

ACRS-2799  
PDR 9-25192

**CERTIFIED**

TABLE OF CONTENTS  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992

I. Chairman's Report.....	1
II. Key Technical Issues.....	1
III. Integral Systems Testing for the Westinghouse AP-600 Nuclear Plant.....	2
IV. Meeting with Senior NRC Staff Managers.....	6
V. Reactor Operating Experience.....	10
VI. Policies and Practices of Public Utility Commissions....	14
VII. Design Acceptance Criteria for Standardized Nuclear Plants.....	16
VIII. Accident Sequence Precursor Program.....	16
IX. Meeting with Director, NRC Office of Nuclear Regulatory Research.....	17
X. Proposed Revision of 10 CFR Part 100, Appendix A, Seismic and Geologic Siting Criteria for Nuclear Power Plants.....	18
XI. ACRS Subcommittee Activities	
• Safety Research Program Subcommittee Meeting.....	20
XII. Miscellaneous	
• Comments on Federal Advisory Committee Act.....	21
• Individual Committee Members Attending Commission Meetings.....	21
XIII. Executive Session	
• Reports to the Commission.....	21
• Letters.....	22
XIV. Summary List of Follow-Up Matters.....	22
XV. Future Activities.....	23
• Future Agenda.....	23
• Future Subcommittee Activities.....	24

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APPENDICES  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992

- I. Attendees
- II. Future Agenda
- III. Future Subcommittee Activities
- IV. List of Documents Provided to the Committee

that there are no significant nonradiological environmental impacts associated with the proposed action.

*Alternative to the Proposed Action*

Since the Commission concluded that there are no significant environmental impacts associated with the proposed exemption, any alternatives with equal or greater impact need not be evaluated.

The principal alternative would be to deny the requested action. This would not reduce environmental impacts associated with present level of plant activities.

*Alternative Use of Resource*

This action does not involve the use of resources not previously considered in connection with the Final Environmental Statement related to the operation of the SNPS (NUREG-0285), dated October 1977.

*Agencies and Persons Consulted*

The NRC staff reviewed the licensee's request that supports the proposed action, and did not consult other agencies or persons.

*Finding of No Significant Impact*

Based upon the foregoing environmental assessment, the Commission concludes that the proposed actions will not have a significant effect on the quality of the human environment. Therefore, the Commission has determined not to prepare an environmental impact statement for the proposed exemption.

For further details with respect to this action, see the licensee's application of October 9, 1990, as supplemented on November 4 and 8, 1991. These documents are available for public inspection at the Commission's Public Document Room, the Colman Building, 2120 L Street, NW, Washington, DC 20555, and the local public document room at the Shoreham-Wading River Public Library, Route 25A, Shoreham, New York 11786-9697.

Dated at Rockville, Maryland, this 21st day of January 1992.

For the Nuclear Regulatory Commission,

Seymour H. Weiss,

*Director, Non-Power Reactors, Decommissioning and Environmental Project Director, Division of Advanced Reactors and Special Projects, Office of Nuclear Reactor Regulation.*

[FR Doc. 92-1917 Filed 1-27-92, 8:45 am]

GILLING CODE 7590-01-01

**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 February 6-8, 1992, in room P-11J, 7920 Norfolk Avenue, Bethesda, Maryland. Notice of this meeting was published in the *Federal Register* on January 23, 1992.

*Thursday, February 6, 1992*

**8:30 A.M.-8:45 A.M.: Opening Remarks by ACRS Chairman (Open)**—The ACRS Chairman will make opening remarks and comment briefly regarding items of current interest.

**8:45 A.M.-10:00 A.M.: Policies and Practices of Public Utility Commissions (Open)**—The Committee will hear a briefing by and hold a discussion with an invited expert regarding the impact that policies and practices of Public Utility Commissions have on the safety of nuclear power plants.

**10:15 A.M.-12:15 P.M.: Integral Systems Testing for the Westinghouse AP-600 Nuclear Plant (Open/Closed)**—The Committee will review and report on integral systems testing requirements for the Westinghouse AP-600 standardized nuclear power plant.

Representatives of the NRC staff and the Westinghouse Electric Corporation will participate, as appropriate.

Portions of this session will be closed as necessary to discuss Proprietary Information applicable to this matter.

**1:15 P.M.-3:15 P.M.: Meeting with Senior NRC Staff Managers (Open)**—The Committee will hold a discussion regarding proposed reconciliation of ACRS comments and recommendations regarding several safety related and regulatory matters such as consistent use of PRA in the regulatory process, the NRC Regulatory Impact Survey, and criteria to accommodate severe accidents in containment design.

**3:30 P.M.-5:00 P.M.: Reactors Operating Experience (Open)**—The Committee will bear a briefing by and hold a discussion with representatives of the NRC staff regarding recent events and incidents at operating nuclear power plants, including the causes and consequences of a turbine overspeed failure at the Salem Nuclear Generating Station and a main coolant system leak at the Oconee Nuclear Station.

Representatives of the licensees and other elements of the nuclear industry will participate, as appropriate.

**5 P.M.-5:45 P.M.: Key Technical Issues (Open)**—The Committee will

discuss proposed plans for resolution of key technical issues in need of early resolution with respect to future nuclear power plant designs.

**5:45 P.M.-6:30 P.M.: Preparation of ACRS Report (Open)**—The Committee will discuss issues to be addressed in reports related to matters considered during this meeting session.

*Friday, February 7, 1992*

**8:30 A.M.-10:45 A.M.: Design Acceptance Criteria (Open)**—The Committee will review and report on proposed use of Design Acceptance Criteria as a mechanism to define plant design features in the certification process for standardized nuclear plants in accordance with 10 CFR 52.

Representatives of the NRC staff and the nuclear industry will participate, as appropriate.

**10:45 A.M.-12 Noon: Accident Sequence Precursor Program (Open)**—The Committee will hear a briefing by and hold a discussion with representatives of the NRC staff regarding the program to identify and evaluate accident precursors.

Representatives of the nuclear industry will participate, as appropriate.

**1 P.M.-2:30 P.M.: Meeting with Director, NRC Office of Nuclear Regulatory Research (Open/Closed)**—The Committee will hear a briefing by and hold a discussion with the Director, NRC Office of Nuclear Regulatory Research, regarding various aspects of the NRC safety research program, including matters such as the need for an NRC Office of Research, priorities assigned to various portions of the research program, and the NRC research budget and its management.

Portions of this meeting related to anticipated budget and programmatic changes will be closed to discuss information the premature release of which is likely to significantly frustrate the agency in the performance of its statutory function.

**2:45 P.M.-3:45 P.M.: Proposed Revision of 10 CFR Part 100, Appendix A, Seismic and Geologic Siting Criteria for Nuclear Power Plants (Open)**—The Committee will review and report on proposed revision of 10 CFR Part 100, Appendix A to update these regulatory criteria in accordance with developments in this field.

Representatives of the NRC staff and the nuclear industry will participate, as appropriate.

**3:45 P.M.-4:15 P.M.: Reactor Safety Research Program (Open)**—The Committee will discuss the proposed annual ACRS report to the U.S.

Congress on the NRC safety research program and budget.

**4:15 P.M.-4:45 P.M.: Federal Advisory Committee Act (Open)**—The Committee will discuss proposed Committee comments to the U.S. Senate Committee on Government Affairs on the proposed 1991 amendment of the Federal Advisory Committee Act.

**4:45 P.M.-5:45 P.M.: ACRS Subcommittee Activities (Open)**—The Committee will hear and discuss reports regarding the status of assigned ACRS subcommittee activities including items proposed for consideration by full Committee (Planning and Procedures Subcommittee) and a proposed ACRS report to the NRC on its research program (Safety Research Program Subcommittee).

**5:45 P.M.-6:30 P.M.: Preparation of ACRS Reports (Open)**—The Committee will discuss issues to be addressed in reports related to matters considered during this meeting.

*Saturday, February 8, 1992*

**8:30 A.M.-11:30 A.M.: Preparation of ACRS Reports (Open)**—The Committee will complete preparation of ACRS reports regarding items considered during this meeting.

**11:30 A.M.-12:30 P.M.: Miscellaneous (Open)**—The Committee will complete discussion and related action regarding items considered during this meeting and items which were not completed at previous meeting as time and availability of information permit.

Procedures for the conduct of and participation in ACRS meetings were published in the Federal Register on October 1, 1991 (56 FR 49800). In accordance with these procedures, oral or written statements may be presented by members of the public, recordings will be permitted only during those open portions of the meeting when a transcript is being kept 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 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 a prepaid telephone call to the ACRS Executive Director, Mr. Raymond F. Fraley, 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) P.L. 92-483 that it is necessary to close portions of this meeting noted above to discuss Proprietary Information applicable to the matters being considered in accordance with 5 U.S.C. 552b(c)(4) and information the premature release of which is likely to significantly frustrate the agency in the performance of its statutory function per 5 U.S.C. 552b(c)(9)(B).

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 can be obtained by a prepaid telephone call to the ACRS Executive Director, Mr. Raymond F. Fraley (telephone 301-492-8049), between 8 a.m. and 4:30 p.m.

Dated: January 22, 1992

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 92-2021 Filed 1-27-92; 8:45 am]  
BILLING CODE 7590-01-46

**Local Public Document Room for Callaway Plant at the John M. Olin Library, Washington University, St. Louis, Missouri, to Close**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of closing of local public document room for Callaway Plant located at the John M. Olin Library, Washington University, St. Louis, Missouri.

**SUMMARY:** Notice is hereby given that the Nuclear Regulatory Commission (NRC) is closing the local public document room (LPDR) for records pertaining to Callaway Plant located at the John M. Olin Library, Washington University, St. Louis, Missouri.

**DATES:** The Callaway LPDR located at the John M. Olin Library, Washington University, St. Louis, Missouri, will close effective February 1, 1992.

**FOR FURTHER INFORMATION CONTACT:** Ms. Jona Souder, LPDR Program Manager, Freedom of Information Act/Local Public Document Room Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555,

Telephone 301-492-4344, or Toll-Free 1-800-638-8081.

**SUPPLEMENTARY INFORMATION:** Since 1974 the NRC has maintained two LPDRs for Callaway Plant located in Fulton, Missouri. They are the Callaway County Library, Fulton, Missouri, which is about ten miles southeast of the site, and the John M. Olin Library, Washington University, St. Louis, Missouri, which is approximately eighty miles west of the site. The LPDR located in St. Louis, Missouri, was established as an exception to our usual practice of locating LPDRs in the immediate vicinity of nuclear power plants. We agreed to maintain this LPDR to serve the population center in St. Louis during the Agency's review of the proposed Callaway facility. The Callaway Plant was licensed and began commercial operation in 1984.

In a letter dated December 19, 1991, the Director, Industrial Contracts and Licensing, of the Washington University, St. Louis, Missouri, stated they will no longer continue as a LPDR after January 31, 1992. Therefore the Callaway LPDR located in St. Louis, Missouri, will be closed effective February 1, 1992.

