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MINUTES OF THE 403RD ACRS MEETING

November 4-6, 1993

DESIGNATED ORIGINAL

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CERTIFIED

CERTIFIED: January 4, 1994

MINUTES OF THE 403RD MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
NOVEMBER 4-6, 1993
BETHESDA, MARYLAND

The 403rd meeting of the Advisory Committee on Reactor Safeguards was held at Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland, on November 4-6, 1993. The purpose of this meeting was to discuss and take appropriate action on the items listed in the attached agenda. The meeting was open to public attendance, except a portion that dealt with matters of a personal nature. There were no written statements nor requests for time to make oral statements from members of the public regarding the meeting.

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

ATTENDEES

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

I. CHAIRMAN'S REPORT (Open)

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

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

- Professor Gören Dahlen, Chairman of the advisory committee RSN, Swedish Nuclear Power Inspectorate, and Mr. Erickson, Swedish Nuclear Power Inspectorate, met with Dr. Wilkins and the Executive Director in the ACRS office on November 3, 1993, to discuss generic issues, programmable equipment, and other issues of mutual interest.

- The members were reminded that a visit to the Naval Museum and Exhibit Hall (Crystal City, Virginia) is scheduled for December 7, 1993. Approximately seven members indicated their interest in taking this tour.

- Mr. Douglas Coe announced that he is negotiating with Combustion Engineering (ABB-CE) for an electronic display during the December 8, 1993 ACRS subcommittee meeting on the ABB-CE Advanced Reactor Plant Design (System 80+). This equipment models one of the control panels of the System 80+ design and uses a computer to simulate plant responses to various events.

II. DRAFT FINAL REPORT OF THE PROBABILISTIC RISK ASSESSMENT (PRA) WORKING GROUP (Open)

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

Dr. Harold Lewis, Chairman of the Probabilistic Risk Assessment Subcommittee, indicated that the Committee had discussed an earlier draft report of the PRA Working Group in May 1993 and provided comments to the NRC staff at that time. He noted that a draft final report had been delivered in October and that this would be the subject of this discussion.

Mr. Mark Cunningham, Office of Nuclear Regulatory Research (RES), briefed the Committee on the latest activities of the PRA Working Group since the last Committee discussion as follows:

- Response to the External Reviewer Comments
- Response to the ACRS Comments
- Internal NRC Office Review

In regard to the External Reviewers and the ACRS, Mr. Cunningham described in detail the various comments and staff responses to them, as appropriate. He indicated that the Working Group intended to transmit its final report to the Commission in November and hoped to publish it as a NUREG report in December 1993. To complete the activities of the PRA Working Group, Mr. Cunningham noted the following actions to be taken:

- Guidance for Issue Prioritization and Analysis
- Workshops on PRA Terms and Methods
- Updated Level 1 to Level 3 Transformations
- Integrate Regulatory Review Group Recommendations and other PRA Activities

Dr. Ashok Thadani, Office of Nuclear Reactor Regulation (NRR), discussed the development of a plan for PRA applications within the

NRC. He distributed an internal memorandum, dated November 2, 1993, from all NRC Office Directors to the EDO in which an appropriate approach to a plan to implement the recommendations of the PRA Working Group is described. The details of the plan are tentatively scheduled to be ready by the end of December 1993. Dr. Thadani also described the intended interface with the NUMARC Regulatory Threshold Working Group to utilize the PRA experience within the nuclear industry.

Mr. Tony Pietrangelo, NUMARC, briefly described the activities of the Regulatory Threshold Working Group. He indicated that the chairman of the group was Mr. Jack Sculge, South Carolina Electric and Gas, and that there were 21 members in the group.

Conclusion

The Committee provided a report on this matter dated November 10, 1993, to Chairman Selin.

III. PREAPPLICATION SAFETY EVALUATION REPORT (PSER) FOR THE PRISM DESIGN (Open)

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

Dr. Wilkins, Chairman of the Subcommittee on PRISM, stated that the NRC staff wants to issue the Preapplication Safety Evaluation Report for the Power Reactor Innovative Small Module (PRISM) liquid-metal-cooled reactor design, NUREG-1368, for the purpose of closing out its conclusions.

Dr. Edward Throm, Acting Project Director for the Advanced Reactor Projects Directorate, described the purpose of the review and the development of the PSER and the Advanced Reactor Policy Statement, NUREG-1226. Based on the policy statements, the NRC staff probably went beyond the current regulatory requirements when looking at event scenarios.

Dr. Throm reviewed the PRISM design. It is rated at 4701 MWt; three reactors are tied into a power block; three power blocks make one large 1,395 MWt unit. He described the revised containment system, passive decay hear removal system, reactor vessel penetrations, and the hypothetical core disruptive accident.

During the meeting, the members heard from the NRC staff and representatives of GE and Argonne National Laboratories on the heat removal system, voiding techniques, gas expansion modules for sodium, and thermal conductivity of the molten metal fuel.

Conclusion

The Committee provided a report on this matter dated November 10, 1993, to Chairman Selin.

IV. REGULATORY TREATMENT OF NON-SAFETY SYSTEMS (Open)

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

The Committee was briefed by and held discussions with representatives of the NRR staff on the draft Commission paper, "Policy and Technical Issues Associated with the Regulatory Treatment of Nonsafety Systems in Passive Plant Design." The NRR staff discussed eight issues specific to RTNSS for passive LWR designs, including definition of passive failure, safe shutdown requirements, control room habitability, station blackout, electrical distribution, and in-service testing of pumps and valves.

Conclusion

The Committee provided a report on this matter dated November 10, 1993, to Chairman Selin.

