

CERTIFIED

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NOVEMBER 7-8, 1991

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379TH ACRS MEETING
NOVEMBER 7-8, 1991

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- III. Future Subcommittee Activities
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379 ^{CAK} ACRS

Dated: October 25, 1991.

Claudine J. Weiber,

Acting Archivist of the United States.

[FR Doc. 91-26581 Filed 11-4-91; 8:45 am]

BILLING CODE 7515-01-M

NATIONAL COMMISSION ON SEVERELY DISTRESSED PUBLIC HOUSING

Meetings/Public Hearings Announcement

AGENCY: National Commission on Severely Distressed Public Housing.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Advisory Committee Act, Public Law 92-463, as amended, the National Commission on Severely Distressed Public Housing announces a forthcoming meeting of the Commission.

DATES: November 22, 1991, 10 a.m.—1 p.m., full commission meeting.

ADDRESSES: Hyatt Regency, 400 New Jersey Avenue, Washington, DC, (202) 737-1234.

FOR FURTHER INFORMATION CONTACT: Carmelita Pratt, Administrative Officer, The National Commission on Severely Distressed Public Housing, 1100 L Street, NW., #7121, Washington, DC 20005-4013 (202) 275-6933.

TYPE OF MEETING: Open.

Carmelita R. Pratt,
Administrative Officer.

[FR Doc. 91-26644 Filed 11-4-91; 8:45 am]

BILLING CODE 6820-07-M

NUCLEAR REGULATORY COMMISSION

Nuclear Safety Research Review Committee; Meeting

The Nuclear Safety Research Review Committee (NSRRC) will hold its next meeting on November 25-26, 1991, at the Holiday Inn Crowne Plaza, 1750 Rockville Pike, Rockville, Maryland. The meeting will be held in accordance with the requirements of the Federal Advisory Committee Act (FACA) and will be open to public attendance. The NSRRC provides advice to the Director of the Office of Nuclear Regulatory Research (RES) on matters of overall management importance in the direction of the NRC's program of nuclear safety research. The purpose of this meeting is to review the NRC's research programs on nuclear power plant aging and on assessing the safety of a high-level waste repository.

Monday, November 25, 1991

6:30 a.m.—9:15 a.m.: Introductory remarks will be made by the NSRRC Chairman and by the RES Director. Discussions on items of mutual interest will be held with the NRC Chairman, Dr. Ivan Selin.

9:15 a.m.—4:15 p.m.: NRC staff will discuss the aging research program. Presentations will include key regulatory and technical issues, reactor pressure vessel research including application to Yankee Rowe, and international coordination of the research program.

4:15 p.m.—6 p.m.: Committee discussions.

Tuesday, November 26, 1991

8 a.m.—9 a.m.: Introduction of the high-level waste safety research program by NRC staff. Update on recent progress at the Center for Nuclear Waste Regulatory Analysis by the CNWRA president, Mr. John Latz.

9 a.m.—2 p.m.: NRC staff will discuss items highlighted in the last NSRRC review of the high-level waste research program. These will include new research programs in volcanism and tectonics, and progress in the investigation of natural analogs and in the development of methods for integrated performance assessment.

2 p.m.—3 p.m.: Committee discussions.

3 p.m.: Adjourn.

Members of the public may file written statements regarding any matter to be discussed at the meeting. Members of the public may also make requests to speak at the meeting, but permission to speak will be determined by the committee chairperson in accordance with procedures established by the committee. A verbatim transcription will be made of the NSRRC meeting and a copy of the transcript will be placed in the NRC's Public Document Room in Washington, DC.

Inquiries regarding this notice, any subsequent changes in the status of the meeting, the filing of written statements, requests to speak at the meeting, or for the transcript, may be made to the Designated Federal Officer, Dr. Ralph O. Meyer (telephone: 301/492-3904), between 8:15 a.m. and 5 p.m.

Dated: October 30, 1991.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 91-26639 Filed 11-4-91; 8:45 am]

BILLING CODE 7590-61-M

Advisory Committee on Reactor Safeguards; Revised Meeting Agenda

In accordance with the purposes of Sections 29 and 162b. of the Atomic

Energy Act (42 U.S.C. 2039, 2232b), the Advisory Committee on Reactor Safeguards will hold a meeting on November 7-8, 1991, in Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland. Notice of this meeting was published in the Federal Register on September 20, 1991.

Thursday, November 7, 1991

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.—9:45 a.m.: *General Electric Advanced Boiling Water Reactor (Open/Closed)*—The Committee will hear a subcommittee report and discuss selected features of the GE ABWR plant, including auxiliary and power conversion systems, conduct of operations, radioactive waste management, and the Reactor Water Cleanup System. Representatives of the NRC staff and the General Electric Company will participate, as appropriate. Portions of this session will be closed as necessary to discuss Proprietary Information applicable to this matter.

10 a.m.—12 Noon: *Level of Design Detail (Open)*—The Committee will hear comments by designated subcommittee chairmen and will discuss the level of design detail needed to conduct a licensing review per 10 CFR Part 52. Representatives of the NRC staff and the nuclear industry will participate, as appropriate.

1 p.m.—3:45 p.m.: *Vendor Test Programs to Support the Design Certification of Passive Light Water Reactors (SECY-91-273) (Open)*—The Committee will review and report on vendor test programs to support design certification of passive light water reactors (Westinghouse AP-600 and SBWR). Representatives of the NRC staff and the NSSS vendors will participate, as appropriate.

3:45 p.m.—4:45 p.m.: *Generic Issue 121, "Hydrogen Control for PWR Dry Containments" (Open)*—The Committee will hear a briefing and discuss the NRC staff's proposed resolution of this generic issue. Representatives of the NRC staff and the nuclear industry will participate, as appropriate.

4:45 p.m.—5:30 p.m.: *Future ACRS Activities (Open)*—The Committee will discuss anticipated subcommittee activities, items proposed for consideration by the Committee, and related matters.

5:30 p.m.—6:30 p.m.: *Key Technical Issues for Future Nuclear Power Plants (Open)*—The members will discuss key

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

October 30, 1991

SCHEDULE AND OUTLINE FOR DISCUSSION
379TH ACRS MEETING
NOVEMBER 7-9, 1991

Thursday, November 7, 1991, 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/GRQ)
1.2) Items of Current Interest (DAW/RFF)
- 2) 8:45 - 9:45 A.M. General Electric Advanced Boiling Water Reactor (Open/Closed)
2.1) Comments by ACRS Subcommittee Chairman regarding status of review (CM/MME)
2.2) Report by ACRS Fellows on the GEABWR Reactor Water Cleanup System (CM/MES/SEM)
(Note: Portions of this session will be closed as appropriate to discuss Proprietary Information related to this matter.)
- 9:45 - 10:00 A.M. BREAK
- 3) 10:00 - 12:00 Noon Standard Design Certification, Level of Design Detail (Open)
3.1) Comments by ACRS Subcommittee Chairmen regarding the level of design detail required for certification of standard NSSS designs per 10 CFR Part 52 (CJW/MME)
3.2) Meeting with representatives of the NRC staff and the nuclear industry, as appropriate
- 12:00 - 1:00 P.M. LUNCH
- 4) 1:00 - 3:45 P.M.
(2:30-2:45: BREAK) Vendor Test Programs to Support the Design Certification of Passive Light Water Reactors (SECY-91-273) (Open)
4.1) Comments by ACRS Subcommittee Chairmen (JCC/CM/TSR)

- 4.2) Meeting with representatives of the NRC staff and the nuclear industry, as appropriate
- 5) 3:45 - 4:45 P.M. Generic Issue 121, Hydrogen Control for PWR Dry Containments (Open)
- 5.1) Comments by ACRS Subcommittee Chairman regarding proposed resolution of this generic issue (WK/MDH)
- 5.2) Meeting with representatives of the NRC staff and the nuclear industry, as appropriate
- 6) 4:45 - 5:30 P.M. Future ACRS Activities (Open)
- 6.1) Anticipated Subcommittee activities (RPS/GRQ)
- 6.2) Items proposed for consideration by the full Committee (DAW/RPS)
- 6.3) Activities of ACRS Members
- 6.3-1) Presentation of papers at ANS Panel on the Regulatory Impact Survey and Fifth Workshop on Containment Integrity (DAW/RFF)
- 7) 5:30 - 6:30 P.M. Key Technical Issues (Open)
- 7.1) Continue discussion of key technical issues for future plants in need of early resolution (DAW, et al./MME)

Friday, November 8, 1991, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

- 8) 8:30 - 10:00 A.M. Reactor Operating Experience (Open)
- 8.1) Comments by ACRS Subcommittee Chairman regarding recent operating events/incidents (JCC/PAB)
- 8.2) Briefing by representatives of the NRC staff regarding the IIT for the August 13, 1991 loss of uninterruptible power supplies which occurred at the Nine Mile Point Nuclear Station
- 10:00 - 10:15 A.M. BREAK

- 9) 10:15 - 11:15 A.M. Severe Accident Research Program (Open)
 9.1) Comments by ACRS Subcommittee Chairman regarding the NRC severe accident research program (WK/MDH)
- 10) 11:15 - 12:30 P.M. ACRS Subcommittee Activities (Open)
 10.1) Metallurgy Subcommittee meeting on steam generator tube degradation, November 6, 1991 (PGS/EGI)
 10.2) Planning and Procedures Subcommittee meeting on November 6, 1991 (DAW/RFF)
- 12:30 - 1:30 P.M. LUNCH
- 11) 1:30 - 4:30 P.M. Preparation of ACRS Reports (Open)
 (3:00-3:15 - Break)
 11.1) Discuss proposed ACRS reports regarding:
 11.1-1) Vendor Test Programs (SECY-90-273) (JCC/CM/TSR)
 11.1-2) Generic Issue 121, Hydrogen Control for PWR Dry Containments (WK/MDH)
 11.1-3) Level of Design Detail (Tentative) (JEW/MME)
- 12) 4:30 - 6:00 P.M. Key Technical Issues (Open)
 12.1) Discuss key technical issues in need of early resolution and the scope/nature of the ad hoc subcommittee meeting (retreat) to discuss a proposed mechanism for their resolution (DAW/RFF)

Saturday, November 9, 1991, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

- 13) 8:30 - 12:30 A.M. Preparation of ACRS Reports (Open)
 12.1) Complete preparation of ACRS reports regarding items considered during this meeting and topics that were not completed at previous meetings as time and availability of information permit.

