The 1995 Edition with the 1996 Addenda of the ASME Code with the limitations and modifications specified in the NRC regulations, or
 - C A later version (e.g., the 1998 Edition) of the ASME Code with appropriate limitations and modifications;
- 2. Retain the current 120-month ISI/IST update requirement; and
 - 3. Authorize plant-specific alternatives to the 120-month ISI/IST update requirement.

The staff recommends Option 1.B in the draft Commission paper.

Messrs. Eisenberg and James Perry (of ASME) stated that ASME opposes the NRC supplement to eliminate the 120-month update requirement and noted that the benefits gained in implementing the 120-month update outweigh the costs of making the update. In a letter to the staff dated June 16, 1999, ASME provided the following reasons for opposing the elimination of the 120-month update requirement.

- Updating the ISI and IST programs is cost beneficial.
- The ASME Code is moving from being prescriptive to being more risk-informed and performance-based.
- The ASME standards development process provides a multiplier effect.
- Eliminating the requirement is contrary to Public Law 104-133 and Office of Management and Budget (OMB) A-119.

Mr. Kurt Cozens (Nuclear Energy Institute [NEI]) and Mr. Steve Lewis (Entergy) discussed their reasons for supporting the elimination of the 120-month update requirement. In a letter to the staff, NEI gave the following reasons for supporting the elimination of the 120-month update requirement:

- ASME Code changes made between 1992 and 1998 have no safety significance,
- The 1989 edition of the ASME Code is an acceptable baseline for ISI and IST programs,
- Regulatory stability will be increased,
- Regulatory burden will be reduced between \$550,000 and \$1,550,000 per plant,
- The need for licensees to resubmit relief requests will be eliminated,
- A greater consistency between licensee programs will result,
- There will be no impact on licensees adopting risk-informed programs, and
- The frequency of submitting relief requests will not change.

Conclusion

The Committee submitted a report on this matter to NRC Chairman Meserve, dated December 8, 1999.

III. Low-Power and Shutdown Operations Risk Insights Report

[Note: Mr. Michael T. Markley was the Designated Federal Official for this portion of the meeting]

Dr. George Apostolakis, Chairman of the ACRS Subcommittee on Reliability and Probabilistic Risk Assessment, introduced this topic to the Committee. He stated that the Subcommittee had met on November 18, 1999, to discuss the staff's draft low-power and shutdown (LPSD) risk insights report (draft NUREG) and plans for completion of the associated draft Commission paper on this matter. He noted that Subcommittee members had expressed concern that the tools available to the NRC staff for evaluating LPSD were not up to an operational state of analysis. He also noted that Subcommittee members questioned why, if the risk is so high, no reactors have melted fuel as a result of LPSD incidents and operations. Dr. Apostolakis stated that for the December 1999 ACRS meeting, the Subcommittee requested the staff to (1) identify what is being done satisfactorily for LPSD, (2)

identify what needs to be done, and (3) provide a concise list of recommendations that are to be included in the staff's paper to the Commission.

NRC Staff Presentation

Mr. Mark Cunningham, Office of Nuclear Regulatory Research (RES), led the discussions for the NRC staff. Ms. Mary Drouin and Ms. Erasmia Lois, RES, provided supporting discussion. Significant points made during the presentation include the following:

- The definition of risk, provided in Regulatory Guide 1.174 for risk-informed changes to the licensing basis, includes consideration of risk contribution from LPSD.
- Risk-informing of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," must consider LPSD risk.
- The NRC reactor oversight process considers LPSD risk through its inspection and assessment programs, including the use of performance indicators.
- Development of LPSD models would enhance the NRC accident sequence precursor program.
- The staff is continuing to collect and evaluate information regarding the significance of LPSD risk, including:
 - core damage frequency (CDF) as a function of full-power CDF
 - configuration risk management using qualitative defense-in-depth and supplemented by probabilistic risk assessment (PRA)
 - sufficiency and availability of plant-specific PRA models
 - development needs for guidance, methods, and analytical studies
- Human actions and uncertainties are major contributors to LPSD risk.
- NRC studies indicate that LPSD risk in terms of early fatalities and latent cancer could be as significant as risk from severe accidents at full power.

Dr. Powers noted that PRA analysts have a lot of trouble handling human actions and questioned the tools being provided to inspectors and regional senior reactor analysts to evaluate LPSD risk. Dr. Powers also noted that about 58 percent of NRC augmented inspection teams were associated with LPSD events and incidents. The staff stated that risk evaluation is currently being addressed using the significance determination process of the reactor oversight program but acknowledged that the regional inspection staff does not have in-depth modeling capability. The staff discussed its schedule for developing tools but noted that funding has not yet been allocated for this activity. Dr. Apostolakis suggested that LPSD needs to be compared to full-power risk and noted that three out of four "cornerstones" are compromised during LPSD.

Drs. Apostolakis and Kress stated that a key problem with LPSD is knowing all possible future configurations. They noted that even outages do not go as planned and suggested that the problem is more difficult for unexpected shutdowns. Dr. Apostolakis also noted that model uncertainty limits the analyst's ability to properly evaluate such configurations. Dr. Kress stated that the likelihood of certain configurations could be evaluated using Bayesian techniques based on historical configurations.

Dr. Apostolakis stated that human performance and human-induced initiators were not sufficiently considered. The staff acknowledged that human performance is less certain. The staff also noted that both the identification and quantification of human performance were difficult. Dr. Apostolakis suggested that an important element that does not receive sufficient attention is time-dependence associated with identifying and applying event sequences. Dr. Kress agreed and stated that time is a major uncertainty.

At the conclusion of the briefing, Dr. Apostolakis recommended that the Committee consider preparing a report during a future meeting when the revised insights report and the associated Commission paper are available for review. Dr. Powers suggested that it might be possible to comment on the LPSD Insights Report within the context of the ACRS report on NRC safety research.

Conclusion

The Committee decided to continue its review during future meetings when the insights report and the proposed Commission paper are available for ACRS review.

IV. License Renewal Application for Calvert Cliffs Nuclear Power Plant and the Associated Safety Evaluation Report

[Note: Mr. Noel F. Dudley was the Designated Federal Official for this portion of the meeting]

Dr. Mario V. Bonaca, Chairman of the Plant License Renewal Subcommittee, noted that this was the fourth ACRS meeting concerning the Calvert Cliffs license renewal application and related safety evaluation report. He stated that Baltimore Gas and Electric Company (BGE) would give a presentation on the plant components that limit continued plant operations and on the process used to ensure compliance with license renewal application commitments. Dr. Bonaca explained that the staff would address specific issues discussed during the Subcommittee meeting on November 18, 1999.