Dated at Bethesda, Maryland, this 23rd of January, 1992.

For the Nuclear Regulatory Commission,  
Donnie H. Grimsley,

Director, Division of Freedom of Information and Publications Services, Office of Administration.

[FR Doc. 92-2020 Filed 1-27-92; 8:45 am]

BILLING CODE 7590-01-46

**Cintichem, Inc.; Issuance of a License Amendment To Renew License No. SNM-639 and Approval of Decommissioning Plan**

The Nuclear Regulatory Commission has issued an amendment under the provisions of title 10 of the Code of Federal Regulations, part 70 (10 CFR part 70) to Cintichem, Inc. authorizing the renewal of Special Nuclear Materials License SNM-639 for the purpose of decommissioning the Cintichem facility located in Tuxedo, New York. This amendment also approves the decommissioning plan submitted by the licensee.

The licensee requested this amendment in a letter dated April 17, 1991, which referenced a decommissioning plan, an environmental report and a radiological accident analysis that had previously been submitted to the Commission on October 19, 1990.





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

January 30, 1992

SCHEDULE AND OUTLINE FOR DISCUSSION  
382ND ACRS MEETING  
FEBRUARY 6-8, 1992

Thursday, February 6, 1992, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

- 1) 8:30 - 8:45 A.M. Opening Remarks by ACRS Chairman (Open)  
1.1) Opening statement (DAW/SD)  
1.2) Items of Current Interest (DAW/RFF)
- 2) 8:45 - 10:00 A.M. Key Technical Issues (Open)  
TAB 2-----  
2.1) Comments by members and discussion of Committee plans to resolve key technical issues identified by the ACRS (DAW, et al./MME)
- 10:00 - 10:15 A.M. BREAK
- 3) 10:15 - 12:15 P.M. Integral Systems Testing for the Westinghouse AP600 Nuclear Plant (Open/Closed)  
SEE HANDOUT---  
3.1) Comments by ACRS Subcommittee Chairman (IC/PAB)  
3.2) Meeting with representatives of the NRC staff and the Westinghouse Electric Corporation  
(Portions of this session will be closed as necessary to discuss Proprietary Information applicable to this matter.)
- 12:15 - 1:15 P.M. LUNCH
- 4) 1:15 - 3:15 P.M. Meeting with Senior NRC Staff Managers (Open)  
4.1) Comments by ACRS Chairman (DAW/GRQ)  
4.2) Meeting with senior NRC staff managers regarding the NRC staff-ACRS interface including issues such as reconciliation of ACRS comments and recommendations
- 3:15 - 3:30 P.M. BREAK

- 5) 3:30 - 5:00 P.M. Reactor Operating Experience (Open)  
 5.1) Comments by ACRS Subcommittee Chairman regarding the turbine overspeed event at the Salem nuclear plant and the instrument line rupture event at the Oconee plant (JCC/PAB)  
 TAB 5-----  
 5.2) Briefing by and discussion with representatives of the NRC staff and licensees, as appropriate
- 6) 5:00 - 6:00 P.M. Policies and Practices of Public Utility Commissions (Open)  
 6.1) Comments by Designated Committee member regarding policies and practices of Public Utility Commissions that impact on nuclear power plant safety (WK/HA)  
 TAB 6-----  
 6.2) Briefing by Dr. Stephen H. Hanauer, Technical Analysis Corporation
- 7) 6:00 - 6:30 P.M. Preparation of ACRS Reports (Open)  
 7.1) Discuss proposed Committee report regarding integral systems testing for the Westinghouse AP600 nuclear plant (IC/PAB)  
 7.2) Discuss other reports, as appropriate

Friday, February 7, 1992, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

- 8) 8:30 - 10:45 A.M.  
 (9:30-9:45 Break) Design Acceptance Criteria for Standardized Nuclear Plants (Open)  
 8.1) Comments by ACRS Subcommittee Chairman regarding proposed use of design acceptance criteria as a basis for certification of standardized nuclear power plants per 10 CFR part 52 (CJW/MME)  
 TAB 8-----  
 8.2) Meeting with Representatives of the NRC staff and the nuclear industry, as appropriate
- 9) 10:45 - 12:00 Noon Accident Sequence Precursor Program (Open)  
 9.1) Comments by ACRS Subcommittee Chairman (HWL/TSR)  
 TAB 9----- 9.2) Briefing by and discussion with representatives of the NRC staff regarding the status of this program

- 12:00 - 1:00 P.M. LUNCH
- 10) 1:00 - 2:30 P.M. Meeting with Director, NRC Office of Nuclear Regulatory Research (Open)  
 TAB 10---- 10.1) Comments by ACRS Subcommittee Chairman (IC/EGI)  
 10.2) Meeting with Eric S. Beckjord, Director, NRC Office of Nuclear Regulatory Research, to discuss items of mutual interest
- 2:30 - 2:45 P.M. BREAK
- 11) 2:45 - 4:45 P.M. Proposed Revision of 10 CFR Part 100, Appendix A, Seismic and Geologic Siting Criteria for Nuclear Power Plants (Open)  
 TAB 11---- 11.1) Comments by ACRS Subcommittee Chairman regarding proposed changes in 10 CFR 100, Appendix A, to update seismic and geologic criteria and related methodology (CPS/MDH)  
 11.2) Meeting with representatives of the NRC staff and the nuclear industry, as appropriate
- 12) 4:45 - 5:45 P.M. ACRS Subcommittee Activities (Open)  
 12.1) Report of ACRS Planning and Procedures Subcommittee Meeting on 2/5/92 regarding proposed Committee activities and related matters (DAW/RFF/RPS)  
 TAB----- 12.2) Report of ACRS Safety Research Program Subcommittee regarding the scope and nature of a comprehensive report to the NRC on the safety research program (IC/PAB)
- 13) 5:45 - 6:30 P.M. Preparation of ACRS Reports (Open)  
 13.1) Discuss proposed Committee reports on items considered during this meeting

Saturday, February 8, 1992, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

- 14) 8:30 - 11:30 A.M. Discuss proposed Committee reports regarding: (Open)  
 14.1) NRC Safety Research Program (Annual ACRS Report to U.S. Congress) (IC, et al./PAB)  
 14.2) Federal Advisory Committee Act

- (Proposed 1991 amendment) (HWL/RFF)
- 14.3) Items considered during this meeting including:
- 14.3-1) Integral Systems Testing for the AP600 Nuclear Plant (IC/PAB)
  - 14.3-2) Design Acceptance Criteria for Certification of Standard Plants (10 CFR Part 52) (CJW/MME)
  - 14.3-3) Proposed Revision of 10 CFR Part 100, Appendix A, Seismic and Geologic Siting Criteria for Nuclear Power Plants (CPS/MDH)
  - 14.3-4) Accident Sequence Precursor Program (HWL/TSR)
- 14.4) Additional items, as appropriate

15) 11:30 - 12:15 P.M.

Reconciliation of ACRS comments and Recommendations (Open)

- 15) Discuss replies received from the EDO regarding ACRS comments and recommendations since the 381st ACRS meeting (January 9-11, 1992) (DAW, et al./SD)

16) 12:15 - 12:30 P.M.

Miscellaneous (Open)

- 16.1) Complete discussion of other items, as appropriate



**CERTIFIED**

MINUTES OF  
382ND ACRS MEETING  
FEBRUARY 6-8, 1992

The 382nd meeting of the Advisory Committee on Reactor Safeguards was held at Room P-110, 7920 Norfolk Avenue, Bethesda, Md., on February 6-8, 1992. The purpose of this meeting was to discuss and take appropriate action on the items listed in the attached agenda. The entire meeting was open to public attendance, with the exception of a portion that dealt with the discussion of proprietary information related to the Westinghouse AP-600 nuclear plant.

A transcript of selected portions of the meeting was kept and is available in the NRC public Document Room. (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: D. Ward (Chairman), P. Shewmon (Vice Chairman), J.C. Carroll, I. Catton, W. Kerr, T. Kress, H. Lewis, C. Michelson, C. P. Siess, J. E. Wilkins, and C. J. Wylie (Appendix I provides the list of other attendees.)

I. CHAIRMAN'S REPORT

Note: Mr. R. F. Fraley was the Designated Federal Official for this portion of the meeting.

Items of Current Interest

Mr. D. Ward, Chairman, opened the meeting at 8:30 a.m. on February 6, 1992. He discussed several items of current interest, including 1) the meeting schedule, 2) new members, 3) office support from new staff, etc.

Dr. Wilkins suggested that time be set aside during the meeting to discuss subcommittee assignments for new members and consideration be given to the replacements for the members who will leave the Committee during 1992.

II. KEY TECHNICAL ISSUES

NOTE: Dr. M. El-Zeftawy was the Designated Federal Official for this portion of the Meeting.

Mr. Ward presented a proposed memorandum to file providing a summary of conclusions with regard to assignments for key technical issues that the Committee has identified for proactive

resolution in connection with the certification reviews of advanced light water reactors.

Dr. Lewis was concerned that the proposed memorandum documenting the Committee's plans might constrain the Committee from taking future action that differs from the program described in the memorandum. Mr. Ward suggested that this memorandum would serve as a notice of serious intent as to how the Committee would spend its time during the next few months, but that it is not intended to be a complete list of everything that the Committee will be working on and would not constrain the Committee from coming up with new issues.

The Committee agreed on the contents of the memorandum to file regarding key technical issues to be considered by the ACRS in coming months. This memorandum documents plans for ACRS study of certain key technical issues discussed during the November 22-24, 1991, ACRS retreat held in Baltimore, MD and subsequent discussions during the 381st ACRS meeting, January 9-11, 1992. The Memo to File was dated February 7, 1992.

### III. INTEGRAL SYSTEMS TESTING FOR THE WESTINGHOUSE AP600 NUCLEAR PLANT

NOTE: Mr. P. Boehnert was the Designated Federal Official for this portion of the meeting.

#### Subcommittee Chairman's Report

Dr. Catton noted that the Thermal Hydraulic Phenomena Subcommittee met to discuss the need for high-pressure integral systems testing for the Westinghouse AP600 design on December 17, 1992. The consensus of the Subcommittee members and consultants was that high-pressure integral systems testing should be performed by both the staff and Westinghouse. Dr. Catton opined that while he believes such testing is needed, he doesn't see the need for two separate test programs.

Dr. Catton noted that the staff has issued SECY-92-030, Integral System Testing Requirements for Westinghouse's AP600 Plant, dated January 27, 1992. NRR is insisting that Westinghouse either perform what the staff believes is necessary testing or modify the AP600 design to include a high-pressure injection system. The NRC staff's concerns with the fidelity of the Westinghouse codes, vis-a-vis small-break LOCA modeling, was also noted. Dr. Kerr expressed concern that the integral systems test program suggested may not address all the issues that trouble the staff.