CERTIFIED

MINUTES OF THE 379TH ACRS MEETING NOVEMBER 7-8, 1991

The 379th meeting of the Advisory Committee on Reactor Safeguards was held at Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland, on November 7-8, 1991. 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 discussion of proprietary information related to the Reactor Water Cleanup System design for the General Electric Company's (GE's) Advanced Boiling Water Reactor (ABWR).

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

I. Chairman's Report

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

Mr. Ward, the Committee Chairman, convened the meeting at 8:30 a.m. with a brief summary of the planned meeting schedule and the provisions under which the discussions were to be held. He stated that the Committee had received neither written comments nor requests for time to make oral statements from members of the public.

Items of Interest

Mr. Ward noted several items of current interest, including the following:

- Dr. Morrisson, Chairman of the Nuclear Safety Research Review Committee (NSRRC), has sent a letter to Mr. Fraley, ACRS Executive Director, endorsing the ACRS proposals included in the August 13, 1991 letter from Mr. Fraley for improved coordination between the NSRRC and the ACRS. Cognizant Subcommittee Chairmen/ACRS staff should take necessary steps to achieve improved coordination between these Committees.
- The Commission did not approve the proposed rule on Training and Qualification of Nuclear Power Plant Personnel because it

was too prescriptive. The NRC staff was asked to develop a performance-based rule.

- The results of the Individual Plant Examination (IPE) performed at the Surry Nuclear Power Plant revealed that internal flooding sequence leading to a station blackout will result in a core-melt probability of 10^{-3} per reactor year. The licensee has made some changes to the applicable procedures and maintenance practices which resulted in a significant reduction of the core-melt probability.
- The Yankee Atomic Electric Company has withdrawn its proposal to restart the Yankee Rowe plant prior to the inspection of the Yankee Rowe reactor pressure vessel that is scheduled for the second quarter of 1992.

II. General Electric Advanced Boiling Water Reactor (ABWR)

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

Mr. Michelson, Chairman of the Advanced Boiling Water Reactors Subcommittee, provided a report to the Committee regarding the October 23, 1991 meeting of this Subcommittee during which the Subcommittee reviewed the NRC staff's Draft Safety Evaluation Report (DSER) corresponding to Chapters 1, 3, 9, 10, 11, and 13 of the GE Standard Safety Analysis Report for the ABWR design. Key points reported by Mr. Michelson included the following:

- The staff's DSER is incomplete and is of poor quality.
- It is often not clear whether the staff is evaluating only the design criteria and requirements or a completed design.

Mr. Michelson said that, at his request, Mr. Stella and Mr. Mays, ACRS Senior Fellows, performed a review of the Reactor Water Cleanup System (RWCS) design for the GE ABWR. This review had as its major objective the evaluation of the adequacy of the materials submitted by GE in support of the NRC staff's safety evaluation of the RWCS design.

Presentation by Mr. M. Stella, ACRS Senior Fellow

Mr. Stella said that the RWCS was chosen as the subject of the review for the following reasons:

- In comparison to earlier RWCS designs, the ABWR design for this system has been changed in a number of respects. One effect of these changes is the potential to impose increased operating risk when compared with earlier system designs. The

most obvious and perhaps significant design change is the increased size of the main process lines. These lines penetrate primary reactor containment and the system is normally in operation; thus, the reactor coolant pressure boundary in effect penetrates containment during power operation.

- Though classified historically as a Non-Nuclear Safety (NNS) system outside containment, the RWCS is relied upon to perform several safety functions, including maintenance of the integrity of the Reactor Coolant System (RCS) pressure boundary.
- The RWCS has been provided as part of the Architect-Engineer scope-of-supply in the past. The system is now a part of the overall plant design scope reviewed for certification.

Mr. Stella described the method of review used in the evaluation of the RWCS. This review compared the available information on the system design (principally that found in the ABWR Standard Safety Analysis Report (SSAR) through Amendment 18) with the review requirements of the Standard Review Plan (SRP) Sections applicable to this system. A review of the ABWR PRA (Chapter 19 of the SSAR) was also performed to evaluate the adequacy of the treatment of the system therein. These two different portions of the review were designated as the deterministic review and the probabilistic review of the system, respectively.

Mr. Stella outlined the specific requirements of SRP Section 5.4.8, Part III, Procedures for Review, that served as the primary criteria for the deterministic review of the RWCS. A number of additional SRP Sections are also called out in SRP Section 5.4.8 as being applicable to the review of the RWCS and these were considered as well. The most important findings of the deterministic portion of the review were as follows:

- Insufficient information has been provided by the applicant to support a determination of acceptability for the chemical process design of the system as required by SRP Section 5.4.8. The areas of concern include:
 - The capability of the RWCS to chemically process reactor coolant to maintain RCS chemistry in accordance with Regulatory Guide 1.56, "Maintenance of Water Purity in Boiling Water Reactors."
 - The control of the system.

- The provision of strainers for removing resin fines from the RWCS effluent (return flow to RCS).
- The design features of the system intended to eliminate the presence of "resin traps" within system piping and components.
- The SSAR process flow diagrams (PFDs), piping and instrumentation diagrams (P&IDs), and system descriptions are inconsistent in a number of important areas. These include:
 - The general configuration of the system.
 - The presence (or absence) of code-required safety valves on process lines.
 - The presence (or absence) of remotely operable isolation valves on key process lines.
- The SSAR information on the Instrumentation and Control Systems for the RWCS was insufficient to support a finding of acceptability against the criteria listed in Section 5.4.8 of the SRP. For example, no information was found in the SSAR regarding the time response of key safety related sensor and instrumentation chains such as the Leak Detection System channels. The RWCS process control instrumentation logic associated with the ABWR Non-Essential Multiplexing System was not provided in Section 7.7 of the SSAR, as stated in the RWCS system description section of the document.
- The SSAR does not provide information on the operability of RWCS suction line isolation valves under design basis loading conditions. This is considered to be a major omission in the ABWR design and licensing basis information presented for review, given the recent continuing concern over the adequacy of the design of RWCS isolation valves for existing BWR designs that use smaller process lines.
- The design and service loadings of RWCS components and piping cannot be evaluated for acceptability because design transient specifications are not provided as required for Quality Group A, B, and C components, and the relief valves required by the ASME Code are not shown on system drawings nor described in the SSAR.
- An explicit method for confirming the acceptability of Japanese-standard-based designs as surrogates for ANSI/ASME designs that are required by regulation has not been provided by the applicant in the SSAR.

- The SSAR does not address the increased significance of the larger RWCS line size in the identification of the most limiting event for LOCA and off-site releases.

Presentation by Mr. S. Mays, ACRS Senior Fellow

Mr. Mays discussed the findings of the probabilistic review of the RWCS.

- The probabilistic review indicated that the PRA provided insufficient justification for credit taken by GE for RWCS as a decay heat removal system. There was no fault tree for the system in Chapter 19 of the SSAR. Review of the non-proprietary information in Chapter 5 of the SSAR indicated that the system would automatically isolate if operated in the mode credited by the PRA. The control logic did not indicate a bypass capability for this isolation feature. Further, preliminary thermal-hydraulic calculations indicate that the design temperature limits for both the RWCS piping and the Component Cooling Water System piping downstream of the non-regenerative heat exchanger (NRHX) could be exceeded by operation in this mode. There was no consideration in Chapter 19 or Chapter 5 of the effects of the increased delta T on heat exchanger structural performance.
- The probabilistic review further indicated that the rationale for excluding RWCS line breaks outside containment as potential initiating events was flawed. The analysis in Chapter 19 failed to consider that RWCS line breaks could be an initiating event leading to core damage. Instead, Chapter 19 treated RWCS line breaks as potential suppression pool bypass paths given that core damage had already occurred due to some other initiator. The review also found that formulae used in Chapter 19 for evaluating bypass events (other than those causing core damage) were algebraically incorrect. GE acknowledged this error and intends to correct it in a future amendment to the SSAR.

General Observations - Mr. Stella, ACRS Senior Fellow

Mr. Stella discussed the general observations resulting from the review of the RWCS:

- Materials provided by the applicant in the SSAR are inadequate to support a finding of acceptability of the RWCS design under the current licensing basis.
- Inconsistencies among the various types and locations of information provided on the RWCS design in the SSAR pose

non-trivial impediments to the review and ultimately, to a finding of design acceptability.

- The specification of system design criteria and parameters to a mixed set of standards (Japanese/domestic design codes and standards; metric/U.S. standard engineering units) complicates the review substantially. The comparability of the non-domestic design standards applied in the ABWR design to existing regulations, based on domestic standards, should be explicitly addressed by the applicant in the SSAR.
- Treatment of the RWCS in the ABWR PRA is inadequate. This applies both to its assumed effectiveness as a means of removing decay heat, and its exemption from consideration as a potential location for ex-containment LOCAs in the PRA model.