Mr. Barth W. Doroshuk, Constellation Nuclear Services, Inc., gave an overview of the Calvert Cliffs life cycle management program. He explained that no major refurbishment or technical limitations were identified in relation to supporting continued safe plant operations. Mr. Doroshuk presented a list of conceptual projects that BGE was considering for life cycle management reasons. He concluded that Calvert Cliffs can be operated safely and reliably during the renewed license period. The members and Mr. Doroshuk discussed the percentage of the capital budget allocated to life cycle management, the size of the proposed power uprate, the component that would limit continued plant operation, and the details of the planned replacement of electronic processing equipment.

Mr. Doroshuk presented the purpose and uses of one-time age-related degradation inspections (ARDIs) at Calvert Cliffs. The members, the staff, and BGE discussed the threshold for acceptance criteria, staff involvement in the corrective action decisions, emergence of unexpected degradation mechanisms, and the timing of the ARDIs.

Mr. Craig Sly, BGE, presented the Calvert Cliffs commitment management program. He defined commitment, explained the different phases of the program, and described how a commitment is closed. He concluded that commitments are systematically identified and implemented. The members and Mr. Sly discussed the number of open commitments and the use of NEI 99-04, "Guidelines for Managing NRC Commitment Changes."

Mr. Jacob Zimmerman, NRR, presented the status of the license renewal generic issue resolution process. Dr. Samson Lee, NRR, presented the staff's process for evaluating degradation identified by one-time inspections. Mr. Christopher Grimes, NRR, explained how commitments contained in the license renewal application will be incorporated into a plant's licensing basis. Mr. David Mathews, NRR, stated that additional guidance is needed to comply with the proposed amendment to 10 CFR 50.59, "Changes, Tests, and Experiments," when dealing with changes to possible aging management programs. Mr. Robert Hermann explained the basis for the 10-year frequency of ASME Code inspections.

The Members and the staff discussed the process by which the staff will be informed of the results of one-time inspections and the adequacy of the 10-year frequency of ASME Code inspections during the period of extended operation.

Conclusion

The Committee issued a report on this matter to Chairman Meserve, dated December 10, 1999.

V. Proposed Resolution of Generic Safety Issue (GSI)-190 and GSI-166

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

Dr. Robert L. Seale, Acting Chairman of the Plant Systems Subcommittee, introduced this topic to the Committee. He stated that the purpose of this session was to discuss with the NRC staff the proposed resolution of GSI- 190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life."

NRC Staff Presentations

Mr. Edwin M. Hackett led the discussion for the staff. He presented a brief background and the proposed resolution of GSI-190. Mr. Hackett stated that the effects of fatigue for a 40-year initial reactor license period was studied and resolved under GSI-78, "Monitoring of Fatigue Transient Limits for Reactor Coolant System," and GSI-166, "Adequacy of Fatigue Life of Metal Components." These generic issues are addressed in GSI-190 and were recommended by a March 1996 letter from the ACRS.

He stated that the staff conducted a study with technical assistance from Pacific Northwest National Laboratory (PNNL) to resolve this GSI, which examined design basis fatigue transients, the probability of fatigue failure of selected metal components for a 60-year plant life, and the resulting effect on CDF.

The following major conclusions were drawn from the PNNL study:

- Many of the components have cumulative probabilities of crack initiation and through-wall cracks that approach unity within the 40- to 60- year time period. However, other components, often with similar values of fatigue usage factors, show much lower failure probabilities. This is a consequence of the statistical nature of forecasting fatigue crack initiation through use of the cumulative usage factor (CUF).
- The maximum failure rate (through-wall cracks) is in the range of 10^{-2} per year, and those failures were associated with high CUF locations.
- Failure rates for other components having much lower failure probabilities are changed by as much as an order of magnitude from 40- to 60-years, but these components make relatively small overall contributions to the cumulative CDF estimates.
- The maximum CDF on the basis of these calculated failure rates is about 10^{-6} per year. These maximum values correspond to components with very high cumulative failure probabilities, and the failure rates do not change much from 40 to 60 years. The range of CDF was between 10^{-6} to 10^{-15} per reactor year.

On the basis of these low CDFs, the staff concluded that they would not be used as a basis for a cost-benefit backfit analysis to justify imposition of a new regulatory requirement on operating reactors. Therefore, the staff proposed to resolve GSI-190 without recommending any additional new requirements.

Conclusion

The Committee issued a letter on this matter to the Executive Director for Operations, dated December 10, 1999.

VI. A Technique for Human Event Analysis (ATHEANA)

[Note: Mr. Juan D. Peralta was the Designated Federal Official for this portion of the meeting.]

Introduction

Dr. George Apostolakis, Chairman of the Human Factors Subcommittee, stated that the purpose of this briefing was to hear presentations by and hold discussions with representatives of the NRC staff regarding the ATHEANA process, use of the ATHEANA process to evaluate selected operational events, and related matters. Dr. Apostolakis also mentioned that during the Human Factors Subcommittee meeting with the staff on November 19, 1999, the Subcommittee had requested that the staff provide additional information and details to the ACRS on the application of the ATHEANA process to fire risk in order to better clarify and/or quantify its benefits over other, currently available methods.

NRC Staff Presentation

Mr. Mark Cunningham, RES, led the discussions for the staff. Mr. Dennis C. Bley (a contractor to RES) also participated.

Mr. Cunningham presented a brief background on the need for the and basis of the ATHEANA method. He stated that as a result of inconsistencies found between human behavior in serious accidents and the human reliability assumptions in current PRAs, the human reliability analysis (HRA) community concluded that a new HRA method was needed. Current HRA modeling (1) provides inadequate consideration of the impact of plant behavior on personnel information processing, (2) assumes that plant behavior is always well understood by operators, and (3) provides models procedures primarily focused on missed steps.

Mr. Cunningham identified the following objectives for the development of ATHEANA:

- Development of a qualitative and quantitative tool for assessing human performance in PRA that reflects real-world accidents.
- Development of a qualitative tool for retrospectively assessing events and prospectively assessing plant procedures and processes.

- Development of a qualitative and quantitative tool for resolving regulatory and industry issues.

Although recognizing that ATHEANA is a step in the right direction, that is, by focusing on the context within which operators must act as well as on the relevant error mechanisms, Drs. Apostolakis and Powers also expressed concern about the inordinate complexity of searching for error-forcing contexts in the current ATHEANA methodology. Other deficiencies in the current ATHEANA method identified by the Committee include lack of a screening process that allows the user to tailor the ATHEANA method to the rigor demanded by specific circumstances, inadequate treatment of the impact that "safety culture" has on the decisionmaking process, that is, when plant crews are confronted by situations that involve conflicting safety and economic objectives, and lack of an effective quantification process (as described in Chapter 10 of NUREG-1624, "Technical Basis and Implementation Guidelines for a Technique for Human Event Analysis (ATHEANA)," Rev. 1).