Mr. Ward questioned whether the test program being proposed by the staff would impact the schedule for completion of the certification review of the AP600 plant. Dr. Catton indicated that the longer it takes the Commission to make a decision on the need for the high pressure test program, the more likely it is that the certification schedule for the AP600 design will be impacted.

#### NRC-NRR Presentation

Mr. A. Thadani (NRR) noted that the staff's proposed position calling for a high-pressure integral system test program for the AP600 design was discussed during the January ACRS Meeting and is now documented in SECY-92-030. The staff plans another working-level meeting with Westinghouse representatives on February 25, 1992; a meeting with the Commission to discuss this matter is now scheduled for March 11, 1992.

In response to questions from Mr. Carroll and Dr. Catton, staff representatives indicated that their objectives are to ensure the following:

- Westinghouse adequately performs their design responsibilities,
- Adequate testing is performed even though Westinghouse may not see the need for it, and
- A deeper understanding of the AP600 design is developed.

In response to a question from Mr. Ward concerning the scheduled times that information resulting from the proposed test program is needed for the AP600 review, Mr. Thadani indicated that it should be possible to delay resolution of some "beyond the traditional" testing past the date of design certification; however, Commission guidance is now being sought on this matter.

Mr. R. Jones (NRR) noted the following points in his presentation:

- NRR believes that large-scale high-pressure ISTs are necessary for design certification of AP600, or that Westinghouse must modify the AP600 design to provide increased assurance of high-pressure integral system performance.
- The staff has discussed its concerns with regard to the need for the high-pressure integral systems tests with Westinghouse on several occasions and dialogue will continue (via a meeting scheduled for February 25, 1992).

- A number of concerns have been raised about the response of the plant during some accidents and the performance of the passive safety systems, particularly at high pressures. These concerns center on: interaction of passive safety systems, and interactions between safety and non-safety systems. In response to Mr. Carroll, Mr. Jones said he expects that the Westinghouse low-pressure test facility (located at Oregon State University) will model non-safety components.

Dr. Wilkins inquired as to which phenomena unique to AP600 that the available thermal-hydraulic codes have problems modeling. The staff indicated that the phenomena of condensation and thermal stratification are of concern. In response to comments from Dr. Catton, Dr. Shotkin indicated that RES has begun the use of the CSAU process to target the areas of data needs vis-a-vis the RELAP5 code.

Dr. Kerr suggested that the staff identify the specific issues of concern and develop a listing of the specific test facility parameters needed.

#### Westinghouse Presentation

Mr. H. Bruschi and Dr. L. Hochreiter provided comments in response to the comments of the NRC staff noted above. Mr. Bruschi indicated that Westinghouse is committed to demonstrating the performance of the AP600 safety systems and has agreed with the staff on a process to accomplish this. Westinghouse will provide written response to the staff's concerns; meetings with the staff have been scheduled for February 25 and with the Commission on March 11 to complete this process.

Dr. Catton asked for Westinghouse to comment on the fact that the Japanese Mitsubishi Company has decided to add a high-pressure injection (HPI) system to their AP600 design. Mr. Bruschi said that it is his understanding that Mitsubishi is undertaking a hybrid of passive/active system designs in an attempt to combine the best of both approaches. He also indicated that the Mitsubishi Company Chairman, Y. Iado, claims that the design was not progressing.

Dr. L. Hochreiter noted the following points:

- NRC and Westinghouse have an agreed-upon process to resolve the need for Westinghouse to conduct high-pressure integral systems tests. Westinghouse will respond in writing to a listing of concerns that NRC believes justify the need for the tests.



- Based on a reading of the staff's concerns, it is apparent that the staff does not have a sufficient understanding of the AP600 design details.
- Future discourse on this matter needs to focus on the explicit reasons that NRC believes require high-pressure ISTs, in lieu of the Westinghouse currently proposed test program. Westinghouse would then attempt to understand these additional staff concerns and address them.
- Westinghouse believes that their present AP600 test program is sufficient to meet the requirements of 10 CFR Part 52.

Drs. Catton and Kress asked if Westinghouse has validated their analytical tool (Westinghouse COBRA/TRAC) for modeling of high-pressure conditions for the AP600 design. Dr. Hochreiter indicated that it has been checked to ensure it can correctly model high-pressure phenomena; in some cases, the code models were modified in order to better address such events as flow stratification.

As a result of further discussion, the Westinghouse representatives indicated that they have not yet provided the staff with detailed information concerning the particulars of the AP600 design.

#### NRC-RES Presentation

Dr. B. Sheron made the following comments regarding the status of the proposed program of confirmatory integral system testing in support of the AP600 design:

- The issue of the need for integral system testing is more philosophical than technical. The industry has long held that codes can be used to bridge the gap between separate effects tests and integral plant behavior. The staff believes such an approach requires a leap of faith that is not justified, given the many years of experience with the codes now in use.
- RES has issued SECY-92-037, Need for NRC-Sponsored Confirmatory Integral System Testing of the Westinghouse AP600 Design, dated January 31, 1992. The Paper discusses the following options that the staff believes are available to them regarding use of a test facility: use an existing (U.S.) facility, build a new facility, or use an existing foreign facility. Building a new facility is the preferred option, but availability of the required funding (about \$25 million) is doubtful. Another option is to enter a

cooperative program with Westinghouse; however, this option must await pending decisions by Westinghouse.

- Given the many decisions that must be made, RES proposes, at this time, to proceed with use of the ROSA-IV facility that is located in Japan. The SECY Paper also seeks Commission guidance on a number of policy issues that arise from the confluence of NRR, RES, and Westinghouse actions associated with this matter.

- RES asked two consultants to evaluate the usefulness of the ROSA-IV facility vis-a-vis simulation of AP600. While the consultants concluded that ROSA will not adequately simulate asymmetric behavior, they did indicate that the data that would be obtained from ROSA would be worth the approximate \$5-million cost.

Dr. Catton indicated that given the limitation concerning simulation of asymmetries, use of ROSA-IV may be a waste of money.

As a result of a caucus subsequent to the above presentations, the Committee decided to defer further action on this matter during this meeting. Rather, the Committee will continue review of this topic during its March Meeting; the Thermal Hydraulic Phenomena Subcommittee will hold a meeting to explore the details relevant to the positions of the staff and Westinghouse on this matter. [Note: the Thermal Hydraulic Phenomena Subcommittee has scheduled a meeting for March 3, 1992 to review this item.]

#### IV. MEETING WITH SENIOR NRC STAFF MANAGERS

Note: Mr. G. Quittschreiber was the Designated Federal Official for this portion of the meeting.

##### Introductory Remarks: James Sniezek

Mr. Sniezek opened the session by noting that some of the "pointed letter exchanges between the staff and ACRS have not been in the best interest of the Commission, ACRS, the staff or the Agency as a whole." He asked that different Office Directors discuss and exchange views on some of those areas that the ACRS and staff have had different views.

##### Regulatory Impact Survey: T. Murley

With regard to the ACRS comments on the Regulatory Impact Survey, Dr. Murley noted that there has been a significant downward trend in the NRC issuance of new requirements during the past several

years, including a large drop in the issuance of new generic letters, NRC Bulletins, and the number of NRC inspections.

Mr. E. Jordan, AEOD, expressed concern of a possible "chilling effect" that's occurring among the staff in initiating new correspondence because of the belief that management, industry and the ACRS are not receptive to changes. Mr. Sniezek mentioned that some chilling was good but that the swing should not go too far with overreaction and screening of new risk significant issues. Dr. Murley noted that NRR has gone so far as to tell people not to charge personnel work time to resolution of some of the old issues.

In response to comments from Mr. Carroll concerning resident inspectors imposing their own requirements, Dr. Murley said the NRC has created 8 new full-time team leader positions in the headquarters for work in the regions. These full-time team leaders are specialized in those areas in which they perform inspections as well as knowing how to lead a team and make findings. These leaders are professionals in leading teams and that is their only responsibility.

Dr. Murley said that one of the most important functions of the regional administrator is to pick the best available people to serve as resident inspectors. Mr. Sniezek noted that there are about 190 inspectors coming from different backgrounds and they are bound to have different personalities. One thing that has been changed due to the Regulatory Impact Survey is that the staff now has a requirement that regional supervisors go to the plants periodically to talk to utility personnel concerning those areas for which the regional supervisor is responsible. It was mentioned that inconsistencies between different inspectors from different backgrounds are going to exist; however, the impact from this can be minimized since regional supervisors will get feedback from their utility counterparts about specific inspector interpretations.

With regard to the Committee's comments on the complex of coherence questions with regard to the NRC's activities, Dr. Murley said that this was not brought up as an issue by the licensees as being a problem.

Dr. Lewis mentioned that during a recent ACRS subcommittee meeting concerning accident sequence precursors (ASPs), he found that PRAs under that program were disconnected from other PRA programs in the NRC. Dr. Murley said that work would be done to provide more coordination of reviewer activities. Mr. Jordan said he was puzzled by the comment from Dr. Lewis since there is significant rotation among offices.

With regard to the Committee's comment on technical competence of staff, Dr. Murley noted that staff management recognizes this as a problem and attributes it largely to the fact that emphasis has been switched to plant operations over the past several years. Now that new plant designs are being reviewed, staff expertise is lacking, but new hiring is being done in the needed areas.

Dr. Murley noted that with regard to the Committee's comments on the Regulatory Impact Survey and the Systematic Assessment of the Licensing Program (SALP), the Commission did listen and in a December 20, 1991 SRM it did ask the staff to undertake a comprehensive review of the SALP.

Dr. Murley noted that the Commission did instruct the staff to have a continuous feedback process with the industry. He mentioned the staff's perceived need for high pressure tests on the Westinghouse AP-600 design as an example. Dr. Murley noted that a reason for some of the present disagreement between the staff and Westinghouse in this area is due to the early involvement of the staff. Dr. Murley noted that there are limits on how closely staff can work with industry and maintain credibility. Dr. Murley noted that there were many discussions with Westinghouse during the past months on this issue, such that he found it hard to believe that Westinghouse management did not know the staff position on testing needs for the AP600 design.

#### Severe Accident Letter Response

Dr. Murley discussed the Committee's December 18, 1991, report on severe accident issues, suggesting that generic rulemaking was preferable for passive plants. He noted that the Commission issued guidance to the staff on January 28, 1992 to proceed with generic rulemaking as quickly as possible.

#### Comments on Containment Requirements Recommendations

Dr. Murley noted that the staff has some disagreement with the Committee's recommendations on containment requirements with regard to making them General Design Criteria. He noted that design criteria are treated very conservatively with overreaction, e.g., large-break LOCAs. The staff is recommending to the Commission that these requirements not be made a part of the General Design Criteria. Murley said that an Advance Notice of Rulemaking as a revision to 10 CFR Part 50 is scheduled for April/May 1992. The Committee letter and the son of SECY 90-016 will be guidance to the staff on this matter.



Response to Comments on PRAs

In response to a question from Dr. Kerr on how PRAs can be used in severe accident consideration, Dr. Speis said that the NRC staff is preparing a document that will be sent to the ACRS on the best way to do a PRA.