Comments by the Office of Nuclear Reactor Regulation (NRR) - Mr. C. Poslusny

Mr. Poslusny made the following remarks:

- The staff's findings on the ABWR design, as described in the DSERs issued to date, were "still draft." The staff continuously updates conclusions and findings in the DSER, on the basis of the latest amendments to the SSAR.
- A number of open issues can be found in most, if not all, of the DSER sections that are listed as being related to the review of the RWCS in SRP Section 5.4.8. Open issues regarding the PRA have been identified in the recently issued DSER corresponding to Chapter 19.

The staff stated its intent to have GE respond explicitly to the RWCS issues identified in the review of the ABWR PRA by the ACRS Fellows.

Several members of the Committee evinced concern that the findings of the RWCS review could apply more generally to the remainder of the information supplied by GE in the ABWR SSAR. Upon further questioning by Dr. Shewmon and others regarding the impact of inconsistency and incompleteness in ABWR SSAR information on the staff's ability to properly evaluate the design, Mr. Poslusny noted that GE has committed to perform a "full QA review" of the ABWR SSAR in order to address this concern, which the staff had already identified. In closing, Mr. Poslusny stated that the staff would consider ACRS concerns as it proceeds with its review of the ABWR design.

This was an information briefing -- the Committee took no action at this time.

III. Level of Design Detail for Certification of Standard Plant Designs

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

Mr. Wylie, Chairman of the Improved Light Water Reactors Subcommittee, provided a preamble, stating that during several of its previous meetings the Committee has discussed with the staff and the nuclear industry about the scope and level of design detail required for certification of the standard plant designs. The Committee provided a report to the Commission during December 1990, commenting on SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52."

In the February 15, 1991 Staff Requirements Memorandum (SRM), the Commission approved the staff's proposal to develop regulatory guidance regarding the scope and level of design detail required for certification of standard plant designs. In that SRM, the Commission stated that the staff "should develop a preliminary list of the specific engineering products it believes are necessary to permit the preparation of procurement specifications and construction and installation specifications for structures, systems, and components that can affect safe plant operation, seeking input from interested parties." Currently the staff does not have and did not develop such a preliminary list of the specific engineering products as requested by the Commission.

During its review of the SSAR for the GE ABWR design, the staff has realized that sufficient information was not provided by the applicant for a number of critical areas for use by the staff in evaluating the adequacy of the proposed design. On November 4-5, 1991, there was an NRC-sponsored Advanced Light Water Reactors Conference held in the Washington, D.C. area to discuss, and exchange views on, several matters including the level of design detail issue. At that conference, the staff has proposed an alternative approach for dealing with the level of design detail issue. During this session, the staff will brief the Committee regarding the proposed alternative approach.

Presentation by the NRC Staff - Mr. W. Russell, NRR

Key points noted by Mr. Russell included the following:

- The staff and GE have agreed that providing complete design detail for certain critical areas is dependent upon site-specific, as-procured, and as-built information. For the

purpose of design certification 10 CFR Part 52 does not require as-built, as-procured, or site-specific information. As a result, the staff has proposed to accept "Design Acceptance Criteria" (DAC) for certain critical areas in lieu of "Design Detail" for use in the design certification process. The DAC will be verified during the construction stage of the plant as part of the Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC).

- The current critical issues associated with the evolutionary plants for which the staff agreed to accept DAC include:
 - Piping Design.
 - Leak Before Break.
 - Control Room Design.
 - Advanced Instrumentation and Control Systems Design.
- In the October 21, 1991 SRM, the Commission asked the staff and the Office of General Counsel to prepare a Commission paper discussing the advantages and disadvantages of using the DAC approach in the design certification process. Also, the Commission asked the staff to obtain ACRS views on the proposed paper prior to submitting it to the Commission.

Mr. Michelson asked whether the subcompartment pressurization is due to both static and dynamic loading resulting from a pipe break. Mr. Terao, NRR, said that both static and dynamic loading are being postulated for the ABWR. Mr. Russell, NRR, agreed to look into this matter further and provide information for discussion during the next ABWR Subcommittee meeting.

Stating that there has been some concern regarding the susceptibility of stainless steel piping to stress corrosion cracking, Dr. Shewmon asked about the staff's current position on the use of stainless steel piping. Mr. Russell said that the staff does not have all the parameters, such as water chemistry, stress, temperature, etc., that are needed to make a determination regarding the use of stainless steel piping. He committed to discuss this issue with the Committee at a future meeting after obtaining the necessary information.

In response to Mr. Michelson's concern that Chapter 15, "Accident Analysis," of the GE SSAR related to the ABWR design does not address pipe break outside the containment, flooding, external events, or fire, Mr. Russell said that the staff will address these issues during a future ACRS meeting.

This was an information briefing -- the Committee took no action at this time. However, the Committee plans to review the SECY paper related to this matter when it is made available to the Committee.

IV. Vendor Test Programs to Support the Design Certification of Passive Light Water Reactors (SECY-91-273)

[NOTE: Mr. T. Rotella was the Designated Federal Official for this portion of the meeting.]

Mr. Carroll, Chairman of the Advanced Pressurized Water Reactors Subcommittee, said that during the November 6, 1991 meeting, the Subcommittee discussed the NRC staff's recommendations for reviewing, monitoring, and approving test programs to support the design certification of passive light water reactors. The staff is in the process of preparing two other papers; one will describe the need for large-scale, full-pressure integral systems testing for the Westinghouse AP600 passive plant, and the other will provide an initial assessment of the planned testing programs for the GE Simplified Boiling Water Reactor (SBWR). He said that, during this session, the staff will brief the Committee regarding its proposed recommendations in SECY-91-273, and Westinghouse will give a presentation regarding its testing and analysis program for the AP600 plant.

Presentation by Westinghouse Electric Corporation - Dr. L. Hochreiter

Dr. Hochreiter summarized briefly the AP600 safety system design and the testing and analysis program. He stated that the program includes the following considerations:

- Key phenomena for various design-basis accidents and transients.
- New design features.
- Existence of data for code validation.

Dr. Hochreiter said that the testing program includes extensive testing of the AP600 containment features including wind tunnel tests, full-scale dome segment testing to investigate water distribution, passive cooling tests, and others. In summary, he said that Westinghouse believes that a comprehensive AP600 testing program has been developed and is in progress, and that the planned tests will appropriately characterize the unique features of the AP600.

Mr. Ward asked how in-containment water is collected from condensation sources. Dr. Hochreiter explained that the containment is internally guttered to collect condensation and direct the water to the in-containment refueling water storage tank.

Presentation by the NRC Staff - Mr. R. Jones, NRR

Mr. Jones discussed the contents and conclusions included in SECY-91-273. Key points noted by Mr. Jones included the following:

- Overall, the Westinghouse test program will provide considerable data for analytical model development and validation and will resolve many design and operational questions for components and systems.
- There are several concerns about the vendor test program. No tests are planned to examine:
 - Fourth Stage Automatic Depressurization System (ADS) valves that are essential for injection of water from In-Containment Refueling Water Storage Tank (IRWST).
 - Two-phase flow at inlet of ADS valves.
 - Dynamic behavior of check valves.
 - Boron distribution in the RCS during the core makeup tank injection.
 - RCS response during passive containment cooling.
 - Large energy releases to the Passive Containment Cooling System (PCCS).
 - Systems interactions.
- The staff has made recommendations for changes and additions to both separate effects and integral tests to correct the identified concerns, and is interacting with the vendor to address these concerns and to determine how the test program must be structured to meet the design certification requirements.
- A draft SECY paper is being prepared to address possible phenomena to be studied in integral testing such as natural circulation in reactor components, interactions between passive systems and between passive safety systems and active non-safety systems, and integral plant response to a wide range of simulated accidents and transients.

The Committee provided a report to the Commission on this matter as discussed in Section IX of this document.

V. Generic Issue 121, Hydrogen Control for PWR Dry Containments

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

Dr. Kerr, Chairman of the Severe Accidents Subcommittee, stated that Dr. Catton and he had reviewed the staff's proposed resolution of Generic Issue (GI) 121 and had informed the Committee during the September 1991 ACRS meeting that they had no problem with the staff's proposed resolution. However, as some ACRS members had requested a staff presentation on this matter, the staff would provide a briefing during this session.

Presentation by the NRC Staff - Dr. E. Chow, RES

Dr. Chow discussed the objective and background for the proposed resolution of GI-121. The stated objective was to determine whether additional regulations or requirements are needed to cope with hydrogen releases from recoverable, degraded-core accidents in large PWRs. He said that this issue had been addressed for all BWRs and PWRs (with ice condensers) in the resolution of Unresolved Safety Issue (USI) A-3, "Hydrogen Control Measures and Effects of Hydrogen Burns on Safety Equipment." With the resolution of GI-121, the issue of hydrogen control would be satisfactorily addressed for all current BWR and PWR containments.

As background for the proposed resolution, Dr. Chow reviewed the existing regulations regarding hydrogen control in large dry containments and discussed the actual conditions experienced during the TMI-2 accident. He stated that 1000 pounds of hydrogen was generated at TMI-2 and that when ignited, this produced a pressure pulse of 28 psig. While this produced thermal damage to elastics, paint, and insulation, the containment remained intact.

Other key points noted by Dr. Chow included the following:

- Sandia National Laboratories (SNL) performed several analyses and experiments on this matter, including the following:
 - Safety-Related Equipment Survival in Hydrogen Burns in Large Dry PWR Containment Buildings.
 - Equipment Survivability Tests on Hydrogen Burns.
 - Experiments on Hydrogen Transport and Mixing.
- The findings of the analyses and tests revealed that:
 - Multiple burns due to i rs may fail safety equipment.