Mr. Cunningham acknowledged that more work is needed to better define the role of ATHEANA and of ATHEANA-type analyses in the broader context of HRA. He added, however, that ATHEANA also strengthens HRA by bringing plant operations (and the context of plant events and situations) together with human performance issues. Recognizing that human errors do not simply occur at random but rather as a result of both conditions in the plant and the presence of other performance-shaping factors, Mr. Cunningham stressed that ATHEANA aims at forecasting the circumstances that lead operations personnel to make decisions that result in unsafe plant conditions and at formulating a better understanding as to why such decisions are made.

Dr. Powers asked whether plant crews would be willing to admit that under certain circumstances their actions do not follow prescribed procedural methods, that is, that they rely on "informal rules" to perform certain operational activities either during normal operations or during a transient. Mr. Bley indicated that, in his experience, he found most operations personnel very forthcoming and willing to share their knowledge of, and reliance on, such rules.

Dr. Wallis inquired whether the ATHEANA results have been formally validated or "benchmarked." Mr. Cunningham replied that RES is continuing to look at so-called

real-world accidents in complex technologies but that a formal program to "validate" ATHEANA results is yet to be implemented.

Dr. Powers asked to what extent the peer review comments had influenced the ATHEANA process described in NUREG-1624, Rev. 1. Messrs. Cunningham and Bley replied that the peer review comments had been instrumental in improving and streamlining ATHEANA.

Conclusion

The Committee wrote a letter on this matter to the Executive Director for Operations, dated December 15, 1999.

VII. Subcommittee Report

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

Dr. G. Wallis, Chairman, Thermal-Hydraulic Phenomena Subcommittee, provided the Committee with a report of the results of the Subcommittee meeting on November 11, 1999. The meeting was held to continue review of the NRC staff's program to develop code review guideline documents (i.e., the regulatory guide and the standard review plan section) and to discuss the collaborative project involving the NRC, the Electric Power Research Institute (EPRI), and various utilities to address resolution of issues pursuant to NRC Generic Letter 96-06. This generic letter dealt with potential water hammers in the cooling water systems of containment air coolers. An EPRI Interim Report detailing the project has been issued.

Regarding the staff's code review guidelines, Dr. Wallis said that this meeting represented the first complete look at the two draft documents that comprise the product of this program (the regulatory guide and the standard review plan section). The Subcommittee will continue its review of this matter during a future meeting in January of 2000. Review by the ACRS is currently planned during the February 3-5, 2000 Meeting.

Pursuant to the collaborative project on water hammer, the Subcommittee identified significant shortcomings with this work. Chief among them was that the EPRI Interim Report is poorly written, the experiments conducted do not provide

convincing evidence that the worst case water hammer has been identified for the system of concern, and the recommended calculational methods are not adequately explained. The Subcommittee recommended that the Committee authorize transmittal of written comments detailing concerns identified by the Subcommittee to the staff for its, and EPRI's, consideration.

In response to Committee questions, Messrs. J. Tatum (NRR) and V. Wagoner (Carolina Power & Light Company, representing the cognizant Utility Steering Committee) both said that they appreciate the Subcommittee's concerns. Mr. Wagoner said that the utilities will take steps to address the issues raised during the Subcommittee meeting on November 11, 1999.

VIII. NRC Safety Research Program Report to the Commission

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

The Committee continued discussing and reviewing a preliminary draft of the ACRS/Year 2000 report to the Commission on the NRC Safety Research Program.

Conclusion

The Committee plans to finalize its final draft of the report at the ACRS meeting on February 3-5, 2000.

IX. 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 discussed the response from the EDO dated November 8, 1999, to ACRS comments and recommendations included in its letter dated October 8, 1999, concerning the proposed resolution of Generic Safety Issue 23: "Reactor Coolant Pump Seal Failure"

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

- The Committee discussed the response from the EDO dated November 16, 1999, to ACRS comments and recommendations included in its letters dated May 19, September 17, and October 8, 1999, concerning the proposed modifications to the post accident sampling systems for Westinghouse and Combustion Engineering Owners Groups members licensees' plants.

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

- The Committee discussed the response from the NRC Executive Director for Operations (EDO) dated November 15, 1999, to the ACRS comments and recommendations included in the ACRS report dated October 8, 1999, concerning a draft Commission paper regarding proposed guidelines for applying risk-informed decision making in license amendment reviews.

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

- The Committee discussed the response from the NRC Executive Director for Operations dated November 11, 1999, to ACRS comments and recommendations in the ACRS report dated September 15, 1999, concerning the safety evaluation report of EPRI risk-informed inservice inspection evaluation procedure (EPRI TR-112657, Revision B, July 1999).

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

- The Committee discussed the response from the NRC Executive Director for Operations dated November 8, 1999, to ACRS comments and recommendations in the ACRS letter dated October 12, 1999, concerning proposed plans for developing risk-informed revisions to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

The Committee decided to continue its review of this matter during future meetings.

- The Committee discussed the response from the EDO, dated November 8, 1999, to ACRS dated October 8, 1999, concerning proposed resolution of GSIB-55, "Improved Reliability of Target Rock Safety Relief Valves."

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

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

The Committee heard a report from Dr. Powers and the Executive Director, ACRS, on the Planning and Procedures Subcommittee meeting held on December 1, 1999. The following items were discussed:

- Review of the Member Assignments and Priorities for ACRS Reports and Letters for the December ACRS Meeting

Member assignments and priorities for ACRS reports and letters for the December ACRS meeting were discussed. Letters that would benefit from additional consideration at a future ACRS meeting were discussed.

- Anticipated Workload for ACRS Members

The anticipated workload of the ACRS members through March 2000 was discussed. The objectives were: (1) to review the reasons for the scheduling of each activity and the expected work product and to make changes, as appropriate, (2) to manage the members' workload for these meetings, and (3) to plan and schedule items for ACRS discussion of topical and emerging issues.

- ACRS Retreat

During the September 1999 ACRS meeting, the Committee decided to hold a retreat on January 27-29, 2000 in Florida. At the October 1999 meeting, the Committee authorized the ACRS Chairman and Executive Director to develop a proposed agenda for the retreat, which was finalized during the December 1999 meeting.

- Joint ACRS/ACNW Subcommittee Meeting on Defense-in-Depth

A joint Subcommittee meeting on the role of Defense-in-Depth in transitioning to a risk informed regulatory program will be held on January 13-14, 2000 in Rockville, Maryland. The objective of this meeting is to develop proposed comments and recommendations to the Commission on how to maintain the Defense-in-Depth philosophy as we develop new regulations on the use of PRA and PA. Additionally, the Joint Subcommittee may develop proposed recommendations to the Commission on revising the PRA Policy Statement, structuring of specific regulations and assuring that enhanced use of risk information does not provide an additional burden on licensees. Both reactor and nonreactor staff and former NRC regulators have been invited to participate in this Joint Working meeting. Drs. Apostolakis, Kress, and Powers from ACRS and Drs. Garrick and Hornberger from ACNW will attend the meeting. Mr. Markley, ACRS staff, and Mr. Sorensen, ACRS Fellow, will provide technical support.