Dr. Speis suggested that with regard to the July 19, 1991 ACRS letter on PRAs, the staff is looking at using a "standard language" for PRA terms and use, as the Committee suggested. With regard to the staff holding a retreat to discuss this matter, a Group is being set up to look at many things the Committee has suggested. The staff will brief the Committee on the document that the Group prepares. Dr. Speis said a second review group will be established to review a few specific trial issues. The staff would appreciate the Committee's input on this matter as it progresses. He suggested that this effort will be finished in about a year. It was noted that this is not the same effort called for in the Severe Accident Policy Statement to be completed in about 18 months.

Resolution of Generic Item B-56, Diesel Generator Reliability

Mr. Heltemes, RES, discussed the actions that have taken place as a result of the recent ACRS comments on this matter. He said that they have edited their SECY Paper and asked for Commission concurrence to solicit public comments on the following questions:

- Is the rule necessary?
- Is there a way to properly use statistics?
- Is there a method other than a trigger value that can be used?

Dr. Lewis suggested that the response to the ACRS should have been sent to the Committee before it was sent to the Commission. Mr. Sniezek suggested that this was a tough issue that was treated differently than normal with the draft response to the ACRS going to the Commission. Dr. Lewis noted that as a result of an informal meeting with the staff, he thought the Committee would see the SECY Paper again before it went to the Commission. Dr. Lewis suggested that the proposed Rule should not be sent out for public comment at this time since there are unresolved issues on this matter.

Future Meeting with Senior Management

Members of the Committee expressed their satisfaction with the person-to-person response they received on the ACRS reports discussed at this session.

It was noted that the EDO has been directed by the Commission to respond to each ACRS report. The EDO has suggested that management meet with the Committee, not a subcommittee, before the Committee issues reports on some matters, such that some responses would be more effective if discussed orally -- the ABWR letter is a good example. Dr. Lewis was concerned with independence of the ACRS and suggested that, with regard to the Safety Goal Implementation issue, the Committee develop comments independently.

Dr. Murley asked that when the staff comes down to the ACRS they would like to be treated with dignity and respect as professionals. Dr. Murley asked that the Committee not degrade his people who are sent to give presentations. Dr. Lewis felt that the real problem arises when the staff sends down people who really don't know what they are talking about.

Mr. Sniezek said that senior NRC staff management would be pleased to come to Committee meetings periodically to have discussions similar to the ones held at this meeting.

#### V. REACTOR OPERATING EXPERIENCE

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

The Committee was briefed by representatives of the NRC staff concerning the following events: rupture of an unisolable instrument line that occurred at Unit 3 of the Oconee plant on November 23-24, 1991, and a turbine-generator overspeed and resultant generator fire that occurred at Salem Unit 2 on November 9, 1991.

Oconee Unit 3 Event: Mr. J. Ramsey (NRR) noted the following particulars of the event. With the unit at 100 percent power, the operators received alarms and indication of excessive leakage in the reactor coolant system (RCS). Leakage was at a rate greater than 70 gpm and the source of the leakage was not identified. Thus, the Abnormal Procedures were entered and the "Alert" classification was declared. During the next 40 hours the reactor power was reduced and the plant was brought to a cold shutdown condition. No Augmented Inspection Team was formed; however, the NRC did send a special investigation team to the plant. Highlights of the team's findings include:

- \* At the time of the event, the licensee had indications of some (approximately eight) defective fuel pins with the RCS coolant activity being higher than normal. This resulted in fairly high levels of radioactivity in the containment during and after the event.

- The source of the leak was located on a 3/4-inch instrument line that is connected to a line attached to the apex of the "A" hot-leg candy cane, and is associated with the reactor vessel level indication system (RVLIS). Specifically, the line was found pulled out at a compression fitting (Parker-Hannifin). The fitting failed because it had not been sufficiently tightened.
- During the power reduction evolution, a reactor trip unexpectedly occurred with the unit at approximately 35% power. The cause of the trip was due to difficulties seen in controlling the main feed pumps after the operators took manual control of these (turbine-driven) pumps. The NRC inspection team subsequently determined that the trip resulted from a decision of the operators to intentionally skip a step in a procedure. The licensee was cited for this action (see below).
- Upon investigation, the licensee found a significant number of pressure fittings were out of the nominal manufacturer-suggested make-up range. Specifically, an inspection of all (455) Swagelok and Parker-Hannifin fittings used on the RCS and HPI system resulted in finding 28 percent of them were not sufficiently tightened, pursuant to the manufacturer's directions.
- The licensee sampled a range of components in the containment for damage resulting from exposure to the humid conditions existing during and after the event. Most of the equipment was in satisfactory condition. The major exception was discovered during heat-up when a rod dropped into the core. Investigation revealed that 29 of 69 control rod drives did not meet acceptance criteria when the insulation resistance was measured. The drives were purged with nitrogen and rechecked satisfactory.
- For the most part, the licensee's organization reacted well to the event challenges. The licensee was cited for a Severity Level IV violation when the operators elected to not perform a step in the procedures that led to the reactor trip noted above. The licensee was also cited for another Severity Level IV violation resulting from their failure to possess and use the proper procedures to ensure correct installation of compression fittings.
- No significant release of radioactivity occurred and the dose to the public (calculated at the site boundary) was minimal.

In response to a question from Mr. Michelson, Mr. Ramsey said that the staff judged that the licensee handled the event in a conservative manner. In response to Mr. Carroll, representatives of the staff indicated that Parker-Hannifin provides guidance concerning the proper gap that should exist between the two nuts that join the fitting, but no torque limits are given. Mr. Carroll wondered why no problems were found with such fittings on the other two Oconee units. Further discussion revealed that the licensee was in essence relying on "skill-of-the-craft" for assurance of proper installation.

Salem Unit 2: Details of the event were provided by Mr. J. White (Region I Office) who functioned as the Augmented Inspection Team (AIT) Leader for the staff's investigation of this event.

While performing a (routine) monthly test to verify the operability of the steam turbine automatic mechanical trip mechanisms, the unit experienced a reactor trip followed by a turbine overspeed event. Damage to the Westinghouse turbine and General Electric generator was severe; there were no personnel injuries or damage to safety related equipment from the turbine missiles that penetrated the turbine casing. Specific details include:

- In order to perform the above test, the primary turbine protection system, auto stop trip (AST), is bypassed (by an operator who holds a "deadman" lever in the test position). A redundant back-up system consisting of three electrically actuated solenoid valves is supposed to provide both overspeed protection (two of the valves labeled "OPC-21 & 22"), and assurance of turbine trip upon receipt of a reactor trip signal (the third valve labeled "ET-20").
- During conduct of one of the test procedures, a momentary fluctuation (about 1.5 seconds) of the oil pressure in the AST occurred which resulted in closure of the stop, governor, reheat stop, and intercept valves; a reactor trip signal was also generated.
- Following return of the AST oil pressure to normal, the steam turbine admission valves began to reopen. Solenoid valve "ET-20", which had been activated on the reactor trip signal, failed to function. Activation of ET-20 is designed to ensure that the "dumped" oil in the electro-hydraulic control system cannot reopen the steam admission valves.
- About the time steam began to enter the turbine, the output breakers from the main generator opened disconnecting it from the grid. The unit began to overspeed. The OPC-21 and -22 solenoid valves were to activate at 103% overspeed



to ensure closure of the turbine governor and intercept valves. These solenoids also failed and the overspeed continued.

- The overspeed reached about 2900 RPM; missiles were generated from the low-pressure turbine and the generator (a 600-ton machine) physically moved. A fire erupted at the generator due to rupture of lubricating oil lines and loss of the hydrogen seals (due to severe vibration of the shaft). The operators performing the testing restored the AST system to the "normal" mode, actuated a manual trip of the turbine, and evacuated the area. The duration of the event was about 74 seconds.

- The control room operators declared an "Unusual Event" and began activation of their emergency procedures. The Unusual Event was briefly upgraded to an "Alert" until it could be determined that no safety-related system had been affected by the turbine missiles. The fire was suppressed by a combination of automatic suppression systems and the quick action of the plant fire brigade. All systems related to the RCS functioned normally, and the reactor was brought to cold shutdown without further incident.

An AIT was sent to the site. Highlights of the AIT report include:

- The proximate cause of the event was the failure of the back-up emergency and overspeed protection devices to function, due to mechanical binding of the three solenoid valves; all three valves were manufactured by Parker-Hannifin.

- No preventive maintenance was ever performed on the failed valves, since none was recommended by the vendor. Periodic testing of the valves was not sufficient to verify the hydraulic performance of each device. By design, most of the protective trips were bypassed for conduct of the mechanical trip testing; in this configuration, turbine protection was essentially riding on actuation of the "FT-20" valve.

- There had been several precursor events involving Parker-Hannifin solenoids, three of which occurred at Salem. Of particular note was a reactor trip event of September 10, 1990 at Unit 1, where both of the "OPC" solenoids were found to be failed due to mechanical binding. Both the "OPC" and the "ET" solenoids were replaced. The licensee committed to replacement of these valves on the Unit 2 turbine during a subsequent outage of sufficient duration. Such an outage

occurred in May 1991. However, the station management then elected to defer replacement of the solenoids until the refuelling outage that was scheduled to begin in January 1992.

• The licensee's actions subsequent to the event were judged by the AIT to be effective and correct. The operators properly responded to the event challenge and all necessary actions associated with the Unusual Event actuation were effected properly. A Significant Event Response Team (SERT) was established by the licensee to perform an investigation. The AIT gave the SERT high marks for all aspects of their inquiry.

• Damage investigation shows that the HP turbine sustained minor damage and will be repaired. All three of the LP turbine rotors will be replaced with spare rotors located on site. The generator was destroyed and will be replaced with a similar GE unit. [Note: the original Westinghouse generator on Unit 2 was severely damaged due to a winding failure in 1984. The generator was replaced with a GE unit that had been ordered for (cancelled) Hope Creek Unit 2.]

Questions from the Committee centered on why the operator didn't release the trip override (deadman lever), which would have terminated the overspeed event, at the first sign of trouble. A representative of the licensee explained that the operator had been trained to rely on the functioning of the (disabled) "ET-20" solenoid; i.e., the training led him to believe the unit will trip.

Dr. Kerr asked the NRC staff what new lessons learned emerged from this event. NRR indicated that the failure of turbine blades was unexpected, as it had always been assumed that the rotor would be the first component to fail. Mr. Carroll indicated that the rotor probably would have failed in this event if it had suffered disk cracking. Mr. Carroll suggested that NRR evaluate the industry's practice for the fighting of hydrogen fires in closed buildings. The staff indicated that they have recognized this issue and are investigating the generator fire.

#### VI. POLICIES AND PRACTICES OF PUBLIC UTILITY COMMISSIONS

Note: Mr. H. Alderman was the Designated Federal Official for this portion of the meeting.