- Global deflagrations are not likely to be a threat to containment structural integrity.
- Global detonations are very unlikely.
- The findings of NUREG-1150 indicate no problems on hydrogen control.
- Risks from hydrogen release resulting from greater than 75 percent active fuel cladding oxidation are to be examined in the IPE.
- Based on the above information, the staff has concluded that no new regulatory requirements or guidance on hydrogen control for recoverable degraded core accidents are needed for the PWR dry containments.

The Committee provided a letter to the EDO on this matter, as discussed in Section IX of this report.

VI. Key Technical Issues

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

The Committee continued its discussion of key technical issues related to evolutionary, passive, and advanced reactor designs that are in need of early resolution. During the past three ACRS meetings, the Committee discussed several issues and assigned priority rankings. The Committee agreed to develop action plans for resolution of certain issues during an Ad Hoc Subcommittee meeting scheduled to be held on November 22-24, 1991 in Baltimore, Maryland.

VII. Reactor Operating Experience

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

NRC Incident investigation team (IIT) Briefing on the Nine Mile Point Loss of Instrument Power Event

Mr. Carroll, Chairman of the Plant Operations Subcommittee, stated that the NRC dispatched an IIT to investigate the event of August 13, 1991 at Nine Mile Point Unit 2 which resulted in the loss of 5 uninterruptible power supplies (UPSs). He said that the IIT Leader (Mr. Rosenthal, AEOL) would brief the Committee on this matter and noted that representatives of the licensee (Niagara Mohawk) are also present to respond to questions.

Results of the IIT Investigation - Mr. J. Rosenthal, AEOD, IIT Leader

Mr. Rosenthal briefed the Committee on the results of the IIT's investigation of the August 13, 1991 event that resulted in a common-mode loss of instrumentation power at Nine Mile Point, Unit 2. Key points noted by Mr. Rosenthal included the following:

- On August 13, 1991, at approximately 5:50 a.m., the B-phase main step-up transformer failed. Immediately afterwards, 5 of the plant's 10 UPSs also failed. The failure of the UPSs resulted in the failure of several equipment, including the following:
 - All indications of control rod position (preventing verification of reactor scram).
 - Controls for the condensate and main feedwater systems.
 - Almost all control room alarms, including the plant fire alarm indicators.
 - All in-plant radios and the page telephone system.
 - Almost all the plant computers that perform alarm, protection, and recording functions.
 - Most of the displays for balance-of-plant equipment.
 - The Safety Parameter Display System.

The power was restored to all failed UPSs approximately 35 minutes after the event.

- The operators took prompt actions to verify scram and initiate recovery. A "site area emergency" was declared and notification procedures begun. The emergency operating procedures (EOPs) were followed by the operators upon decrease of vessel water level and procedures were followed for control of (vessel) level and power, since the position of the control rods could not be verified.

In response to a question by Dr. Kerr, it was noted that the State and local officials were kept fully informed, pursuant to declaration of a "site area emergency."

- Difficulties were experienced by the operators in controlling vessel water level. The main problem seen was due to the injection of feedwater from the condensate booster pumps which began injecting when vessel pressure decreased below the pumps' shutoff head. Operators were initially unaware that the water was being injected due to loss of flow instrumentation resulting from the failure of the UPSs; in addition, the feedwater control valves were inoperable - again due to loss of the UPSs. The pumps were finally

secured, which resulted in regaining eventual control of the vessel water level.

Mr. Carroll asked whether there were sufficient personnel present during the event to handle the demands of the event. Mr. Rosenthal said that the event occurred at the time of a shift turnover, so they had all the people they needed. The IIT determined that if the event had occurred at another time (e.g., backshift), the (normal) crew size would be sufficient to handle such an event.

- The operators suspected that the UPSs were the cause of the power losses and initiated recovery. No procedures were available to reset the units, but an operator who gained knowledge of the units' function during start-up activities recalled a recovery procedure that he was shown when the units were installed initially. Execution of this procedure was successful, and power was restored to all affected equipment - 35 minutes after the event began. Plant recovery proceeded fairly routinely from this point.
- Key findings concerning this event noted by the IIT included:
 - The event was of low safety significance, and resulted in no adverse safety consequences.
 - The operators were presented with a significant challenge for plant recovery; although they coped with the challenge, some mistakes were made.
 - The use of the EOPs and related training were beneficial for plant recovery, particularly given the loss of extensive control room instrumentation. The operators' confidence was enhanced, and the procedures helped focus their actions to recovery and monitoring of key plant parameters.
 - Failure of the five UPSs was attributed to a common-mode design deficiency and common-cause maintenance deficiency. Specifically, the units were vulnerable to failure due to a degraded voltage condition. Upon loss of the phase-B transformer, the UPSs logic precluded transfer of power to the backup power source (maintenance power), as designed. However, the (degraded) phase-B maintenance supply continued to power the UPS logic power supply because this voltage happened to be above the "drop-out" level for the logic supply. This fact, combined with the severely degraded condition of the internal batteries, resulted in isolation of the normal

power supply as well. Thus no power transfer could take place.

In response to a question by Dr. Lewis, Mr. Rosenthal said that if the internal batteries were functional, the event would not have occurred. He said the IIT found that the batteries were subjected to high internal cabinet temperatures and a high float voltage. According to the battery manufacturer, such conditions would result in an effective battery life of ~ 18 months. The batteries in question had not been inspected or replaced since initial installation of the UPSs (over four years ago).

- Failure of the control rod position indication system resulted in use of the ATWS procedures. This system is vulnerable to single failures, and had not been included in the list of instruments to be qualified pursuant to the provisions of Regulatory Guide 1.97.
- The cause of the transformer failure is not known (speculation ranges from a manufacturing defect to failure due to geomagnetic disturbances).
- There were deficiencies in the procedures, e.g., the scram procedures did not complement the EOPs; the recovery procedures were deficient in some areas. Of particular note, was the fact that the EOPs did not provide sufficient guidance for stabilizing vessel pressure. Also of note, was that the technical manual for the failed UPSs (manufactured by Exide Electronics) did not clearly state the function or importance of the control logic. In addition, there were inconsistencies between the text and the electrical circuit drawings of the power source for the control logic.

Mr. Carroll asked what the Shift Technical Advisor did during the event. Mr. Rosenthal replied that he did his assigned tasks such as going to the back-panels of the instrumentation racks to obtain readings, and advised the operating crew pursuant to use of the EOPs.

- The IIT raises the issue of equipment classification vis-a-vis "safety-related" versus "important to safety." As an example, it was noted by the IIT that the two safety-related UPSs (which did not fail during the event) were better maintained and less lightly loaded than their "non-safety-related" UPSs.

In response to a comment from Dr. Kerr, Dr. Ross, AEOD, said the utility had a mindset that safety-related equipment should receive better treatment than non-safety-related equipment. He noted that the new maintenance rule would encompass such equipment as the non-safety-related UPSs, since they service equipment that is relied on for exercising the EOPs.

Comments by the Licensee - Mr. C. Terry, Niagara Mohawk

Mr. Terry made the following comments:

- Overall, the utility found the IIT report to be useful, and they have already made some changes pursuant to the IIT's recommendations. They believe that both the operators and the plant performed well during the event.
- While the licensee agrees the UPSs must be highly reliable, they disagree with the IIT conclusions, noted above, concerning the function of the batteries. The licensee believes that the function of the batteries is to power the indicator lights on the cabinet and to aid troubleshooting.
- The root cause of the failure of the UPSs was the oversight of not considering the possibility that a power reduction could disable the units. The units have been modified to rectify this situation.

In response to questions from Mr. Carroll and Dr. Lewis, the licensee noted that they do use batteries for monitoring functions in the plant. The NRC staff noted that the UPS model that failed at the Nine Mile Point Plant is used in other plants, but is not believed to be used in conjunction with safety-related equipment. This last point is being verified by the Vendor Inspection Branch of NRR.

Dr. Ross noted that the EDO will issue a Staff Action Memorandum that assigns follow-up actions resulting from the conclusions of the IIT's investigation. In addition, a memorandum detailing the technical response to the issue of the UPS battery function will be issued soon. Copies will be provided to the Committee.

Mr. Carroll suggested that the staff consider including a representative of INPO on the Augmented Inspection Teams, as had been done for IITs, when formulating such teams to investigate certain operating events. Dr. Ross said that he would include this issue in the list of items for the next Committee discussion with the Director of AEOD.

Mr. Michelson requested that he be provided a status report on the resolution of ACRS concerns related to USI A-17, Systems Interactions, that were evaluated under the Multiple System Responses Program (MSRP).

This was an information briefing -- the Committee took no action.

VIII. Subcommittee Reports

• Recent Staff Actions Concerning the Shutdown of the Yankee Rowe Nuclear Power Station

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

Mr. Carroll, Co-Chairman of the Ad Hoc Subcommittee on Yankee Rowe, stated that the recent staff actions resulting in the abrupt shutdown of the Yankee Rowe Nuclear Power Plant raise a number of important issues that he believes deserve the attention of the Committee. Specifically, he noted the following points:

- The NRC staff apparently was not communicating with the licensee of the Yankee Rowe Nuclear Power Plant in the time frame just before the staff recommended to the Commission that the plant be shut down.
- NRC did not follow its own guidance, given in Regulatory Guide 1.154, concerning the performance of the reactor vessel failure analysis. Specifically, the staff denied credit for operation of the RCPs as a mitigative measure, and did not allow credit for the phenomenon of "warm prestress." Such "corrective measures" should be considered in these analyses.
- The staff should be using best-estimate inputs in its PRA, with the conservatism added after the fact. Here NRC performed PRA using conservative inputs.