- Election of Officers for CY 2000

The election of Chairman and Vice-Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee was held during the December 2-4, 1999 ACRS meeting. In accordance with Section 8.4 of the ACRS Bylaws, those members who did not wish to be considered for any of the above offices notified the ACRS Executive Director in writing at least two weeks prior to the December meeting.

- Annual Ethics Briefing

Mr. John Szabo, OGC, will be scheduled to meet with the ACRS during the February 2000 ACRS meeting to cover any government ethic issues with members and update the Committee on any changes in ethics laws.

- Adams Training for Committee Members

Members are required to take an "overview" training session prior to obtaining the "hands-on" training. ACRS members were provided a videotape which can be viewed in about 1 ½ hours. This will meet the requirement for the prerequisite "overview" training. "Hands-on" training for the members will be scheduled in March 2000.

- Member Issues

Dr. Powers suggested that the Committee establish "task teams" to address the following issues anticipated to be included in a Staff Requirements Memorandum resulting from the November 4, 1999, ACRS meeting with the Commission:

- Applicability and functionality of the importance measures currently being contemplated for risk-informing 10 CFR Part 50. (Suspense Date: February 29, 2000.)
 - Examples of impediments to the increased use of risk-informed regulation, an evaluation of the significance of the impediments and proposed solutions to identified problems. (Suspense Date: February 29, 2000.)
 - Technical adequacy of the performance indicators for the new reactor oversight process, as a measure of safety and risk (Suspense Date: March 15, 2000).
 - Responses to post-briefing questions (yet to be received).
- The Committee discussed its upcoming review of the DOD/DOE Naval Reactors (NR) VIRGINIA class nuclear power plant propulsion system. Given that a minority (3) of the current ACRS membership was present for the Committee's last NR propulsion plant review (SEAWOLF class system), it was agreed that the current membership should meet with NR representatives in the near future to obtain an orientation on the mission, history and status of the NR Program. Accordingly, an orientation briefing has been scheduled for early April at NR's Headquarters Offices.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 469th ACRS Meeting, February 3-5, 1999.

The 468th ACRS meeting was adjourned at 12:40 p.m. on December 4, 1999.

Foundation announces the following meeting:

Name: Special Emphasis Panel in Research, Evaluation and Communication (1210).

Date/Time: December 7-8, 1999; 8:00 a.m. to 5:00 p.m.

Place: National Science Foundation, Room 855, 4201 Wilson Boulevard, Arlington, VA 22230.

Type of Meeting: Closed.

Contact Person: Dr. Bernice Anderson, Program Director, Research, Evaluation and Communication (REC), National Science Foundation, 4201 Wilson Boulevard, Room 855, Arlington, VA 22230. (703) 306-1650.

Purpose of Meeting: To provide advice and recommendations concerning proposals submitted to NSF for financial support.

Agenda: To review and evaluate formal proposals submitted to the Systemic Initiatives and Rural Systemic Initiatives Evaluative Studies Program as part of the selection process for awards.

Reason for Closing: The proposals being reviewed included information of a proprietary or confidence nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are exempt under 5 U.S.C. 552b(c) (4), and (6) of the Government in the Sunshine Act.

Dated: November 12, 1999.

Karen J. York,

Committee Management Officer.

[FR Doc. 99-29998 Filed 11-16-99; 8:45 am]

BILLING CODE 7555-01-M

the elimination of the requirement for updating the inservice inspection (ISI) and inservice testing (IST) programs every 120 months, as well as a proposed Commission paper related to this matter.

10:30 A.M.-12:00 Noon: Low-Power and Shutdown Operations Risk Insights Report (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and its contractors regarding the low-power and shutdown operations risk insights report, as well as a proposed Commission paper related to this matter.

1:00 P.M.-2:30 P.M.: License Renewal Application for Calvert Cliffs Nuclear Power Plant and the Associated Safety Evaluation Report (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding Baltimore Gas and Electric Company's application for renewal of Calvert Cliffs Units 1 and 2 licenses and the associated NRC staff's Safety Evaluation Report.

2:45 P.M.-3:45 P.M.: Break and Preparation of Draft ACRS Reports (Open)—Cognizant ACRS members will prepare draft reports for consideration by the full Committee.

3:45 P.M.-7:00 P.M.: Discussion of Proposed ACRS Reports (Open)—The Committee will discuss proposed ACRS reports on matters considered during this meeting.

Friday, December 3, 1999

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.-10:00 A.M.: Proposed Resolution of Generic Safety Issue (GSI)-190 and GSI-166 (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and its contractors regarding the proposed resolution of GSI-190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life," and GSI-166, "Adequacy of Fatigue Life of Metal Components."

10:15 A.M.-11:45 A.M.: A Technique for Human Event Analysis (ATHEANA) (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the ATHEANA process, use of the ATHEANA to evaluate selected operational events, and related matters.

11:45 A.M.-12:00 Noon: Subcommittee Report (Open)—The Committee will hear a report by the Chairman of the Thermal-Hydraulic Phenomena Subcommittee regarding the industry initiative to address the effects of water hammer in low-pressure fluid systems and the NRC staff's effort to develop code review guideline documentation.

1:30 P.M.-2:00 P.M.: NRC Safety Research Program Report to the Commission (Open)—The Committee will discuss the proposed final report to the Commission on the NRC Safety Research Program and related matters.

2:00 P.M.-2:30 P.M.: Report of the Planning and Procedures Subcommittee (Open)—The Committee will hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business.

2:30 P.M.-2:45 P.M.: Future ACRS Activities (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.

2:45 P.M.-3:00 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.

3:00 P.M.-3:30 P.M.: Election of Officers for CY-2000 (Open)—The Committee will elect a Chairman and Vice Chairman to the ACRS and a Member-at-Large to the Planning and Procedures Subcommittee for CY-2000.

3:30 P.M.-4:30 P.M.: Break and Preparation of Draft ACRS Reports (Open)—Cognizant ACRS members will prepare draft reports for consideration by the full Committee.

4:30 P.M.-7:00 P.M.: Discussion of Proposed ACRS Reports (Open)—The Committee will discuss proposed ACRS reports on matters considered during this meeting.

Saturday, December 4, 1999

8:30 A.M.-2:00 P.M.: Discussion of Proposed ACRS Reports (Open)—The Committee will continue its discussion of proposed ACRS reports on matters considered during this meeting.