Introductory Remarks: Dr. Kerr

Dr. Kerr noted that he had heard Dr. Stephen Hanauer speak at the University of Michigan, and was convinced that what Dr. Hanauer

had said at that time would be of interest to and be relevant to the responsibilities of the ACRS. He then introduced Dr. Hanauer.

Presentation: Dr. Stephen Hanauer

Dr. Hanauer discussed the impact that public utility commissions can have on the safety of operating nuclear plants noting the following points:

- In principle, there is a potential for State economic regulation to impact safety adversely. The problem arises because a utility has multiple obligations and conflicts. Some of these obligations can in principle conflict and then trade offs may occur, which may potentially impact safety.
- The function of State regulation is to establish electrical rates. The utilities have to control the obligations as well as manage the risks. For many years, the price of electricity was so low that there wasn't any problem. The utilities passed the costs on to the rate payers without any questions being raised.
- When the cost of electricity became significant and the utilities applied for large rate increases, the response of the State regulators was to apply prudence reviews. This allowed only costs prudently and reasonably incurred into the rate base, resulting in extensive legal battles.
- To get out of the legal morass, the concept of economic incentive regulation was established. Guidelines such as capacity factor targets were established. When a plant meets or exceeds the capacity factor target it is allowed to share in the reduced power costs to its customers. If it fails to meet the capacity factor target, then it must pay for the increased power costs. This has the potential risk that a utility will not perform safety-related changes in order to save moneys, thereby getting a higher financial return to the utility.
- Dr. Hanauer concluded that there is a potential for State regulation to impact nuclear power plant safety, but as far as he knew this has not occurred.

This was a briefing only. No Committee action was taken on this matter at this time.

## VII. DESIGN ACCEPTANCE CRITERIA FOR STANDARDIZED NUCLEAR PLANTS

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

The Committee prepared and issued a report, Use of Design Acceptance Criteria During 10 CFR Part 52 Design Certification Reviews (Report to Chairman Selin, dated February 14, 1992). It supported the DAC approach for limited applications and encouraged the staff to continue development of the process with appropriate interchange with vendors and the industry.

## VIII. ACCIDENT SEQUENCE PRECURSOR PROGRAM

Note: Mr. H. Alderman was the Designated Federal Official for this portion of the meeting.

### Introduction

Dr. Lewis noted that this discussion on the Accident Sequence Precursor Program is the result of Chairman Selin asking the staff for their analysis of the change in the probability of a core melt accident based on actual events from the 1970s through today and the reasons for the change. Dr. Selin had requested that the staff seek review from one of the advisory committees such as the ACRS.

### Presentations by the NRC Staff

Mr. Kaz Campe, Risk Applications Branch, NRC, was the main presenter for the NRC staff. He noted the following:

- The data from the ASP program was collected on an annual basis and the sum of conditional core melt probabilities was presented.
- The events are actual events rather than hypothetical initiators.
- Information was compiled mostly from the study of LER information. A threshold of core melt probability greater than 10 to the minus 6 was used as a cutoff.
- The conditional core melt probability trend indicated by the data studied shows a decreasing trend in core melt probability.
- A number of things have happened during the 1969 to 1990 time period of the actual reporting and modeling of the data, which complicated the attempt to trend the data.



The Committee members questioned the staff's draft report that concludes that there has been a favorable trend in core-melt probability since the Three Mile Island accident largely due to the regulatory initiatives. Mr. F. Congel, NRR, said that he would give the Committee a copy of a revised letter to the Commission, when it becomes available, that will reflect some balance of credit for the improvement for the downward trend in severe accident risk as shown in the Accident Sequence Precursor Program. The Committee will be given a copy of this letter before it is sent to the Commission.

The Committee prepared and issued a report, Trends in Core Melt Probability (Report to Chairman Selin, dated February 14, 1992). The report concludes that the Committee thinks that the improvement in the safety level of the nuclear industry in the last twenty years is reasonably clear, but that its cause is still unclear.

#### IX. MEETING WITH DIRECTOR, NRC OFFICE OF NUCLEAR REGULATORY RESEARCH (RES)

Note: Mr. E. Igne was the Designated Federal Official for this portion of the meeting.

The Committee was briefed by Mr. Eric Beckjord, RES Director, regarding several topics. The major topics covered and the key points made by Mr. Beckjord included the following:

##### Why NRC Needs an Office of Nuclear Regulatory Research

Mr. Beckjord stated that the Energy Reorganization Act of 1974 established the need for RES to provide "an independent capability for developing and analyzing technical information related to reactor safety, safeguards and environmental protection in support of the licensing and regulatory process."

##### When NRC Should Fund Research

Mr. Beckjord stated that the NRC should fund research in order to protect the independence of the NRC review process and to assure the timely availability of needed results.

##### When Industry Should Fund Research

Mr. Beckjord stated that industry should fund research in order to generate basic design data, demonstrate the adequacy of a proposed design, and to support safety claims.

### Aims of the NRC Research Program

Mr. Beckjord stated that the aim of the NRC research program is to improve the bases of regulatory decisions. About 97 percent of the RES budget is used for this purpose. The other 3 percent is allotted to grants and small business innovation research programs.

### Recent RES Technical Hires

Mr. Beckjord stated that, in CY 1991, 34 technical professionals were hired. In the group, 13 had doctorates, 12 had master's degrees, and 9 had bachelor's degrees.

### Contracting Process

Mr. Beckjord stated that the competitive procurement process takes 6-12 months, while the noncompetitive process takes 3-6 months. Five years ago, only about 12 percent of the NRC-research-funded contracts were funded outside of the national laboratories in the competitive process. Presently about 20 percent of the research is done outside of the national laboratories. Mr. Beckjord stated that his objective is to increase this to about 25 percent.

This was a briefing only. No ACRS action was taken at this meeting with regard to this item.

### X. PROPOSED REVISION OF 10 CFR PART 100, APPENDIX A, SEISMIC AND GEOLOGIC SITING CRITERIA FOR NUCLEAR POWER PLANTS

Note: Mr. M. D. Houston was the Designated Federal Official for this portion of the meeting.

Dr. C. Siess, Chairman of the Extreme External Phenomena Subcommittee, indicated that the Subcommittee had held two meetings to discuss reactor seismic siting criteria and earthquake engineering criteria. He noted that this was part of the staff's proposed actions to decouple siting criteria from plant design. He also noted that the Committee had discussed the nonseismic portion of the siting considerations at the January 1992 meeting and had provided comments in a report dated January 15, 1992.

### NRC Staff Presentation - Dr. A. Murphy and Mr. R. Kenneally, Office of Nuclear Regulatory Research (RES)

Dr. Murphy briefly discussed the historical and technical aspects of the proposed revisions of Appendix A to 10 CFR Part 100, Seismic and Geologic Siting Criteria for Nuclear Power Plants.

He indicated that the current Appendix A is too detailed, inflexible, lacks clarity leading to conflicting interpretations, and does not reflect recent advances in seismology and geology. He noted that many exceptions had been made to those requirements during the licensing of existing plants. He discussed the objective, scope, and application of the revisions. The principal purpose of this effort was to provide stability in license reviews for future plants.

Mr. Kenneally discussed the current revisions in regard to earthquake engineering criteria associated with the revision to 10 CFR Part 100, Appendix A. These included Appendix S to 10 CFR Part 100, Appendix B to 10 CFR Part 100, and Draft Regulatory Guide 1.20 (Seismic Instrumentation), -1017 (Shutdown Acceptance) and -1018 (Plant Restart). He indicated where substantive change had been made in the regulatory requirements or guidance, especially in the definition of Safe Shutdown Earthquake Ground Motion (SSE) and the Operating Basis Earthquake (OBE). He briefly discussed the ongoing studies to support the OBE position.

Dr. Murphy discussed in detail the dual approach of deterministic and probabilistic analyses as required by the new Appendix B to 10 CFR Part 100 to determine the controlling earthquake. The current approach for operating plants under Appendix A to 10 CFR Part 100 uses only a deterministic analysis to determine the safe shutdown earthquake ground motion. Such an analysis does not allow for uncertainties about the seismic hazard to be explicitly incorporated into the ground motion determination. Dr. Murphy indicated that the role of the probabilistic analysis is to ensure that all of the uncertainties have been included in the assessment of the seismic hazard and the role of the deterministic analysis to ensure that the resultant design provides protection against the most likely worst case that should be considered in the design of the plant. He noted that the probabilistic approach had been used during license reviews for Midland and Seabrook.

Dr. Murphy then discussed the four steps involved in a probabilistic seismic hazard analysis. He showed the comparisons that had been determined for four trial sites (current operating plants) and indicated that the remaining 69 sites for current plants would be analyzed during the public comment period. He concluded with a discussion of the rationale for requiring the dual approach listing the strengths and weaknesses of each individual method of analysis. He indicated that the staff would also seek guidance from the industry on the use of the dual approach during the comment period.

Dr. Siess indicated that the staff had provided good arguments for using the probabilistic approach but had not provided convincing arguments for using both approaches. He expressed general agreement with the staff's proposals and agreed that the proposals should be issued for public comment.

#### Committee Action

The Committee prepared and issued a report, Proposed revisions to 10 CFR Parts 50 and 100 and Proposed Regulatory Guides Relating to Seismic Siting and Earthquake Engineering Criteria (Report to Chairman Selin, dated February 14, 1992).

#### XI. ACRS SUBCOMMITTEE ACTIVITIES

##### Safety Research Program Subcommittee Report Regarding the Scope and Nature of an ACRS Report to the NRC on the Safety Research Program

Note: Mr. P. Boehnert was the Designated Federal Official for this portion of the meeting.

Dr. Catton noted that the Safety Research Subcommittee met on January 14, 1992 to discuss the scope, nature, and content of a proposed Committee report to the Commission on the NRC Safety Research Program. He said that the Subcommittee agreed to pursue the following actions:

- The Subcommittee Chairman would prepare a draft report, for the Committee's consideration, that includes a recommendation that the National Academy perform an audit of the RES Office in order to determine the status of actions taken in response to the Academy's recommendations directed toward improvement of the management issues cited in its initial report.
- The Subcommittee would hold at least two additional meetings to address the following issues:
  - A review of the portion of the NRC Five Year Plan that addresses the activities of the RES Office.
  - Review the RES programs associated with safety issues involving the advanced light-water reactor designs. This review will also address the associated research activities being conducted by industry organizations among others.



A draft report was provided to the Committee for discussion. Due to a lack of time, consideration of the report was postponed to the March ACRS meeting. Dr. Catton requested that Committee members review the draft report and provide him any comments and/or suggestions.

## XII. MISCELLANEOUS

Note: Mr. R. F. Fraley was the Designated Federal Official for this portion of the meeting.