Dr. Siess observed that the staff's approach was to try to bound the uncertainties, as they did not have much confidence in the analysis of the reactor vessel failure probability. Noting an earlier remark concerning the balancing of mitigative versus preventative actions vis-a-vis performance of PRA to determine acceptable risk, Dr. Siess said that this is an important issue that deserves to be carefully thought out.

Mr. Carroll asked whether the Committee believes that it should provide formal comments on these items. Mr. Ward said

that he believes the central issue is the staff's lack of consistent regulation of risk. As a result of further discussion, it was agreed that the issue of lack of consistent regulation of risk be taken up during the November 22-24, 1991 ACRS Ad Hoc Subcommittee meeting scheduled to be held in Baltimore, Maryland. Mr. Ward said he would request that Dr. Lewis incorporate this matter into the discussion topic dealing with use of PRA in regulation of plant risk.

• Status of Steam Generator Tube Degradation and Alternate Repair Criteria

[NOTE: Mr. T. Rotella was the Designated Federal Official for this portion of the meeting.]

Dr. Shewmon, Chairman of the Materials and Metallurgy Subcommittee, provided a report to the Committee regarding the November 6, 1991 meeting of this Subcommittee during which the following matters were discussed with representatives of the NRC staff and EPRI:

- Existing NRC steam generator tube repair limit.
- Alternate steam generator tube repair limit being proposed by the U.S. industry.

Key points reported by Dr. Shewmon included the following:

- Steam generator tube repair limit based only on depth was appropriate when general wall thinning was a common mechanism of tube degradation. Since water chemistry has improved, the cracks that develop nowadays are short and are generally in localized areas such as tube support plates.
- The U.S. industry is proposing alternate steam generator tube repair limits because cracks or flaws in the steam generator tubing that are short and narrow apparently do not reduce the burst pressure of a tube unless the cracks line up and form a long flaw. The continued use of the 40-percent depth limit leads to the plugging of many tubes that have very little risk of failure.
- The staff is in the process of evaluating the alternate tube repair criteria for the Farley Nuclear Power Plant.

The Committee provided a report to the Commission on this matter as discussed in Section IX of this document.

• Severe Accident Research Program

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

Dr. Kerr, Chairman of the Severe Accidents Subcommittee, provided a report to the Committee regarding the October 24-25, 1991 meeting of this Subcommittee during which the Subcommittee discussed the status of various elements of the NRC Severe Accident Research Program (SARP) Plan. Key points reported by Dr. Kerr included the following:

- Several of the proposed research projects are not sufficiently advanced. Therefore, it is not clear how these projects will fit into the overall plan for the resolution of severe accident issues.
- Although the staff has described a number of proposed severe accident research projects, there are no documents available at present to describe the eventual goal of the program and how the individual projects will contribute to the achievement of that goal. It seems that the staff will issue a number of documents in the near future.
- The staff had difficulty in providing adequate responses to the Subcommittee questions regarding the justification for expending resources on many aspects of the severe accident research and also regarding the extent to which the proposed research will reduce the large uncertainties that exist in the understanding of the severe accident phenomena, and hence the severe accident risk. The RES staff agreed to address these issues in detail in the revised SARP document and also provide a written response to the Committee regarding reduction in uncertainties.
- The current and future research programs and codes are and will be subjected to an extensive peer review. The current programs for the Mark I containment liner issue, core-concrete interaction, and source term are close to completion or resolution. The staff plans to complete the program on Direct Containment Heating (DCH) by the end of 1992. A number of documents are to be issued for review and comment. These include the following:
 - Revised SARP Plan (end of 1991).
 - Core Melt Progression Plan (end of 1991).
 - Plan for Resolution of DCH (December 1991).
 - Final Report on Mark I containment liner issue (end of 1992).

Dr. Kerr asked whether the Committee wishes to provide some comments now based on the Subcommittee meeting and a full Committee presentation in the near future, or wait until the issuance of the above documents and provide comments at the appropriate time. The Committee decided to wait until later to comment on individual documents when they become available.

• Planning and Procedures

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

Mr. Ward, Chairman of the Planning and Procedures Subcommittee, provided a report to the Committee regarding the November 6, 1991 meeting of this Subcommittee. The issues discussed during this meeting and the Committee's action on the recommendations of the Subcommittee related to those issues are given below.

ACRS Position/Recommendations Regarding Chairman Selin's Inquiry about Selection of ACRS Members and Reduction of the Workload

During his meetings with the ACRS in July and September 1991, Chairman Selin requested that the Committee provide its views to the Commission on the following:

- Is the universe from which the Committee members are chosen broad enough, or is it limited by the stringent conflict-of-interest rules and policies? Does the Committee collectively believe it worthwhile to relax the conflict-of-interest rules, policies, and restrictions?
- Does the Committee believe that the workload has become a major deterrent in getting members it desires to have? If so, what are the recommendations of the Committee regarding the degree to which and the manner by which its workload can/should be reduced to make service on the Committee a viable option for persons who are currently employed and have heavy commitments on their time by their full-time employers?

The Committee agreed to the following recommendations of the Planning and Procedures Subcommittee regarding this matter:

- There is no need to write a report to the Commission on the conflict-of-interest and workload issues. The ACRS Chairman should discuss these matters with NRC Chairman Selin during the next meeting between them.

- Mr. Fraley, ACRS Executive Director, should draft a Point Paper to be used as the basis for this discussion.

Proposed Mechanism for ACRS Review of SECY Papers

During the October 9, 1991 meeting between the EDO and the ACRS Chairman, the EDO committed to provide the Committee, on a monthly basis, with a list of all foreseeable staff papers to the Commission that will be available during the near-term period (e.g., "two-months" ahead), so the ACRS would have the opportunity to identify the papers it is interested in reviewing.

Members of the EDO staff have instead expanded the list of items on which they plan to request ACRS review plus a computer printout (Work Item Tracking System) of matters where the staff does not intend to request ACRS review. This annotated computer printout does not include enough information for the ACRS to make a considered judgment about its desire to review these items.

The Committee agreed to the following on this matter:

- Mr. Fraley should develop criteria/guidance for use by the staff in determining the types of papers that need to be included in the list to be submitted to the ACRS.

Reconciliation of EDO Responses to ACRS Recommendations

The EDO normally responds to the ACRS comments and recommendations addressed to the Commission. The Subcommittee members wondered, in this capacity, whether the EDO:

- Represents the Commission in these replies.
- Obtains necessary feedback from the Commission.
- Reflects the Commission's position.

The Committee agreed to the following recommendations on this matter:

- Discuss this matter with the Commission during the December 12, 1991 ACRS-Commission meeting, as appropriate, or the ACRS Chairman should discuss it with Chairman Selin during their next one-on-one meeting.
- For each ACRS meeting, include an agenda item for Cognizant ACRS Subcommittee Chairman to report on the EDO's response to the ACRS comments and recommendations. If the response is inadequate, the Committee should consider writing a letter to the Commission or the EDO.

- Schedule for discussion during the December 12-14, 1991 ACRS meeting the EDO's responses to the ACRS reports on the consistent use of PRA, dated July 19, 1991, and on the staff's Recommendations on the Regulatory Impact Survey Report.

Periodic Meetings with the NRC Commissioners

For Calendar Year 1992, the Committee agreed to continue the practice of setting up three preplanned meetings with the Commission to discuss items of mutual interest with the understanding that adjustments could be made as needed to deal with any matter of special interest.

Proposed Rule on the Conduct of Government Employees

The Subcommittee felt that the comments provided by the NRC on September 20, 1991 on the proposed 5 CFR Part 2635, "Standards of Ethical Conduct for Employees of the Executive Branch," did not emphasize the impact of this proposed rule on the activities of the Special Government Employees (SGEs) such as the members of the ACRS and ACNW.

Given the fact that the Office of Government Ethics (OGE) plans to revise the proposed rule as a result of about 1200 comments from various agencies expressing concerns about the stringent provisions of the proposed rule, the Subcommittee felt that the ACRS should provide comments pointing out the significant impact the proposed rule may have on SGEs.

The Committee agreed to prepare a letter to OGE including comments on the proposed rule. It will be sent to the Commission requesting that the Commission forward the ACRS comments to OGE.

IX. Executive Session

A. Reports to the Commission

- 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 (Report to Chairman Selin, dated November 14, 1991)

The Committee provided several specific comments on the NRC staff's recommendations for reviewing, monitoring, and approving test programs to support the design certification of passive light water reactors that are delineated in SECY-91-273.

- Steam Generator Tube Repair Limits (Report to Chairman Selin, dated November 15, 1991)

The Committee provided several comments on the NRC's steam generator tube repair limit. Additional comments provided by ACRS member Harold W. Lewis were included in this report.

B. Letters

- Standards of Ethical Conduct for Government Employees (Letters to Chairman Selin and to Mr. Stephen Potts, Director, Office of Government Ethics, dated November 19, 1991)

The members prepared a letter to Mr. Stephen Potts, Director of OGE, commenting on 5 CFR Part 2635, "Standards of Ethical Conduct for Employees of the Executive Branch," that is being proposed by OGE.

The Committee sent this letter to the Commission requesting that the Commission forward it to the OGE for consideration in the preparation of the final version of 5 CFR Part 2635.

C. Memorandum

- Resolution of Generic Issue 121, "Hydrogen Control for PWR Dry Containments" (Memorandum for J. M. Taylor, EDO, dated November 13, 1991)

The Committee stated that it has no objection to the proposed resolution of Generic Issue 121.