2:00 P.M.-2:30 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 September 28, 1999 (64 FR 52353). In accordance with these 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 and questions may be asked only by members of the Committee, its consultants, and staff. Persons desiring to make oral statements should notify Mr. Sam Duraiswamy, ACRS, 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 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 Mr. Sam Duraiswamy 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 Mr. Sam Duraiswamy if such rescheduling would result in major inconvenience.

Further information regarding topics to be discussed, whether the meeting has been

*** 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 will hold a meeting on December 2-4, 1999, in Conference Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The date of this meeting was previously published in the *Federal Register* on Wednesday, November 18, 1998 (63 FR 64105).

Thursday, December 2, 1999

8:30 A.M.-8:45 A.M.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

8:45 A.M.-10:15 A.M.: Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month ISI and IST Programs Update Requirement (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff, American Society of Mechanical Engineers (ASME), and Nuclear Energy Institute (NEI) regarding the proposed final amendment to 10 CFR 50.55a associated with

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 Mr. Sam Duraiswamy (telephone 301/415-7364), between 7:30 a.m. and 4:15 p.m., EST.

ACRS meeting agenda, meeting transcripts, and letter reports are available for downloading or viewing on the internet at <http://www.nrc.gov/ACRSACNW>.

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. EST 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 facilities that they use to establish the videoteleconferencing link. The availability of videoteleconferencing services is not guaranteed.

Dated: November 10, 1999.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. 99-29992 Filed 11-16-99; 8:45 am]

BILLING CODE 7500-01-P

NUCLEAR REGULATORY COMMISSION

Biweekly Notice; Applications and Amendments to Facility Operating Licenses Involving No Significant Hazards Considerations

I. Background

Pursuant to Public Law 97-415, the U.S. Nuclear Regulatory Commission (the Commission or NRC staff) is publishing this regular biweekly notice. Public Law 97-415 revised section 189 of the Atomic Energy Act of 1954, as amended (the Act), to require the Commission to publish notice of any amendments issued, or proposed to be issued, under a new provision of section 189 of the Act. This provision grants the Commission the authority to issue and make immediately effective any amendment to an operating license upon a determination by the Commission that such amendment involves no significant hazards consideration, notwithstanding the pendency before the Commission of a request for a hearing from any person.

This biweekly notice includes all notices of amendments issued, or proposed to be issued from October 23, 1999, through November 5, 1999. The last biweekly notice was published on November 3, 1999 (64 FR 59796).

Notice of Consideration of Issuance of Amendments to Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing

The Commission has made a proposed determination that the following amendment requests involve no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. The basis for this proposed determination for each amendment request is shown below.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received before action is taken. Should the Commission take this action, it will publish in the Federal Register a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Chief, Rules and Directives Branch, Division of Administration Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and should cite the publication date and page number of this Federal Register notice. Written comments may also be delivered to Room 6D22, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland from 7:30 a.m. to 4:15 p.m. Federal workdays. Copies of written comments received may be examined at the NRC Public

Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC. The filing of requests for a hearing and petitions for leave to intervene is discussed below.

By December 17, 1999, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR part 2. Interested persons should consult a current copy of 10 CFR 2.714 which is available at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room). If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of a hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) The nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the



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

November 22, 1999

SCHEDULE AND OUTLINE FOR DISCUSSION
 468TH ACRS MEETING
 DECEMBER 2-4, 1999

THURSDAY, DECEMBER 2, 1999, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
 ROCKVILLE, MARYLAND

- 1) 8:30 - 8:³³~~45~~ A.M. Opening Remarks by the ACRS Chairman (Open)
 1.1) Opening statement (DAP/JTL/SD)
 1.2) Items of current interest (DAP/NFD/SD)
 1.3) Priorities for preparation of ACRS reports (DAP/JTL/SD)
- 2) ³³ 8:~~45~~ - ¹⁷ 10:~~15~~ A.M. Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination
 of the 120-Month ISI and IST Programs Update Requirement (Open)
 (WJS/MME)
 2.1) Remarks by the Subcommittee Chairman
 2.2) Briefing by and discussions with representatives of the NRC
 staff, American Society of Mechanical Engineers (ASME), and
 Nuclear Energy Institute (NEI) regarding the proposed final
 amendment to 10 CFR 50.55a associated with the elimination
 of the requirement for updating the inservice inspection (ISI)
 and inservice testing (IST) programs every 120 months, as
 well as a proposed Commission paper related to this matter.
- ¹⁷ 10:~~15~~ - ³⁵ 10:~~30~~ A.M. ***BREAK***
- 3) ³⁵ 10:~~30~~ - ¹⁰ 12:~~00~~ Noon Low-Power and Shutdown Operations Risk Insights Report (Open)
 (GA/MTM)
 3.1) Remarks by the Subcommittee Chairman
 3.2) Briefing by and discussions with representatives of the NRC
 staff and its contractors regarding the low-power and
 shutdown operations risk insights report, as well as a
 proposed Commission Paper related to this matter.
- ¹⁰ 12:~~00~~ - ¹⁰ 1:~~00~~ P.M. ***LUNCH***
- 4) ¹⁰ 1:~~00~~ - ^{3:00} 2:~~30~~ P.M. License Renewal Application for Calvert Cliffs Nuclear Power Plant
 and the Associated Safety Evaluation Report (Open) (MVB/NFD)
 4.1) Remarks by the Subcommittee Chairman
 4.2) Briefing by and discussions with representatives of the NRC
 staff regarding Baltimore Gas and Electric Company's
 application for renewal of Calvert Cliffs Units 1 and 2 licenses
 and the associated NRC staff's Safety Evaluation Report.
- ^{3:00-3:15} 2:~~30~~ - 2:~~45~~ P.M. ***BREAK***

- 5) ~~2:45 - 3:15~~ ^{5:35 - 5:40} P.M. Future ACRS Activities (Open) (DAP/JTL/SD)
Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee.
- 6) ~~3:15 - 3:30~~ ^{5:15 - 5:20} P.M. Reconciliation of ACRS Comments and Recommendations (Open) (DAP, et al./SD, et al.)
Discussion of the response from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.
- 7) ~~3:30 - 4:00~~ ^{5:40 - 5:55} P.M. Report of the Planning and Procedures Subcommittee (Open) (DAP/JTL)
Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business.
- 8) ~~4:00 - 5:00~~ ^{3:40 - 4:40} P.M. Break and Preparation of Draft ACRS Reports
Cognizant ACRS members will prepare draft reports for consideration by the full Committee.
- 9) ~~5:00 - 7:00~~ ^{4:40 - 07} P.M. Discussion of Proposed ACRS Reports (Open)
Discussion of proposed ACRS reports on:
^{5:20-5:35} 9.1) Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month Update Requirement for ISI and IST Programs (WJS/MME)
^{4:40-5:11} 9.2) License Renewal Application for Calvert Cliffs Nuclear Power Plant (MVB/NFD)
9.3) Low-Power and Shutdown Operations Risk Insights Report (GA/MTM)
^{6:05-7:07} RES report

FRIDAY, DECEMBER 3, 1999, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 10) 8:30 - ~~8:35~~ ³² A.M. Opening Remarks by the ACRS Chairman (Open) (DAP/SD)
- 11) ~~8:35 - 10:00~~ ^{32 08} A.M. Proposed Resolution of Generic Safety Issue (GSI)-190 and GSI-166 (Open) (RLS/AS)
11.1) Remarks by the Subcommittee Chairman
11.2) Briefing by and discussions with representatives of the NRC staff and its contractors regarding the proposed resolution of GSI-190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life," and GSI-166, "Adequacy of Fatigue Life of Metal Components."