### Comments on the Federal Advisory Committee Act

The Committee approved a letter to Senator Glenn's Committee concerning comments on a proposed FACA revision. The ACRS office should call Commissioner Selin's office staff telling them that the Committee has some comments different from the Commission's and should send the Commissioners a courtesy copy informing them of the intent to forward the letter to Senator Glenn. The ACRS Office should note that the Committee has already approved the letter and intends to send it. (It was noted that Dr. Lewis has sent some comments to Senator Glenn on his own.)

### Individual Committee Members Attending Commission Meetings

It was noted that an oral request has come from the SECY office to the ACRS office, asking that the Committee consider sending individual members to Commission meetings with industry and the staff, if requested. The Committee discussed this request; most members felt it would not be good for the ACRS to operate in this role. It should be noted that the Committee discussed this matter and feels that this might not be a problem if individual members attend and speak as individuals; however, there could be a problem of compromising ACRS advice if a member goes to the Commission before the Committee's report is written. Also, there could be a problem with one individual going to a Commission meeting and interpreting a Committee report. The ACRS Office should respond to the SECY request. (Mr. Fraley has the follow-up on this matter.)

## XIII. EXECUTIVE SESSION

### REPORTS TO THE COMMISSION

- Use of Design Acceptance Criteria During 10 CFR Part 52 Design Certification Reviews (Report to Chairman Selin, dated February 14, 1992)

- Trends in Core Melt Probability (Report to Chairman Selin, dated February 14, 1992)
- Proposed revisions to 10 CFR Parts 50 and 100 and Proposed Regulatory Guides Relating to Seismic Siting and Earthquake Engineering Criteria (Report to Chairman Selin, dated February 14, 1992)

#### LETTERS

- A Letter on the Safety Research Program of the Nuclear Regulatory Commission, to the Honorable J. Danforth Quayle, President of the United States Senate, dated February 12, 1992,
- A Letter on the Safety Research Program of the Nuclear Regulatory Commission, to the Honorable Thomas S. Foley, Speaker of the United States House of Representatives, dated February 12, 1992
- A Letter transmitting comments on S.2039, proposed amendment of the Federal Advisory Committee Act, to the Honorable John Glenn, Chairman Committee on Governmental Affairs

#### XIV. SUMMARY/LIST OF FOLLOW-UP MATTERS

Dr. Wilkins suggested that time be set aside at a future meeting to discuss subcommittee member assignments for new members, with consideration given to the assignments for the retiring members. (Mr. R. Fraley has the lead on this item.)

A schedule needs to be developed for the ACRS action regarding the key technical issues listed in the Memorandum to file on this matter, dated February 7, 1992. (Dr. El-Zeftawy has the lead on this item.)

A Thermal Hydraulics Phenomena Subcommittee meeting should be scheduled before the March full Committee meeting to discuss each of the reasons the staff has with regard to the need for a high-pressure integral test facility. This meeting is scheduled for March 3, 1992. (Mr. P. Boehnert has the action on this matter.)

Mr. F. Congel, NRR, said that he would give the Committee a copy of a revised letter to the Commission, when it becomes available, that will clarify the reasons for the downward trend in severe accident risk as shown in the Accident Sequence Precursor Program. The present documents give complete credit for this downward trend to regulatory requirements. The Committee will be given a copy of this letter before it is sent to the Commission. (Mr. H. Alderman has the action on this item.)

Dr. Catton suggested that an ACRS Subcommittee should meet to discuss the NRC's Five Year Plan. Mr. Heltemes said the last Five Year Plan was issued in November of 1991 and that he would provide another copy to the ACRS if needed. (Mr. P. Boehnert has the action on this matter.)

Mr. Beckjord said that SECY 91-224, Elimination of Requirements Marginal to Safety, dated July 29, 1991, provided staff comments on a program conducted to identify, assess, and eliminate NRC regulatory requirements that have marginal importance to safety and yet impose a substantial regulatory burden on licensees. Some of the Committee members did not recall receiving a copy of this Paper and asked that they be sent a copy. (Mr. G. Quittschreiber has the follow-up on this item.)

The Committee members do not want to receive a briefing on the staff's latest review of the Comanche Peak, Unit 2, operating license. The Committee members reviewed this matter in the early 1980s and believe that nothing significant has changed that would affect nuclear safety of the plant since that review.

The ACRS office should forward a copy of the letter that it is sending to Senator Glenn, commenting on the Amendment to the Federal Advisory Committee Act, to the Commissioner's offices. The ACRS office should inform the Commissioners that the Committee has some comments that are different from the Commission's and inform them of the intent to forward the letter to Senator Glenn.

Dr. Catton briefly discussed a draft report on "Comments on the State of the NRC Research Program." He asked that members put their comments concerning the matter on the Bulletin Board to him. This will be scheduled for further discussion at the March ACRS meeting. (Mr. P. Boehnert has the follow-up on this matter.)

The ACRS Office should respond to the request from the Office of the Secretary that the ACRS consider sending individual members to some Commission meetings with industry and the staff. (Mr. R. Fraley has the follow-up on this matter.)

#### XV. FUTURE ACTIVITIES

##### Future Agenda

The Committee agreed to a tentative schedule for the 383rd, March 5-7, 1992 ACRS meeting as contained in Appendix II.

Future Subcommittee Activities

A list of future ACRS Subcommittee meetings was distributed to the Committee members (Appendix III).

The meeting was adjourned at 1:00 p.m., Saturday, February 8, 1992.



APPENDICES  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1972

- I. Attendees
- II. Future Agenda
- III. Future Subcommittee Activities
- IV. List of Documents Provided to the Committee

APPENDIX I  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992  
ATTENDEES

PUBLIC ATTENDEES

February 6, 1992

Theresa Meisenheimer, SERCH Lic.-Bechtel  
Vince San Angelo, Bechtel Power-SERCH Lic.  
R. J. McMillen, Australian Embassy  
L. Hochreiter, Westinghouse  
Brian McIntyre, Westinghouse  
H. J. Bruschi, Westinghouse  
T. L. Schulz, Westinghouse  
T. Ginsberg, Brookhanve Natl. Lab.  
Mark Beaumont, Westinghouse  
Richard Stark, NUS  
R. Huston, TVA  
Frank Ross, DOE  
L. K. Miller, PSE&G Co.  
M. Donahue, Newman & Holtzinger  
R. Borsum, BWNS Co.  
Bill Pearce, Consultant  
P. Larimore, SCIEN TECH  
S. H. Hanauer, Tech Analysis Corp.  
Lynn Connor, Southern Technical Services

NRC ATTENDEES

C. Abbate, NRR  
R. Borchardt, NRR  
R. Van Houten, SECY  
A. Thadani, NRR  
A. Levin, NRR  
M. Rubin, NRR  
R. Jones, NRR  
M. Taylor, OEDO  
J. Burns, RES  
G. Rhee, RES  
J. Kudrick, NRR  
A. Drozd, NRR  
J. Morningner, NRR  
C. McCracken, NRR  
Steve Barr, R I  
A. Buslik, RES  
T. Johnson, R I  
J. Scarborough OCM/KR  
R. Hasselberg, NRR  
M. Slosson, OCM  
J. Heltemes, RES  
C. Holden, NRR  
D. Basdekas, RES  
J. Costello, RES  
M. Case, NRR  
B. Hardin, RES  
V. Benaroya, AEOD  
F. Manning, AEOD  
W. Beckner, NBRR  
G. Capponi, RES  
J. Stone, NRR  
J. White, R I  
W. Forney, R III  
C. Miller, NRR  
J. Ramsey, NRR  
A. Chaffee, NRR  
B. Desai, R II  
L. Wiens, NRR  
H. Ornstein, AEOD  
C. Rossi, NRR  
D. Fischer, NRR  
B. Jones, AEOD  
G. Hubbard, NRR  
S. Jones, NRR  
P. Madden, NRR

February 6, 1992 (Continued)

J. Tsao, NRR  
T. Murley, RES  
J. Sniezek, EDO  
E. Jordan, AEOD  
E. Beckjord, RES  
T. Speis, RES

FEBRUARY 7, 1992

Public Attendees

Steve Pope, Halliburton NUS  
Roger Huston, TVA  
Adrian Meymer, NUMARC  
Patrick Harris  
M. Duval, Newman & Holtzinger  
Nish Vaidya, Paul C. Rizzo Assocs. Inc  
Homi Minwalla, Weston/Jacobs Engr.  
John Butler, NUMARC  
John A. Blair, M&C  
M. Ponida, NRR  
S. Rosenberg, NRR  
W. Beckwer, NRR  
M. Taylor, OEDO  
J. Rosenthal, NRC  
V. Benaroya, AEOD  
B. Jones, AEOD  
t. Novak, AEOD  
F. Congel, NRR  
P. Lam, ASLBP  
B. McDowell, OIG  
A. Siller, OIG  
T. King, RES  
G. Sege, RES  
J. Heltemes, RES  
R. Kenneally, RES  
R. McMullen, RES  
A. Ibrahim, NMSS  
A. Murphy, RES  
N. Chokshi, RES  
P. Sobel, NRR  
G. Bagchi, NRR  
R. Rothman, NRR

GRC Attendees

C. Abbate, NRR  
J. Wilson, NRR  
R. Borchardt, NRR  
R. Pierson, NRR  
T. Johnson, R I  
R. VanHouten, SECY  
R. Laura, NRR  
G. Mizuno, OGC  
K. Campe, NRR

APPENDIX II  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992  
FUTURE AGENDA

Tentative Schedule for the 383rd ACRS Meeting March 5-7, 1992

- A. GE Advanced Boiling Water Reactor (Open/Closed) - Review and report on the draft Safety Evaluation Reports for the standardized nuclear reactor design.
- B. Policy Issues for the Certification of Passive Plants - Discuss and develop a plan for ACRS review of policy issues associated with the certification of passive nuclear power plant designs.
- C. Integral Systems Testing for the Westinghouse AP600 Nuclear Power Plant (Open/Closed) - Review and report on the proposed integral systems testing program requirements for the Westinghouse AP600 passive nuclear plant.
- D. Prioritization of Generic Issues - Review and comment on NRC staff-proposed priority rankings for various generic issues.
- E. Meeting with NRC Commissioners - Meeting with NRC Commissioners to discuss items of mutual interest.
- F. Pilgrim Nuclear Power Station - Briefing by and discussion with representatives of the NRC staff regarding the Emergency Response Plan demonstration for this facility.
- G. NRC Safety Research Program (Open/Closed) - Briefing by representatives of the NRC staff, as appropriate, and discussion regarding a proposed report to the Commission on the NRC safety research program.
- H. Implementation of NRC Quantitative Safety Goals - Discuss proposed ACRS activities regarding development of a proposed plan for implementation of the NRC quantitative safety goals.
- I. ACRS Subcommittee Activities - Reports and discussion regarding the status of assigned subcommittee activities, including matters related to experimental testing facilities for advanced (non-water) reactors.
- J. Future ACRS Activities - Discuss items proposed for consideration by the full Committee and related NRC activities, including updating of NRC regulations.
- K. Miscellaneous - Discuss topics related to the conduct of ACRS activities and specific issues that were not completed during previous meeting as time and availability of information permit.
- L. Appointment of New Members (Open/Closed) - Discuss qualifications of candidates proposed for appointment to the Committee.