X. Meeting Dates for Calendar Year 1992

The Committee approved the following meeting dates for Calendar Year 1992:

381st Meeting	January 9-11, 1992
382nd Meeting	February 6-8, 1992
383rd Meeting	March 5-7, 1992
384th Meeting	April 2-4, 1992
385th Meeting	May 7-9, 1992
386th Meeting	June 4-6, 1992
387th Meeting	July 9-11, 1992
388th Meeting	August 6-8, 1992
389th Meeting	September 10-12, 1992
390th Meeting	October 8-10, 1992
391st Meeting	November 5-7, 1992
392nd Meeting	December 10-12, 1992

XI. SUMMARY/LIST OF FOLLOW-UP MATTERS

- In its November 14, 1991 report to Chairman Seiin regarding SECY-91-273, "Review of Vendors' Test Program to Support the Design Certification of Passive Light Water Reactors," the Committee stated that it:
 - Wishes to be kept informed as the staff implements the program described in SECY-91-273. (Mr. Rotella has the follow-up action on this matter.)
 - Plans to review two SECY papers that are in preparation; one will describe the need for large-scale, full-pressure, integral systems testing for the Westinghouse AP600 passive plant, and the other will provide an initial assessment of the planned testing program for the General Electric Simplified Boiling Water Reactor. (Mr. Rotella and Dr. El-Zeftawy have the follow-up action on this matter.)
 - Will comment on the need for a full-height, high-pressure, integral facility simulating the AP600 plant when the staff completes the development of its basis for such a facility. (Mr. Boehnert has the follow-up action on this matter.)
 - The Committee has agreed to meet with the NRC Commissioners on December 12, 1991 to discuss items of mutual interest, including the following:
 - Key technical issues applicable to evolutionary, passive, and advanced nuclear power plant designs.
 - Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC).
 - GE Advanced Boiling Water Reactor Design.
 - Recommendations for reviewing, monitoring, and approving vendors' test program to support design certification of passive Light Water Reactors (SECY-91-273).
 - Consistent use of PRA in the regulatory process.
 - Evaluation of risks during low-power and shutdown operations of nuclear power plants.
- (Dr. El-Zeftawy, Mr. Rotella, Mr. Houston, and Mr. Boehnert compiled the necessary background information for use by the Committee in preparing for this meeting.)

- The Committee decided to "drop" from further consideration the study of ALARA expenditures at 28 nuclear facility sites that were compiled through a survey by the Brookhaven National Laboratory for the NRC. (No follow-up action on this matter.)
- The Committee decided not to review, on its own initiative, the license application by the Louisiana Energy Services for their proposed Uranium Enrichment Facility. (No follow-up action on this matter.)
- The Committee agreed to hear a briefing by the staff, during the January 9-11, 1992 ACRS meeting, regarding the proposed power level increase for the operating GE reactor plants. (Mr. Boehnert has the follow-up action on this matter.)
- The Committee agreed to include an agenda item for each ACRS meeting for the cognizant ACRS Subcommittee Chairman to report on the adequacy of the EDO's responses to ACRS comments and recommendations included in its reports to the Commission or letters to the EDO. (Mr. Fraley has the follow-up action on this matter.)
- During the discussion of the August 13, 1991 loss of uninterruptible power supplies event at the Nine Mile Point Nuclear Power Plant, the following recommendation and request were made:
 - Mr. Carroll recommended that the staff consider including a representative of INPO on the staff's Augmented Inspection Teams (AITs), as is done for the Incident Investigation Teams (IITs), when formulating such teams to investigate certain operating events. (Mr. Boehnert has the follow-up action on this matter.)
 - Mr. Michelson requested that the staff provide a status report on the resolution of the ACRS concerns related to USI A-17, Systems Interactions, that were evaluated under the Multiple System Responses Program (MSRP). (Mr. Boehnert and Mr. Duraiswamy have the follow-up action on this matter.)
- During the discussion of SECY-91-273, "Review of Vendors' Test Program to Support the Design Certification of Passive Light Water Reactors," the Committee agreed that the Thermal Hydraulic Phenomena Subcommittee should review the forthcoming staff paper that would describe the need for a full-height, high-pressure, integral facility simulating the Westinghouse AP-600 passive LWR. (Mr. Boehnert has the follow-up action on this matter.)

- In response to Mr. Michelson's concern that Chapter 15, "Accident Analysis," of the GE Standard Safety Analysis Report related to the ABWP design does not address pipe break outside the containment, flooding, external events, or fire, Mr. Russell, NRR, stated that the staff will address these issues during a future ACRS meeting. (Dr. El-Zeftawy has the follow-up action on this matter.)
- The Committee decided to defer comments on the Severe Accident Research Program Plan, pending receipt and review of the related documents. (Mr. Houston has the follow-up action on this matter.)

XII. Future Activities

A. Future Agenda

The Committee agreed to a tentative schedule for the 380th, December 12-14, 1991 ACRS meeting as contained in Appendix II.

B. Future Subcommittee Activities

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

The meeting was adjourned at 5:10 p.m., November 8, 1991.

APPENDICES
379TH ACRS MEETING
NOVEMBER 7-8, 1991

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

APPENDIX I
MINUTES OF THE 379TH ACRS MEETING
NOVEMBER 7-8, 1991
ATTENDEES

PUBLIC ATTENDEES

M. G. Phillips, Newman & Holtzinger
S. Savage, Halliburton-NUS
John T. Chambers, GE Nuclear Energy
Gary Vine, EPRI, D.C.
A. Heyhmer, NUMARC
Y. Horikawa, Kansai Electric Power
L. Hochreiter, Westinghouse Electric
V. SanAngelo, Bechtel
R. Huston, TVA
B. McIntyre, Westinghouse
J. W. Yang, BNL
D. Modeen, NUMARC
B. Pearce, Consultant
A. Cummings, SERCM Licensing, Bechtel
R. Carson
Carl Terry, Niagara Mohawk
W. D. Baker, Niagara Mohawk
Michael Calomb, Niagara Mohawk
Richard B. Abbott, Niagara Mohawk
Robert J. Cramdru, Niagara Mohawk
Margo Barron, NUS-LIS

NRC ATTENDEES

R. VanHouten, SECY
C. Abbate, NRR
R. Correia, NRR
J. Wermiel, NRR
C. Posnay, NRR
R. Nease, NRR
J. Guttman, OCM/FR
V. McCree, NRR
D. Terao, NRR
F. Witt, NRR
G. Bagchi, NRR
R. Borchardt, NRR
M. Chiramal, NRR
G. Kelly, NRR
W. Burton, NRR
M. Taylor, OEDO
T. Polich, NRR
C. Carpenter, NRR
J. Sharkey, NRR
R. Jones, NRR
A. Levin, NRR
C. McCracken, NRR
M. Rubin
R. Caruso, NRR
J. Lyons, NRR
J. Burns, RES
R. Hasselberg, NRR
C-Y. Li, NRR
E. Chow, RES
J. Mitchell, RES
C. Ader, RES
J. Flack, RES
J. Schaperow, RES
C. Ferrell, FES
D. Brinkman, NRR
J. Manning, NRR
J. Ibarra, NRR
T. Pohida, NRR
J. Kauffman, AEOD
J. Rosenthal, AEOD
R. Woodruff, NRR
W. Schmidt, Reg. I
D. Haverkamp, Reg. I
T. Stetka, EDO
A. Behbahani, RES
S. O'Connor, NMSS
J. Bird, OC
W. Leschek, AEOD
J. Manzek, CONS

APPENDIX II
MINUTES OF THE 379TH ACRS MEETING
NOVEMBER 7-8, 1991
FUTURE AGENDA

Tentative Schedule for the 380th ACRS Meeting December 12-14, 1991

- Diesel Generator Reliability - Review and report on proposed amendment to the NRC Station Blackout rule regarding resolution of Generic Issue B-56, "Diesel Generator Reliability." Representatives of the NRC staff and the nuclear industry will participate, as appropriate.
- Resolution of Selected Technical and Severe Accident Issues for Evolutionary Light Water Reactor (LWR) Designs (SECY-91-262) - Review and report on the matters discussed in SECY-91-262. Representatives of the NRC staff and the nuclear industry will participate, as appropriate.
- Interim Guidance on Staff Implementation of the Commission's Safety Goal Policy (SECY-91-270) - Review and report on the matters discussed in this SECY paper. Representatives of the NRC staff and the nuclear industry will participate, as appropriate.
- Role of Personnel and Advanced Control Rooms in Future Nuclear Power Plants (SECY-91-272) - Review and report on the matters discussed in this SECY paper. Representatives of the NRC staff and the nuclear industry will participate, as appropriate.
- Standard Technical Specifications - Briefing by representatives of the NRC staff regarding the status of the program to develop standard technical specifications for nuclear power plants.
- Design Acceptance Criteria for Certification of Standardized Nuclear Power Plants - Briefing, review, and report as appropriate on the NRC staff evaluation of the use of Design Acceptance Criteria in the certification and combined licenses for standardized nuclear power plants per 10 CFR Part 52, Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants.
- Meeting with NRC Commissioners - Discussion of items of mutual interest including the status of proposed ACRS action regarding key technical issues for future nuclear plants.
- ACRS Subcommittee Activities - Reports and discussions regarding the status of designated subcommittee activities including: review of proposed best-estimate ECCS evaluation models for 3- and 4- loop Westinghouse plants, Westinghouse and Combustion Engineering experience with the use of digital computers in nuclear power plants, and a report by the ACRS Ad Hoc Subcommittee on Key Technical Issues.