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

^{10 - 25}
10:00 - 10:15 A.M. ***BREAK***

12) ^{25 - 12:00 Noon}
10:15 - 11:45 A.M.

A Technique for Human Event Analysis (ATHEANA) (Open)
(GA/JDP)

- 12.1) Remarks by the Subcommittee Chairman
- 12.2) Briefing by and discussions with representatives of the NRC staff regarding the ATHEANA process, use of ATHEANA process to evaluate selected operational events, and related matters.

13) ^{1:30 - 1:55 pm}
11:45 - 12:00 Noon

Subcommittee Report (Open) (GBW/PAB)

Report by the Chairman of the Thermal-Hydraulic Phenomena Subcommittee regarding the industry initiatives to address the effects of water hammer in low-pressure fluid systems, and the NRC staff's effort to develop code review guideline documentation.

12:00 - 1:30 P.M. ***LUNCH***

14) 1:30 - 2:00 P.M.

NRC Safety Research Program Report to the Commission (Open)
(GBW/MME)

- 14.1) Remarks by the Subcommittee Chairman
- 14.2) Discussion of the proposed final report to the Commission on the NRC Safety Research Program.

15) ^{1:55 - 2:07}
2:00 - 2:30 P.M.

Election of Officers for CY 2000 (Open) (JTL/SD/CAH)

Election of Chairman and Vice Chairman to the ACRS and Member-at-Large to the Planning and Procedures Subcommittee for CY 2000.

16) ^{2:52 - 3:55}
2:30 - 3:30 P.M.

Break and Preparation of Draft ACRS Reports

Cognizant ACRS members will prepare draft reports for consideration by the full Committee.

17) ^{3:55 - 7:45}
3:30 - 7:00 P.M.

Discussion of Proposed ACRS Reports (Open)

Discussion of proposed ACRS reports on:

Discussion Time
2:08-2:25p | 4:20-5:25p >
7:16-7:33 >
2:25-2:52 >
3:55-4:20 >
5:40-7:30

- 17.1) Proposed Resolution of GSI-190 and GSI-166 (RLS/AS)
- 17.2) ATHEANA (GA/JDP)
- 17.3) Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month Update Requirement for ISI and IST Programs (WJS/MME)
- 17.4) License Renewal Application for Calvert Cliffs Nuclear Power Plant (MVB/NFD)
- 17.5) Low-Power and Shutdown Operations Risk Insights Report (GA/MTM)

**SATURDAY, DECEMBER 4, 1999, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND**

- 12:40
18) 8:30 - 2:00 P.M. Discussion of Proposed ACRS Reports (Open)
(12:00-1:00 P.M. - LUNCH) Continue discussion of proposed ACRS reports listed under Item 17.
8:30-10:50 RES report
- ~~19) 2:00 - 2:30 P.M. Miscellaneous (Open) (DAP/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.~~

11:05-12:00 discuss ATHEANA letter

12:10-12:25 discuss License Renewal letter

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

468th ACRS MEETING
December 2-4, 1999

NRC STAFF (December 2, 1999)

T. Chan, OCM/RM
B. Ott, OEDO
M. Kotzalas, NRR
D. Terao, NRR
G. Millman
G. Imbro, NRR
T. Scarbrough, NRR
M. Shuashi, NRR
G. Parry, NRR
W. Lyon, NRR
J. O'Brien, NRR
E. Weiss, NRR
C. Holden, NRR
M. Brand, NRR
D. Solorio, NRR
M. Chatterton, NRR
S. Hoffman, NRR
J. Zimmerman, NRR
L. Lois, NRR
S. Lee, NRR
R. Latta, NRR
W. Burton, NRR
S. Coffin, NRR
H. Wang, NRR
P.T. Kuo, NRR
A. Hiser, NRR
C. Grimes, NRR
B. Elliot, NRR
A. Dromerick, NRR
R. Hermann, NRR
W. Bateman, NRR
J. Davis, NRR
W. Liu, NRR
D. Matthews, NRR
W. Norris, RES
F. Cherny, RES
N. Siu, RES
M. Drouin, RES

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

J. Ferguson, ASME
G. Eisenberg, ASME
J. Perry, ASME
W. Hedden, ASME
H. Fontecilla, VA Power
K. Cozens, NEI
D. Raleigh, SERCH
P. Negus, GE
J. Kitagawa, GULC
C. Sly, BGE
G. Gryczlanski, BGE
B. Doroshuk, BGE

STAFF (December 3, 1999)

B. Ott, OEDO
J. Fair, NRR
J. Strosnider, NRR
C. Grimes, NRR
S. Lee, NRR
P. T. Kuo, NRR
G. Imbro, NRR
J. Bongarra, NRR
G. Parry, NRR
J. Tatum, NRR
G. Hubbard, NRR
D. Kalinowsky, RES
M. Mayfield, RES
J. Vora, RES
E. Hackett, RES
J. Muscara, RES
J. Rosenthal, RES
N. Siu, RES
J. Persensky, RES
A. Ramey-Smith, RES
R. Boyle, NMSS

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

R. Nickell, EPRI

F. Simonen, PNNL

D. Bley, Buttonwood Consulting

N. Chapman, SERCH

P. Negus, GE

V. Wagoner, CP&L



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

January 6, 2000

**SCHEDULE AND OUTLINE FOR DISCUSSION
469TH ACRS MEETING
FEBRUARY 3-5, 2000**

**THURSDAY, FEBRUARY 3, 2000, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND**

- 1) 8:30 - 8:45 A.M. Opening Remarks by the ACRS Chairman (Open)
 - 1.1) Opening statement (DAP/JTL/SD)
 - 1.2) Items of current interest (DAP/NFD/SD)
 - 1.3) Priorities for preparation of ACRS reports (DAP/JTL/SD)

- 2) 8:45 - 10:45 A.M. Technical Aspects Associated with the Revised Reactor Oversight Process and Related Matters (Open) (JJB/MVB/MTM)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the NRC staff regarding the technical aspects associated with the revised reactor oversight process, including the updated significance determination process, technical adequacy of the current and proposed plant performance indicators, and related matters.