APPENDIX III  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992  
FUTURE SUBCOMMITTEE MEETINGS

Joint Materials and Metallurgy/Maintenance Practices and Procedures, February 13, 1992, 7920 Norfolk Avenue, Bethesda, MD (Igne/Alderman), 8:30 a.m, Room P-110. The Subcommittees will discuss the ASME Risk-Based Inspection Guidelines. Attendance by the following is anticipated, and reservations have been made at the hotels as indicated for the night of February 12:

Dr. Shewmon	NONE	Mr. Ward	HYATT
Mr. Michelson	HYATT	Mr. Wylie	HYATT

Auxiliary and Secondary Systems, February 14, 1992, 7920 Norfolk Avenue, Bethesda, MD (Rotella/Alderman), 8:30 a.m., Room P-110. The Subcommittee will discuss the status of the NRC staff efforts related to the resolution of Generic Issue 57, "Effects of Fire Protection System Actuation on Safety Related Equipment," and other fire-related matters. Attendance by the following is anticipated, and reservations have been made at the hotels as indicated for the night of February 13:

Mr. Michelson	HYATT	Mr. Wylie	HYATT
Dr. Catton	HYATT	Dr. Quintiere	NONE

Mechanical Components, February 19, 1992, 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m., Room P-110. The Subcommittee will discuss the status of the motor-operated valve (MOV) and the check valve operability programs and other related matters. Attendance by the following is anticipated, and reservations have been made at the hotels as indicated for the night of February 18:

Mr. Michelson	HYATT	Mr. Wohld	NONE
Mr. Wylie	HYATT		

ACNW Working Group on Systems Analysis Approach to Reviewing the Overall High-Level Waste Program February 19, 1992, Room P-422 and February 20, 1992 (tentative), Room P-110 Bethesda, MD.

40th ACNW Meeting, February 20-21, 1992, Bethesda, MD, Room P-110.

Advanced Boiling Water Reactors, February 20-21, 1992, 7920 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 8:30 a.m., Room P-422. The Subcommittee will review SECY-91-320 and SECY-91-355, addressing two DSERs related to different chapters of the GE/Standard Safety Analysis Report for the ABWR design, and other related issues. Attendance by the following is anticipated, and reservations have been made at the hotels as indicated for the nights of February 19-20:

Mr. Michelson	HYATT	Mr. Ward	HYATT
Dr. Catton	HYATT	Mr. Wylie	HYATT
Dr. Kerr	NONE	Mr. Costner	NONE
Dr. Kress	HYATT		

Advanced Reactor Designs, February 26-27, 1992, Oak Ridge National Laboratory, Oak Ridge, TN (El-Zeftawy). The Subcommittee will visit the ORNL experimental facility and will discuss the testing program for the MHTGR design and related issues for the LMR program. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Ward	Dr. Shewmon
Dr. Catton	Mr. Wylie
Dr. Kerr	Mr. Greenstreet (tent)

Ad Hoc Working Group, February 28, 1992, Denver, CO (Houston). The Working Group will discuss a proposed alternative implementation plan for the Safety Goal Policy. Attendance by the following is anticipated and reservations have been made at the Stapleton Plaza Hotel (Airport Location) for the night of February 27:

Mr. Ward	Dr. Lewis
Dr. Kress	

Thermal Hydraulic Phenomena, March 3, 1992, Bethesda, MD (Boehnert), 8:30 a.m., Room P-110. The Subcommittee will continue its review of the integral system testing requirements for the Westinghouse AP600 passive plant design. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Catton	Dr. Dhir
Mr. Carroll	Mr. Schrock
Dr. Kerr (tent)	Dr. Sullivan
Mr. Ward	Dr. Zuber
Dr. Wilkins	

AP600

Joint Computers in Nuclear Power Plant Operations, Instrumentation and Control Systems, and Human Factors, March 4, 1992, 7920 Norfolk Avenue, Bethesda, MD (Alderman), 8:30 a.m., Room P-110. The Subcommittees will discuss Control Room Designs, the Design Process and Associated Human Factors Issues. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Lewis	Mr. Ward
Dr. Kerr	Mr. Wylie
Mr. Carroll	Mr. Davis
Dr. Catton	Dr. Lipinski (tent)
Mr. Michelson	Dr. Gimmy

Planning and Procedures, March 4, 1992, 7920 Norfolk Avenue, Bethesda, MD (Fraley), 3:00 p.m. - 5:30 p.m., Room P-422. The Subcommittee will discuss proposed ACRS activities and related matters. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Ward  
Mr. Carroll

383rd ACRS Meeting, March 5-7, 1992, Bethesda, MD, Room P-110.

41st ACNW Meeting, March 12-13, 1992, Bethesda, MD, Room P-110.

Thermal Hydraulic Phenomena, March 26, 1992, 7920 Norfolk Avenue, Bethesda, MD (Boehnert), 8:30 a.m., Room P-110. The Subcommittee will review the GE generic program supporting power level increases for operating GE BWR nuclear power plants. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Catton	Dr. Dhir
Dr. Kerr	Mr. Schrock
Dr. Kress	Dr. Sullivan
Mr. Ward	Dr. Zuber
Dr. Wilkins	

Plant Operations, April 1, 1992, Bethesda, MD, (Boehnert), 8:30 a.m., Room P-110. The Subcommittee will review the Draft NUREG-1449 addressing the staff's evaluation of risk from shutdown and low-power operations at U.S. commercial nuclear power plants. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Carroll  
Dr. Catton  
Dr. Kerr  
Dr. Kress  
Dr. Lewis

Mr. Michelson  
Mr. Ward  
Mr. Wylie  
Mr. Davis

Planning and Procedures, April 1, 1992, 7920 Norfolk Avenue, Bethesda, MD (Fraley), 3:00 p.m. - 5:30 p.m., Room P-422. The Subcommittee will discuss proposed ACRS activities and related matters. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Ward  
Dr. Shewmon  
Mr. Carroll

384th ACRS Meeting, April 2-4, 1992, Bethesda, MD, Room P-110.

ACNW Working Group on the Impact of Long-Range Climate Change in the Area of the Southern Basin and Range, April 21-22, 1992, Bethesda, MD, Room P-110

42nd ACNW Meeting, April 23-24, 1992, Bethesda, MD, Room P-110.

385th ACRS Meeting, May 7-9, 1992, Bethesda, MD, Room P-110.

Regional Programs, May 20, 1992, NRC Region V Office, Walnut Creek, CA (Boehnert). The Subcommittee will discuss the activities of the NRC Region V Office. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Shewmon  
Dr. Catton  
Mr. Carroll  
Dr. Kerr  
Dr. Kress

Dr. Lewis  
Mr. Wylie  
Dr. Wilkins  
Mr. Ward



Computers in Nuclear Power Plant Operations/Instrumentation and Control Systems, Date to be determined (April 1992), (Engineer to be assigned). The Subcommittees will discuss digital I&C system designs and practices at foreign plants and the international computer activities. Attendance by the following is anticipated:

Dr. Lewis	Dr. Wilkins
Dr. Kerr	Mr. Michelson
Mr. Carroll	Mr. Wylie
Dr. Catton	

Advanced Pressurized Water Reactors, Date to be determined (March/April), Bethesda, MD (Engineer to be assigned). The Subcommittee will continue its review of the ABB CE System 80+ CESSAR Design Certification. Subject material being proposed for discussion includes Engineered Safety Feature systems and USIs/GSIs. Attendance by the following is anticipated:

Mr. Carroll	Mr. Michelson
Dr. Catton	Dr. Shewmon
Dr. Kerr	Mr. Ward
Dr. Kress	Mr. Wylie

Joint Individual Plant Examinations/Severe Accidents, Date to be determined (March/April), Bethesda, MD (Houston). The Subcommittees will discuss the status of the IPE program and the development of Severe Accident Management Guidelines. Attendance by the following is anticipated:

Dr. Kerr	Dr. Siess
Dr. Catton	Mr. Ward
Dr. Kress	Dr. Corradini
Mr. Michelson	Mr. Davis
Dr. Shewmon	Dr. Lee

Thermal Hydraulic Phenomena, Date to be determined (March/April), Bethesda, MD (Boehnert). The Subcommittee will continue its review of the NRC staff program to address the issue of interfacing systems LOCAs. Attendance by the following is anticipated:

Dr. Catton	Dr. Wilkins
Dr. Kerr	Dr. Dhir
Dr. Kress	Mr. Schrock
Mr. Michelson	Dr. Sullivan
Mr. Ward	

Joint Thermal Hydraulic Phenomena/Core Performance, Date to be determined (March/April, tentative), Bethesda, MD (Boehnert). The Subcommittees will continue the review of the issues pertaining to BWR core power stability. Attendance by the following is anticipated:

Dr. Catton	Dr. Dhir
Dr. Kerr	Dr. Lee
Dr. Kress	Dr. Lipinski
Mr. Michelson	Mr. Schrock
Dr. Shewmon	Dr. Sullivan
Dr. Wilkins	

Decay Heat Removal Systems, Date to be determined, Bethesda, MD (Boehnert). The Subcommittee will review the proposed final resolution of Generic Safety Issue 23, "Reactor Coolant Pump Seal Failures." Attendance by the following is anticipated:

Mr. Ward	Mr. Michelson
Dr. Catton	Mr. Wylie
Dr. Kerr	Mr. Davis

Thermal Hydraulic Phenomena, Date to be determined, Bethesda, MD (Boehnert). The Subcommittee will review the status of the application of the Code Scaling, Applicability, and Uncertainty (CSAU) Evaluation Methodology to a small-break LOCA calculation for a B&W plant. Attendance by the following is anticipated:

Dr. Catton	Dr. Wilkins
Dr. Kerr	Dr. Dhir
Dr. Kress	Mr. Schrock
Mr. Michelson	Dr. Sullivan
Mr. Ward	

APPENDIX IV  
MINUTES OF THE 382ND ACRS MEETING  
FEBRUARY 6-8, 1992  
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

[NOTE: SOME OF THE DOCUMENTS LISTED MAY HAVE BEEN PROVIDED FOR INTERNAL ACRS USE ONLY]

KEY TECHNICAL ISSUES

- Tentative Agenda
- Status Report with Attachments:
  - Att. I: Draft Memorandum to File on this subject
  - Att. II: NRC Staff's estimates to complete ALWR and advanced reactor reviews in accordance with SECY-91-161