- Resolution of ACRS Comments and Recommendations - Discussion of proposed NRC resolution of the ACRS comments and recommendations made in recent Committee reports regarding reactor safety matters, including proposed implementation of the results of the NRC regulatory impact survey, and the consistent use of probabilistic risk assessment in the regulatory process.
- Administrative Matters - Election of Committee officers for CY 1992. A discussion of administrative matters related to the nomination and selection of new Committee members.
- Organizational Factors Research - Briefing by and discussion with representatives of the NRC staff regarding the status of the NRC staff's research programs on organizational factors.
- Control of Nuclear Power Plant Switchyard Activities - Discussion of proposed ACRS actions and comments regarding the impact of licensee control of switchyard activities on the initiation and/or course of nuclear power plant transients and incidents. [Note: This item has been deferred to a future ACRS meeting.]
- Miscellaneous - Discuss matters and specific issues that were not completed during previous meetings as time and availability of information permit.

APPENDIX III
MINUTES OF THE 379TH ACRS MEETING
NOVEMBER 7-8, 1991
FUTURE ACRS SUBCOMMITTEE MEETINGS

ACRS FULL COMMITTEE AND SUBCOMMITTEE MEETINGS

November 8, 1991

ACNW Working Group on Geologic Dating, November 19, 1991, Bethesda, MD, Room P-110.

Thermal Hydraulic Phenomena, (Closed), November 19, 1991, 7920 Norfolk Avenue, Bethesda, MD (Boehnert), 8:30 a.m., Room P-422. The Subcommittee will begin review of the Westinghouse program to develop a best estimate ECCS Evaluation Model for 3- and 4-loop Westinghouse plants. The meeting will be closed to discuss information deemed proprietary by Westinghouse. Attendance by the following is anticipated, and reservations have been made at the hotels indicated for the night of November 18:

Dr. Catton	HOLIDAY INN	Dr. Dhir (tent.)	NONE
Dr. Kress	HOLIDAY INN	Mr. Schrock	HOLIDAY INN
Mr. Ward	HOLIDAY INN	Dr. Sullivan	NONE
Dr. Wilkins	HOLIDAY INN		

AC/DC Power Systems Reliability, November 20, 1991, 7920 Norfolk Avenue, Bethesda, MD, (Boehnert), 8:30 a.m.-12:00 Noon, Room P-422. The Subcommittee will review the proposed Rule to address resolution of Generic Safety Issue B-56, "Diesel Generator Reliability." Lodging will be announced later. Attendance by the following is anticipated:

Mr. Wylie	Dr. Lewis (tentative)
Mr. Carroll	Mr. Michelson
Dr. Kress	Mr. Davis

37th ACNW Meeting, November 20-21, 1991, Bethesda, MD, Room P-110.

Joint Advanced Boiling Water Reactors/Computers in Nuclear Power Plant Operations, November 21, 1991, 7920 Norfolk Avenue, Bethesda, MD, (El-Zeftawy/Rotella), 8:30 a.m., Room P-422. The Subcommittees will review Chapter 7 of the Standard Safety Analysis Report and the related probabilistic risk assessment for the GE/Advanced Boiling Water Reactor design. Attendance by the following is anticipated and reservations have been made at the hotels indicated for the night of November 20:

Mr. Michelson	DAYS INN CONGR	Dr. Kress	HOLIDAY INN
Dr. Lewis	HYATT	Dr. Ward	HOLIDAY INN
Mr. Carroll	HOLIDAY INN	Mr. Wylie	HOLIDAY INN
Dr. Catton	HOLIDAY INN	Mr. Costner	NONE
Dr. Kerr	NONE	Mr. Costner	NONE

ACRS Ad Hoc Subcommittee, (Closed), November 22-24, 1991, (Frale/El-Zeftawy). The members will discuss proposed plan of actions for the resolution of selected key Technical Issues related to evolutionary, passive, and advanced reactor designs. Plans are to hold this meeting at Stouffer Harborplace Hotel, Baltimore, MD. It is anticipated that all Committee members will attend (except W. Kerr).

Joint Computers in Nuclear Power Plant Operations/Advanced Pressurized Water Reactors, December 3-4, 1991, 7920 Norfolk Avenue, Bethesda, MD (Rotella), 8:30 a.m., Room P-110. The Subcommittee will hear presentations by representatives of Westinghouse and ABB Combustion Engineering on their digital computer experiences in nuclear power plants. Lodging will be announced later. Attendance by the Following is anticipated:

Dr. Lewis	Mr. Michelson
Mr. Carroll	Mr. Ward
Dr. Kerr	Dr. Wilkins
Dr. Kress	Mr. Wylie

Regional Programs, December 5, 1991, NRC Region V Office, Walnut Creek, CA, (Boehnert) - POSTPONED - Date to be determined

Safety Philosophy, Technology and Criteria, December 5, 1991, 7920 Norfolk Avenue, Bethesda, MD, (Houston), 8:30 a.m. (tentative half day), Room P-110. The Subcommittee will discuss SECY-91-270, "Interim Guidance on Staff Implementation of the Commissions Safety Goal Policy," and SECY-91-262, "Resolution of Selected Technical and Severe Accident Issues for Evolutionary Light Water Reactor (LWR) Designs." Lodging will be announced later. Attendance by the following is anticipated:

Mr. Ward	Mr. Michelson
Dr. Catton (tentative)	Mr. Wylie
Dr. Kress	

Improved Light Water Reactors, December 10-11, 1991, 7920 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 8:30 a.m., Room P-110. The Subcommittee will review draft safety evaluation reports of the EPRI's Requirements Document for Evolutionary Designs and recommended course of action on adhering to 10 CFR Part 52. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Wylie	Mr. Michelson
Mr. Carroll	Dr. Siess
Dr. Catton	Mr. Ward
Dr. Kress	Dr. Wilkins

Reliability Assurance, December 10, 1991 (1:00 p.m.), (Igne) - POSTPONED - Date to be determined

380th ACRS Meeting, December 12-14, 1991, Bethesda, MD, Room P-110.

ACNW Working Group on Concerns Related to Seismic and Faulting Investigations for Characterization of an HLW Site, December 17, 1991, Bethesda, MD, Room P-110.

Extreme External Phenomena, December 17, 1991, (tentative), 7920 Norfolk Avenue, Bethesda, MD (Houston), 8:30 a.m., Room P-422. The Subcommittee will discuss the proposed revisions to 10 CFR Part 100, Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants." Lodging will be announced later. Attendance by the following is anticipated.

Dr. Siess	Mr. Wylie
Dr. Lewis	Consultants - TBD
Mr. Michelson	

38th ACNW Meeting, December 18-19, 1991, Bethesda, MD, Room P-110.

Joint Safety Philosophy, Technology and Criteria/Severe Accidents/Regulatory Policies and Practices, January 7-8, 1992, Bethesda, MD (Houston/ Quittschreiber). The Subcommittees will discuss a number of interrelated proposed staff position papers as follows: (1) Proposed Definition of a Large Release for Safety Goal Implementation, (2) Proposed Revision to TID-14844 to Update Source Term (3) Proposed Revision to 10 CFR Part 100, Decoupling Siting from Design (4) Site Characteristics to be Used in Part 100 Revision and Large Release Determination. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Ward	Mr. Michelson
Dr. Kerr	Dr. Shewmon
Dr. Lewis	Dr. Siess
Dr. Catton	Mr. Wylie
Dr. Kress	Consultants - TBD

381st ACRS Meeting, January 9-11, 1992, Bethesda, MD, Room P-110.

Safety Research Program, January 14, 1992, Bethesda, MD (Boehnert). The Subcommittee will hold a round-table discussion on the scope, nature and approach of a proposed Committee report on the NRC-RES safety research program. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Catton	Mr. Ward
Dr. Kerr	Dr. Wilkins
Dr. Shewmon	Mr. Wylie
	Dr. Kastenberg

Auxiliary and Secondary Systems, January 22, 1992, (tentative) 7920 Norfolk Avenue, Bethesda, MD (Rotella) 1:00 p.m. (tentative), Room P-422. The Subcommittee will discuss the proposed resolution of Generic Issue 106, "Piping and Use of Highly Combustible Gases in Vital Areas." Lodging will be announced later. Attendance by the following is anticipated.

Mr. Michelson	Dr. Shewmon
Mr. Carroll	Mr. Wylie
Dr. Catton	

Advanced Boiling Water Reactors, January 23-24, 1992, 7920 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 8:30 a.m., Room P-110. The Subcommittee will review SECY-91-294 and SECY-91-309 addressing two DSERs related to different chapters of the GE/Standard Safety Analysis Report for the ABWR design and other related issues. Lodging will be announced later. Attendance by the following is anticipated:

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

ACNW Working Group on Long-Term Climate Change in the Area of the Southern Basin and Range, January 15, 1992, Bethesda, MD, Room P-110.

382nd ACRS Meeting, February 6-8, 1992, Bethesda, MD, Room P-110.

Joint Mechanical Components/Auxiliary and Secondary Systems (tentative), February 19, 1992, 7920 Norfolk Avenue, Bethesda, MD (Igne/Rotella), 8:30 a.m., Room P-110. The Subcommittees will discuss the status of the industry check valve operability program and the status of Generic Issue-57, "Effects of Fire Protection System Actuation on Safety Related Equipment." Attendance by the following is anticipated:

Mr. Michelson	Dr. Shewmon
Mr. Carroll	Dr. Siess
Dr. Catton	Mr. Wylie

Advanced Boiling Water Reactors, February 20-21, 1992, 7920 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 8:30 a.m., Room P-110. The Subcommittee will review SECY-91-320 and SECY-91-355, addressing two DSERs related to different chapters of the GE/SSAR, and other related issues. Lodging will be announced later. Attendance by the following is anticipated.