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

- 10:45 - 11:00 A.M. *****BREAK*****

- 3) 11:00 - 12:00 Noon Proposed Final Amendment to 10 CFR 50.72 and 50.73 (Open) (MVB/NFD)
 - 3.1) Remarks by the Subcommittee Chairman
 - 3.2) Briefing by and discussions with representatives of the NRC staff and the Nuclear Energy Institute (NEI) regarding the proposed final amendment to 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," and 50.73, "Licensee Event Report System."

- 12:00 - 1:00 P.M. *****LUNCH*****

- 4) 1:00 - 2:30 P.M. Proposed Regulatory Guide and Associated NEI Document 96-07, "Guidelines for 10 CFR 50.59 Safety Evaluations" (Open) (JDS/JJB/MME)
 - 4.1) Remarks by the Cognizant ACRS member
 - 4.2) Briefing by and discussions with representatives of the NRC staff and NEI regarding the proposed Regulatory Guide, which endorses guidance in NEI 96-07 associated with the implementation of the revised 10 CFR 50.59 process.

- 2:30 - 2:45 P.M. *****BREAK*****
- 5) 2:45 - 4:15 P.M. Proposed Revision of the Commission's Safety Goal Policy Statement for Reactors (Open) (GA/PAB)
 5.1) Remarks by the Subcommittee Chairman
 5.2) Briefing by and discussions with representatives of the NRC staff regarding proposed revision of the Commission's Safety Goal Policy Statement for reactors and related matters, including industry views.
- Representatives of the nuclear industry will provide their views, as appropriate.
- 6) 4:15 - 5:15 P.M. Break and Preparation of Draft ACRS Reports
 Cognizant ACRS members will prepare draft reports for consideration by the full Committee.
- 7) 5:15 - 7:15 P.M. Discussion of Proposed ACRS Reports (Open)
 Discussion of proposed ACRS reports on:
 7.1) Low-Power and Shutdown Operations Risk Insights Report (GA/MTM)
 7.2) Technical Aspects Associated with the Revised Reactor Oversight Process (JJB/MVB/MTM)
 7.3) Proposed Final Amendment to 10 CFR 50.72 and 50.73 (MVB/NFD)
 7.4) Proposed Regulatory Guide and Associated NEI Document 96-07, "Guidelines for 10 CFR 50.59 Safety Evaluations" (JDS/JJB/MME)
 7.5) License Renewal Process (MVB/RLS/NFD)
 7.6) Response to Follow-up Questions Resulting from the ACRS Meeting with the Commission on November 4, 1999 (DAP/NFD/SD)

FRIDAY, FEBRUARY 4, 2000, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 8) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (DAP/SD)
- 9) 8:35 - 10:30 A.M. Impediments to the Increased Use of Risk-Informed Regulation and Use of Importance Measures in Risk-Informing 10 CFR Part 50 (Open) (TSK/GA/AS)
 9.1) Remarks by the Subcommittee Chairman
 9.2) Briefing by and discussions with representatives of NEI as well as invited experts regarding impediments associated with the increased use of risk-informed regulation and use of importance measures in risk-informing 10 CFR Part 50, and related matters.

Representatives of the NRC staff will provide their views, as appropriate.

10:30 - 10:45 A.M.

*****BREAK*****

10) 10:45 - 11:30 A.M.

Proposed Final Revision of Appendix K to 10 CFR Part 50 (Open)
(GBW/PAB)

10.1) Remarks by the Subcommittee Chairman

10.2) Briefing by and discussion with representatives of the NRC staff regarding the proposed final revision of Appendix K, "ECCS Evaluation Models," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

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

11) 11:30 - 11:45 A.M.

Subcommittee Report (Open) (GA/MTM)

Report by the Chairman of the Reliability and Probabilistic Risk Assessment Subcommittee regarding matters discussed during the December 15-16, 1999 meeting.

Representatives of the NRC staff will provide their views, as appropriate.

12) 11:45 - 12:00 Noon

Report of the Joint ACRS/ACNW Subcommittee (Open)
(TSK/GA/MTM)

Report on matters discussed during the January 13-14, 2000 meeting of the Joint ACRS/ACNW Subcommittee.

12:00 - 1:00 P.M.

*****LUNCH*****

13) 1:00 - 3:00 P.M.

NRC Safety Research Program Report to the Commission (Open)
(GBW/MME)

13.1) Remarks by the Subcommittee Chairman

13.2) Discussion of the annual ACRS report to the Commission on the NRC Safety Research Program.

Representatives of the NRC staff will provide their views, as appropriate.

3:00 - 3:15 P.M.

*****BREAK*****

14) 3:15 - 3:30 P.M.

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

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

- 15) 3:30 - 3:45 P.M. Future ACRS Activities (Open) (DAP/JTL/SD)
Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee.
- 16) 3:45 - 4:30 P.M. Report of the Planning and Procedures Subcommittee (Open) (DAP/JTL)
Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business.
- 17) 4:30 - 5:30 P.M. Break and Preparation of Draft ACRS Reports
Cognizant ACRS members will prepare draft reports for consideration by the full Committee.
- 18) 5:30 - 7:15 P.M. Discussion of Proposed ACRS Reports (Open)
Discussion of proposed ACRS reports on:
- 18.1) Impediments to the Increased Use of Risk-Informed Regulation and Use of Importance Measures in Risk-Informing 10 CFR Part 50 (GA/TSK/AS)
 - 18.2) Technical Aspects Associated with the Revised Reactor Oversight Process (JJB/MVB/MTM)
 - 18.3) NRC Safety Research Program (GBW/MME)
 - 18.4) Response to Follow-up Questions Resulting from the ACRS Meeting with the Commission on November 4, 1999 (DAP/NFD/SD)
 - 18.5) Low-Power and Shutdown Operations Risk Insights Report (GA/MTM)
 - 18.6) Proposed Final Amendment to 10 CFR 50.72 and 50.73 (MVB/NFD)
 - 18.7) Proposed Regulatory Guide and Associated NEI Document 96-07, "Guidelines for 10 CFR 50.59 Safety Evaluations" (JDS/JJB/MME)
 - 18.8) Proposed Revision of the Commission's Safety Goal Policy Statement for Reactors (GA/PAB)
 - 18.9) License Renewal Process (MVB/RLS/NFD)
 - 18.10) Proposed Final Revision of Appendix K to 10 CFR Part 50 (GBW/PAB)

SATURDAY, FEBRUARY 5, 2000, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 19) 8:30 - 2:00 P.M. Discussion of Proposed ACRS Reports (Open)
(12:00-1:00 P.M. - LUNCH) Continue discussion of proposed ACRS reports listed under Item 18.
- 20) 2:00 - 2:30 P.M. Miscellaneous (Open) (DAP/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.**
- **Number of copies of the presentation materials to be provided to the ACRS - 35.**