BRIEFING ON REACTOR OPERATING EVENTS - SALEM TURBINE OVERSPEED/OCONEE RCS LEAK

- Presentation Schedule
- Status Report with Attachments:
  - Att.: Letter dated January 14, 1992 to Duke Power Company, Attn: J. W. Hampton, Oconee Site, from Alan R. Herdt, NRR, Subject: Notice of Violation (NRC Inspection Report Nos. 50-269/91-34, 50-270/91-34 and 50-287/91-34
  - Att. Letter dated January 7, 1992 to Mr. Steven E. Miltenberger, Vice President and Chief Nuclear Officer, Public Service Electric and Gas Company, Subject: NRC Region I Augmented Inspection Team (AIT) Review of the November 9, 1991 Salem Unit 2 Turbine Generator Overspeed and Fire Event
- Presentation materials provided during the meeting

BRIEFING ON PUBLIC UTILITY COMMISSIONS

- Schedule
- Status Report
- Final Policy Statement: Possible Safety Impacts of Economic Performance Incentives, 56FR 33945 Published 7/24/91, Effective 7/24/91
- Master's Thesis by Mr. David Dietrich, "'Incentive Regulation' of Nuclear Power Plants by State Public Utility Commissions: Program Design for Safety and Economic Efficiency (In That Order)"
- "Utility Owners, Arm of State PUC Strike Deal to Close San Onofre-1", NUCLEONICS WEEK, Vol. 33 No. 4, January 23, 1992, pp.1-2

DESIGN ACCEPTANCE CRITERIA FOR CERTIFICATION OF LEAR POWER PLANTS

- Tentative Agenda
- Status Report with Attachments:

SOME OF THE ABOVE DOCUMENTS MAY HAVE BEEN PROVIDED FOR ACRS USE ONLY

- Att. I: SECY-90-377, dated November 8, 1990, Subject: "Requirements for Design Certification Under 10 CFR Part 52" dated Nov. 8, 1990
- Att. II: ACRS Report dated December 10, 1990 to Chairman Carr Subject: SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52"
- Att. III: SRM dated February 15, 1991, Subject: SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52"
- Att. IV: Memorandum dated August 13, 1991, from Gary Quittschreiber, ACRS Staff, for C. Miller, NRR, Subject: ABWR Protection Against Postulated Pipe Breaks in Fluid Systems Outside Primary Containment
- Att. V: Staff Requirements Memorandum (SRM-M911017A) dated October 21, 1991
- Att. VI: Memorandum dated November 7, 1991 from M. El-Zeftawy, ACRS Staff, Subject: SRM M911017A
- Att. VII: Memorandum dated November 12, 1991 for ACRS Members from M. El-Zeftawy, ACRS Staff, Subject: SRM M911029
- Att. VIII: Draft SECY paper on this subject dated 1/7/92 PLUS proposed ACRS letter

#### ACCIDENT SEQUENCE PRECURSOR DRAFT EVALUATION

- Project Status Report
- Memorandum dated October 28, 1991 from Chairman Selin for J. Taylor, EDO, Subject: Request for Analysis
- Memorandum, undated, from J. Taylor for NRC Commissioners, "Staff Report on Changes in the Probability of a Core Melt Accident"
- Memorandum dated February 20, 1991, from J. Taylor, EDO for NRC Commissioners, Subject: Response to Item 3 of Staff Requirements Memorandum on the Accident Sequence Precursor Program (WITS 9000146)
- Memorandum, undated, from F. Congel, NRR, for R. Fraley, ACRS, Subject: Request for Review of Staff Response to the Commission Regarding Observed Trends in Core Melt Probabilities
- Memorandum dated December 19, 1991 from J. Taylor, EDO, for The Chairman, Subject: Staff Report on Increasing Nuclear Power Plant Operation and Maintenance (O&M) Costs with Enclosure:
  - An Evaluation of Nuclear Power Plant Operating and Maintenance Costs
- Presentation materials provided during the meeting



MEETING WITH THE DIRECTOR, OFFICE OF NUCLEAR REGULATORY RESEARCH  
FEBRUARY 7, 1992

- Meeting Agenda
- Project Status Report
- Memorandum dated January 15, 1992 for E. Beckjord, Director, RES, from R. Fraley, Executive Dir., ACRS, Subject: Topics for Discussion During ACRS Meeting with the Director, Office of Nuclear Regulatory Research, February 6-8, 1992 with attachment

PROPOSED COMMISSION ACTIONS RELATED TO SITING OF NUCLEAR POWER  
PLANTS - GEOLOGICAL AND SEISMOLOGICAL CRITERIA

- Tentative Agenda
- Status Report with Attachments:
  - ACRS letter dated January 15, 1992 to NRC Chairman Selin, Proposed 10 CFR Part 50 and Part 100 (Nonseismic) Rule Changes and Proposed Update of Source Term
- Memorandum dated January 21, 1992 from L. Shao, RES for R. Fraley, ACRS, Subject: Revision of Appendix A to 10 CFR Part 100 -- Geological and Seismological Siting Criteria for Nuclear Power Plants with Attachments:
  - 10 CFR Part 100, Appendix B - Reduced Text
  - 10 CFR Part 50, Appendix S - Reduced Text
  - Draft Regulatory Guide DG-1015, Identification and Characterization of Seismic Sources, Expected Maximum Earthquakes and Ground Motion
  - Draft Regulatory Guide DG-1016- Seismic Instrumentation
  - Draft Regulatory Guide DG-1017- Plant Shutdown
  - Draft Regulatory Guide DG-1018- Plant Restart

REPORT OF JANUARY 14, 1992 MEETING OF ACRS REACTOR SAFETY  
RESEARCH SUBCOMMITTEE REGARDING PROPOSED ACRS REPORT ON NRC  
SAFETY RESEARCH PROGRAM

- Project Status Report with Attachment-  
Working Copy of Minutes of January 14, 1992 Meeting of  
Safety Research Subcommittee

HANDOUTSINTEGRAL SYSTEM TESTING REQUIREMENTS FOR WESTINGHOUSE AP600 PLANT  
DESIGN

- Presentation Schedule
- Project Status Report with Attachments
  - Draft of P. Boehnert, ACRS Staff, of Minutes of January ACRS (381st) Meeting regarding Committee Discussion of Integral System Testing for Westinghouse AP600 Design
  - SECY-92-030, dated January 27, 1992, Integral System Testing Requirements for Westinghouse's AP600 Plant with attachments

- Memorandum dated January 30, 1992 from D. Crutcherfield, NRR, to B. McIntyre, Westinghouse transmitting a list of "Issues to be Resolved by High-Pressure, Full-Height Integral Testing"
- Draft SECY Paper, undated, "Need for NRC-Sponsored Confirmatory Integral System Testing of the Westinghouse AP600 Design"
- Memorandum dated February 4, 1992 from Mark E. Stella, ACRS Senior Fellow, Subject: AP600 Integral Systems Testing

#### MEETING WITH SENIOR NRC STAFF MANAGERS

- Presentation Schedule
- ACRS letter dated September 10, 1991, to Chairman Selin, Subject: The Staff's Recommendations on the Regulatory Impact Survey Report
- ACRS letter dated December 23, 1991 to Mr. J. Taylor, EDO, Subject: Regulatory Impact Survey
- Letter dated September 30, 1991 from J. Taylor, EDO to D. Ward, ACRS, regarding ACRS September 10, 1991 letter above
- Memorandum dated December 20, 1991 from S. Chilk, Secretary for J. Taylor, EDO, Subject: SECY-91-172 - Regulatory Impact Survey Report - Final
- ACRS report dated May 17, 1991 to Chairman Selin, Subject: Proposed Criteria to Accommodate Severe Accidents in Containment Design, with Appendix
- Letter dated August 5, 1991 from J. Taylor, EDO to D. Ward, regarding May 17, 1991 ACRS report immediately above
- ACRS letter to Chairman Selin dated November 14, 1991, Subject: NRC Staff Recommendations for Reviewing, Monitoring, and Approving Vendors' Test Programs to Support the Design Certification of Passive Light Water Reactors as Described in SECY-91-273
- Letter dated December 31, 1991 from J. Taylor, EDO, to D. Ward, ACRS, in reply to November 14, 1991 letter immediately above
- ACRS letter dated December 18, 1991 to Chairman Selin, Subject: SECY-91-262, "Resolution of Selected Technical and Severe Accident Issues for Evolutionary Light Water Reactor (LWR) Designs"
- Letter dated January 17, 1992 from J. Taylor, EDO, to D. Ward, ACRS, Subject: SECY-91-262, "Resolution of Selected Technical and Severe Accident Issues for Evolutionary Light Water Reactor (LWR) Designs"
- ACRS letter dated July 19, 1991 to Chairman Selin, Subject: The Consistent Use of Probabilistic Risk Assessment
- ACRS letter dated December 14, 1991 to Chairman Selin, Subject: The Consistent Use of Probabilistic Risk Assessment

- Letter dated October 1, 1991 from J. Taylor, EDO, to D. Ward, ACRS regarding ACRS letter dated July 19, 1991 to NRC Chairman Selin regarding The Consistent Use of Probabilistic Risk Assessment
- Memorandum dated December 20, 1991 from J. Taylor, EDO for NRC Commissioners, Subject: Interaction with ACRS on Probabilistic Risk Assessment (PRA) Matters and Concerns
- Letter dated December 30, 1991 from J. Taylor, EDO, for D. Ward, ACRS, regarding ACRS letter dated December 14, 1991 to Chairman Selin on the subject of The Consistent Use of Probabilistic Risk Assessment
- Memorandum dated January 9, 1992 from J. Sniezek, Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, Subject: Meeting with ACRS - February

FUTURE ACRS ACTIVITIES - 383rd ACRS MEETING, MARCH 5-7, 1992

- Memorandum dated February 6, 1992 from R. P. Savio, ACRS Assistant Executive Director, Subject: Future ACRS Activities-383rd ACRS Meeting with Attachment
- List of Future ACRS Subcommittee Meetings

S. 2039 - PROPOSED FEDERAL ADVISORY COMMITTEE ACT AMENDMENTS OF 1991

- Letter dated January 10, 1992 from NRC Chairman Selin to The Honorable John Glenn, Chairman, Committee on Governmental Affairs, enclosing Comments on S. 2039, Proposed FACA Amendments

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- On subject "The Consistent Use of Probabilistic Risk Assessment" ACRS December 14, 1991 letter and J. Taylor, EDO, December 30, 1991 letter to D. Ward, ACRS regarding the December 14, 1991 letter
- On subject "SECY-91-270, 'Interim Guidance on Staff Implementation of the Commission's Safety Goal Policy'", Letter dated January 15, 1992 from J. Taylor, EDO to D. Ward, ACRS regarding ACRS letter dated December 18, 1991, Subject: SECY-91-270, "..."
- On subject: "SECY-91-262, 'Resolution of Selected Technical and Severe Accident Issues for Evolutionary Light Water Reactor (LWR) Designs'", J. Taylor EDO, January 17, 1991 letter to D. Ward regarding ACRS Letter dated December 18, 1991, Subject: SECY-91-262, "..."
- On subject "Resolution of Generic Safety Issue B-56, 'Diesel Generator Reliability'", J. Taylor, EDO, draft EDO letter regarding ACRS letter to Chairman Selin dated December 20, 1991 on this subject