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

Joint Plant Operations/Probabilistic Risk Assessment, Date to be determined (December/January), Bethesda, MD (Boehnert). The Subcommittees will continue their review of the NRC staff's program to address the issue of risk from low power/shutdown operations. Attendance by the following is anticipated:

Mr. Carroll	Mr. Michelson
Dr. Lewis	Dr. Siess
Dr. Catton	Mr. Ward
Dr. Kerr	Dr. Wilkins
Dr. Kress	Mr. Davis

Thermal Hydraulic Phenomena, Date to be determined (late January), 7920 Norfolk Avenue, Bethesda, MD (Boehnert), 8:30 a.m. The Subcommittee will review the NRC staff's SECY Paper describing plans for development of proposed integral test facilities to address safety issues pertaining to the thermal hydraulic design parameters for the Westinghouse AP-60J 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	

Advanced Reactor Designs, Date and location to be determined (January), (El-Zeftawy). The Subcommittee will visit the ORNL facility and will discuss the testing program and experiments for the MHTGR design. Attendance by the following is anticipated:

Mr. Ward	Mr. Michelson
Dr. Catton	Dr. Siess
Mr. Carroll	Mr. Wylie
Dr. Kerr	

Advanced Pressurized Water Reactors, Date to be determined (January/February), Bethesda, MD (Rotella). The Subcommittee will continue its review of the ABR 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 (January/February), 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. Kreiss	Dr. Corradini
Mr. Michelson	Mr. Davis
Dr. Shewmon	Dr. Lee

Thermal Hydraulic Phenomena, Date to be determined (Winter, tentative), 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, (April 1992 - 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	

Reliability Assurance, Date and location to be determined Bethesda, MD (Igne). The Subcommittee will discuss, with the NRC staff and the industry, research and other matters regarding nuclear power plant aging phenomena. Lodging will be announced later. Attendance by the following is anticipated:

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

Regional Programs, Date to be determined, 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. Lewis
Dr. Catton	Mr. Wylie
Mr. Carroll	Dr. Wilkins
Dr. Kerr	Mr. Ward
Dr. Kress	

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	

Thermal Hydraulic Phenomena, Date to be determined, Los Alamos, NM (Boehnert). The Subcommittee will review the documentation associated with the TRAC-PF1/MOD2 code version. Attendance by the following is anticipated:

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

Structural Engineering, Date to be determined, Bethesda, MD (Igne). The Subcommittee will discuss with the NRC staff and the industry the status of Containment Structural Integrity programs, including foreign programs. Attendance by the following is anticipated:

Dr. Siess	Mr. Ward
Dr. Shewmon	Mr. Wylie

Joint Materials and Metallurgy/Maintenance Practices and Procedures, Date to be determined, Bethesda, MD (Igne/Alderman). The Subcommittees will discuss Risk-Based Inspection Guidelines. Attendance by the following is anticipated:

Dr. Shewmon	Mr. Michelson
Mr. Carroll	Mr. Ward
Dr. Lewis	Mr. Wylie

APPENDIX IV
MINUTES OF THE 379TH ACRS MEETING
NOVEMBER 7-8, 1991
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

[NOTE: Several of the documents listed below have been provided or prepared for INTERNAL ACRS USE ONLY. Release of these documents will be decided on a case-by-case basis. Before releasing these documents to the public, their status should be checked.]

[NOTE: Westinghouse Proprietary Class 2 included.]

MEETING NOTEBOOK

LEVEL OF DESIGN DETAIL

- Tentative Agenda
- Status Report with Attachments:
 - Att. I: SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52," dated November 8, 1990
 - Att. II: ACRS Report to Chairman Carr dated December 10, 1990, Subject: SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52"
 - Att. III: Staff Requirements Memorandum dated February 15, 1991 from S. Chilk, SECY, to James M. Taylor, Executive Director for Operations (EDO), Subject: SECY-90-377, "Requirements for Design Certification Under 10 CFR Part 52"
 - Att. IV: Memorandum dated August 13, 1991 from G. Quittschreiber, ACRS Staff, to C. Miller, NRR, Subject: ABWR Protection Against Postulated Pipe Breaks in Fluid Systems Outside Primary Containment"
 - Att. V: Staff Requirements Memorandum (SRM) of October 21, 1991 regarding SRM M9111017A, Subject: Briefing on Staff Recommended Course of Action on Adhering to 10 CFR Part 52"
- Presentation materials provided to the Committee

VENDOR TEST PROGRAMS TO SUPPORT THE DESIGN CERTIFICATION OF PASSIVE LIGHT WATER REACTORS (SECY-91-273)

- Tentative Agenda
- Status Report with attachments:
 - Att. I: Memorandum dated October 28, 1991 from NRC Chairman Selin for D. Ward, ACRS Chairman, Subject: Schedule for ACRS Review of Recent Staff Papers
 - Att. II: SECY-91-273, dated August 27, 1991, Subject: Review of Vendors' Test Programs to Support the Design Certification of Passive Light Water Reactors
- Presentation materials provided during the meeting

GENERIC ISSUE 121, HYDROGEN CONTROL FOR PWR DRY CONTAINMENTS

- Tentative Agenda
- Status Report

- Memorandum dated August 21, 1991 from D. Houston, ACRS staff, for ACRS Members, Subject: Resolution of Generic Issue (GI) 121, "Hydrogen Control for PWR Dry Containments" - Committee Action on Review Option Requested" with Attachment:
 - Memorandum dated August 9, 1991 from W. Minners, RES, for R. Fraley, ACRS Executive Director, Subject: Resolution of GI 121, "Hydrogen Control for PWR Dry Containments," enclosing DRAFT RESOLUTION PACKAGE
- Portions of NUREG-1370, Resolution of Unresolved Safety Issue A-48, "Hydrogen Control Measures and Effects of Hydrogen Burns on Safety Equipment," September 1989
- Pages 1 and 2 of ACRS Meeting Summary Letter to Chairman Zech, Subject: Three Hundred Forty-First Meeting of the Advisory Committee on Reactor Safeguards, September 8-10, 1988
- ACRS Report to Chairman Palladino dated September 16, 1985, Subject: ACRS Report on Full Power Operation of River Bend Station, Unit 1
- ACRS Report to Chairman Palladino dated August 18, 1982, Subject: ACRS Report on Grand Gulf Nuclear Station Unit 1
- Presentation materials provided during the meeting

KEY TECHNICAL ISSUES

- Tentative Schedule
- Status Report with attachments:
 - Att. I: Memorandum dated June 25, 1991 from M. El-Zeftawy, ACRS Staff, for D. Ward, ACRS Chairman, Subject: T. Murley's List on Advanced Reactors Issues
 - Att. II: Proposed List of Key Technical Issues

LOSS OF INSTRUMENT POWER - NINE MILE POINT NUCLEAR POWER PLANT

- Project Status Report with Attachments:
 - Figures 1 and 2 excerpts from Draft NUREG-1455, NRC IIT Report on Transformer Failure and Common Mode Loss of Instrument Power at Nine Mile Point Unit 2
 - Memorandum dated October 23, 1991 from J. Taylor, EDO, for Jack Rosenthal, Leader, Incident Investigation Team, Subject: Nine Mile Point 2 Investigation Team Followup
 - Memorandum dated November 1, 1991, from H. Alderman, ACRS Staff, for J. Carroll, Chairman, ACRS Plant Operations Subcommittee, Subject: Commission Briefing, October 18, 1991, on the Nine Mile Point Event, August 17, 1991
- Presentation materials provided during the meeting

SEVERE ACCIDENT RESEARCH PROGRAM

- Selected pages (1, 8, 12, 13) of ACRS Report dated May 17, 1991 to Chairman Carr, Subject: Proposed Criteria to Accommodate Severe Accidents in Containment Design
- Pages 2-11 of NUREG-1335, Individual Plant Examination: Submittal Guidance
- Summary (page 1) and page 1-8 of Generic Letter No. 88-20, Individual Plant Examination for Severe Accident Vulnerabilities - 10 CFR 50.54(f)
- Slides used by B. Sheron during October 24-25, 1991 meeting of the ACRS Severe Accidents Subcommittee
- ACRS Report dated April 24, 1990 to Chairman Carr, Subject: Severe Accident Research Program

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STEAM GENERATOR TUBE DEGRADATION

- Project Status Report with attachments:
 - Revision 1, dated July 1985, to Regulatory Guide 1.83, "Inservice Inspection of ressurized Water Reactor Steam Generator Tubes"
 - Regulatory Guide 1.121 dated August 1976, "Bases for Plugging Degraded PWR Steam Generator Tubes"
 - WESTINGHOUSE PROPRIETARY CLASS 2 - Portions of WCAP-12871 on Alternate Plugging Criteria: Chapters 1 and 2, Introduction, Summary and Conclusions

HANDOUTSFUTURE ACRS ACTIVITIES

- List of Future ACRS Full Committee and Subcommittee Meetings
- Memorandum dated November 5, 1991 from R. Savio, Asst. Exec. Director, ACRS for ACRS Members, Subject: Future ACRS Activities - 380th ACRS Meeting, December 12-14, 1991

COMMENTS ON SEVERE ACCIDENTS RESEARCH PROGRAM PRESENTATIONS DURING THE OCTOBER 24-25, 1991 MEETING OF SEVERE ACCIDENTS SUBCOMMITTEE MEETING WITH STAFF MEMBERS OF NRC OFFICE OF NUCLEAR REGULATORY RESEARCH

- Comments by Subcommittee Chairman W. Kerr
- Comments by D. Ward, Subcommittee Member
- Comments by Subcommittee Consultants Michael L. Corradini and P. R. Davis