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE
468th ACRS MEETING
DECEMBER 2-4, 1999

[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 Opening Remarks by the ACRS Chairman
 1. Items of Interest, dated December 2-4, 1999

- 2 Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month ISI and IST Programs Update Requirements
 2. 120-Month Update Requirements for Inservice Inspection and Inservice Testing Programs, presentation by T. Scarbrough, NRR [Viewgraphs]
 3. Proposed to Eliminate 10 CFR 50.55a 120-Month Update Requirements, presentation by ASME [Viewgraphs]
 4. Letter to the Secretary of the Commission regarding FRN (Vol. 64, #80, 4/27/99) Solicitation of Public Comments Regarding Proposed Supplement to the Proposed Rule Published on December 3, 1997 (62FR63892) that Would Eliminate the 120 Month Requirement for Licensees to Update Their Inservice Inspection and Inservice Testing Program [Handout]
 5. Important Section XI SG NDE, Code Changes and Code Cases 1989 Addenda through 1999 Addenda [Handout]

- 3 Low-Power and Shutdown Operations Risk Insights Report
 6. Low Power Shutdown Risk Analysis Program, presentation by RES [Viewgraphs]

- 4 License Renewal Application for Calvert Cliffs Nuclear Power Plant and the Associated Safety Evaluation Report
 7. Calvert Cliffs Life Cycle Management Overview, presentation by B. Doroshuk, President, Constellation Nuclear Services, Inc. [Viewgraphs]
 8. One-Time Inspection and Age Related Degradation Inspection Discussion, presentation by B. Doroshuk, President, Constellation Nuclear Services, Inc. [Viewgraphs]
 9. Calvert Cliffs Commitment Management Program, presentation by Craig Sly, Senior Engineer Nuclear Regulatory Matters, Calvert Cliffs Nuclear Power Plant

10. License Renewal Application for Calvert Cliffs, presentation by Division of Engineering, Division of Safety Systems Analysis, Division of Reactor Program Management, and Division of Inspection Program Management, NRR [Viewgraphs]
- 5 Reconciliation of ACRS Comments and Recommendations
 11. Reconciliation of ACRS Comments and Recommendations [Handout #6.1]
- 6 Future ACRS Activities
 12. Future ACRS Activities - 469th ACRS Meeting, February 3-5, 2000 [Handout #5-1]
- 7 Report of the Planning and Procedures Subcommittee
 13. Final Draft Minutes of Planning and Procedures Subcommittee Meeting - December 1, 1998 [Handout #7.1]
- 11 Proposed Resolution of Generic Safety Issue (GSI)-190 and GSI-166
 14. Resolution of GSI-190, "Fatigue Evaluation of Metal Components for 60-year Plant Life", presentation by E. Hackett, RES
- 12 A Technique for Human Event Analysis (ATHEANA)
 15. ATHEANA, A Technique for Human Event Analysis, presentation by M. Cunningham, RES [Viewgraphs]
- 13 Subcommittee Report
 16. November 17, 1999, T/H Phenomena Subcommittee Meeting [Handout No. 13-1]
- 15 Election of Officers for CY2000

Dana Powers, Chairman
George Apostolakis, Vice-Chairman
Mario Bonaca, Member-At-Large

MEETING NOTEBOOK CONTENTS

TAB

DOCUMENTS

- 2 Proposed Final Amendment to 10 CFR 50.55a Regarding Elimination of the 120-Month ISI and IST Programs Update Requirements
 1. Table of Contents
 2. Proposed Schedule
 3. Status Report, dated December 2, 1999
 4. Draft Commission dated November 18, 1999 [predecisional draft]
 5. ACRS letter dated April 19, 1999
 6. Staff Requirements (COMEXM-99-001), June 24, 1999
 7. ACRS Report dated July 23, 1999

- 3 Low-Power and Shutdown Operations Risk Insights Report
 8. Table of Contents
 9. Proposed Schedule
 10. Status Report dated December 2, 1999
 11. Report dated June 11, 1999, from Dana A. Powers, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Development of a Low-Power and Shutdown Risk Assessment Program
 12. Report dated April 18, 1997, from R. L. Seale, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Establishing a Benchmark on Risk During Low-Power and Shutdown Operations.
 13. US Nuclear Regulatory Commission, Draft NUREG-XXXX, "Low Power and Shutdown Risk, A Perspective Report," provided November 8, 1999

- 4 License Renewal Application for Calvert Cliffs Nuclear Power Plant and the Associated Safety Evaluation Report
 14. Table of Contents
 15. Proposed Schedule
 16. Status Report dated December 2, 1999
 17. Letter dated May 19, 1999, from Dana A. Powers, Chairman, ACRS, to William D. Travers, Executive Director for Operations, NRC, Subject: Interim Letter on the Safety Aspects of the Baltimore Gas and Electric Company's License Renewal Application for Calvert Cliffs Nuclear Power Plant, Units 1 and 2
 18. Memorandum dated November 3, 1999, from David L. Solorio, NRR, to Noel Dudley, ACRS, Subject: Report on Closure of Open and Confirmatory Items in Calvert Cliffs Safety Evaluation Report for Baltimore Gas and Electric

Company's License Renewal Application (predecisional information)

- 11 Proposed Resolution of Generic Safety Issues
 19. Table of Contents
 20. Proposed Schedule
 21. Status Report dated December 3, 1999
 22. Memorandum to John T. Larkins, Executive Director, ACRS, from Ashok C. Thadani, Director, RES, Subject: Generic Safety Issue 190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life," dated November 12, 1999 (without Attachment 2)
 23. Letter to James M. Taylor, Executive Director for Operations, from T. S. Kress, Chairman, ACRS, Subject: Resolution of Generic Safety Issue 78, "Monitoring of Fatigue Transient Limits for the Reactor Coolant System," dated March 14, 1996
 24. Report to Shirley Ann Jackson, Chairman, NRC, from T. S. Kress Chairman, ACRS, Subject: Fatigue Action Plan, dated October 16, 1995

- 12 A Technique for Human Event Analysis (ATHEANA)
 25. Proposed Schedule
 26. Status Report dated December 3, 1999
 27. NUREG-1624, "Technical Basis and Implementation for a Technique for Human Event Analysis (ATHEANA)," Revision 1, "Introduction" (pp 1-1 through 1-19)

- 13 Subcommittee Report
 28. Table of Contents
 29. Project Status Report December 3, 1999
 30. Working Copy, Minutes of November 17, 1999, ACRS Thermal-Hydraulic Phenomena Subcommittee Meeting
 31. NRC draft Regulatory Guide 1.XXX, "Transient and Accident Analysis Methods" (predecisional)
 32. Memorandum to J. T. Larkins, ACRS, from G. Holahan, NRR, Transmitting Draft SRP Section on Analytical Computer Code Reviews