V. SAFEGUARDS AND SECURITY REQUIREMENTS (Open)

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

Dr. Harold Lewis, Chairman of the Safeguards and Security Subcommittee, stated that the Safeguards and Security Subcommittee had met on November 3, 1993, to discuss the malevolent use of motor vehicles, proposed changes to the concept of insider threat, and a safeguards review of the advanced boiling water reactor (ABWR). He said that, due to time constraints, only the proposed rule on malevolent vehicles would be discussed during this session.

Staff Presentation

Mr. Phillip McKee, Chief, Safeguards Branch, NRR, noted that two recent events -- the intrusion event at the Three Mile Island (TMI) nuclear power station on February 7, 1993, and the World Trade Center bombing on February 27, 1993 -- initiated the activity for the proposed rule change. He recalled that the Beirut Marine Barracks bombing in 1983 had stirred up much activity, including Congressional Hearings and studies by the staff. In 1989, the NRC issued a generic letter that required licensees to implement contingency plans. Contingency plans could be implemented within 12 hours of notification. Typically, these plans call

for land vehicle access controls to the site as a precaution against a threat of a vehicle bomb. The February events motivated the Commission to refocus on the design basis threat. The Commission issued a Staff Requirements memorandum requesting the staff to look at the design basis threat for reactors and to look at the specific vehicle threat and to consider what measures could possibly minimize these threats.

Specific activities included a Commission paper that asked the staff to conduct a regulatory analysis of the options, to collect more information on the threat, and to have a public meeting to obtain input from the public. Following the public meeting, the staff submitted a Commission paper that presented the results of the staff's studies. The staff was requested to develop a recommendation pertaining to the threat and to describe any regulatory action that would be needed.

The NRC staff recommended changes in a number of areas. Option one was to revise the design basis threat to include the malevolent use of land vehicles, and to maintain contingency plans. Mr. McKee pointed out that the design basis threat includes a certain amount of margin. Depending on changes to the margin, the design basis threat can change from time to time.

Mr. Lindblad asked if the threat is to harm the public with a radiological release or is it just the threat of an assault at the perimeter of the plant? Mr. McKee replied that the threat is a threat that sabotage will result in a radiological consequence to the public.

Dr. Lewis pointed out that the distinction between damage to a nuclear power plant and damage to the public is a fairly large range of probability. He observed that a threat just conjured up is really not something that ought to be responded to unless there is a finite probability of it happening.

Dr. Lewis asked if the definition of either the hypothetical design basis threat or the actual design basis threat include any numbers or are there only descriptions of events? Mr. McKee replied that, to his knowledge, there are not any numbers associated with them, only descriptions. Dr. Lewis suggested that there is a logical disconnect if the description of the threat includes no numbers and you place vertical lines in a diagram as a result of the TMI intrusion. The description of the event has not changed because of the TMI intrusion.

Mr. McKee said that option two was to place barriers on the major roadways and access points to the facility. He indicated that someone with an intrusion threat or bomb threat with a vehicle could bypass these barriers.

Option three considered setting a hardened barrier around the perimeter of the vital areas or equipment, which would be adjacent to or contiguous with the protected area boundary.

Option four provides for sufficient standoff distance to protect against a bomb exploding at the hardened barrier.

Implementation of the Rule Changes

Mr. McKee said that the threat will be changed in 10 CFR Part 73.1 to include a four-wheel-drive land vehicle used to transport personnel, hand carried equipment and/or explosives. Part 73.55 will be changed to specify that vehicle control measures, including vehicle barrier systems, must be established to protect against the use of a land vehicle as a means of transportation to gain unauthorized proximity to vital areas. Licensees will be required to compare its vehicle control measures to the Commission's design goals and criteria. After this comparison, the licensee must either confirm that it meets the goals and criteria or propose alternative measures.

Conclusion

The Committee approved a report on the proposed amendments to 10 CFR Part 73 to protect against malevolent use of vehicles at nuclear power plants.

[Subsequent to the meeting, Dr. Wilkins recommended that further discussion is needed to consider potential factual errors before releasing the final report. Dr. Lewis stated that there are no factual errors in the final report and raised an objection to this recommendation. A telephone poll of the members was conducted by Mr. Sam Duraiswamy. A majority of the members agreed to the postponement for further discussion during the 404th full Committee meeting.]

VI. DESIGN CERTIFICATION MATERIAL FOR THE ABWR (Open)

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

Mr. Carroll stated that a joint meeting of the Computers in Nuclear Power Plant Operations and the Ad Hoc Subcommittee on Design Acceptance Criteria was held on November 2, 1993. The meeting covered Design Acceptance Criteria (DAC) -- specifically DAC's for the Instrumentation and Control Systems. He observed that the following briefing would be a summary report on the joint Subcommittee meeting.

Design Acceptance Criteria For Instrumentation and Control

Mr. Thomas Boyce, NRR, presented the background of DACs and inspections, tests, analysis, and acceptance criteria (ITAAC) He noted that ITAACs were established as a requirement for standard plants by 10 CFR Part 52. During the review process, it was discovered that there was insufficient design information to complete the review. To fill this gap in the knowledge the concept of the DAC was introduced. There are two general areas for the DACs. One area is procured information. The second category covers rapidly changing technology such as control room design and instrumentation and controls. The DAC specifies design methods with appropriate acceptance criteria. He said that the certified design material consists of the design description and the DAC/ ITAAC.

The utility makes design information available to the NRC to support each stage and it would certify that the DAC and the ITAAC are met to the NRC. The staff inspects and audits the utility for compliance with the respective DAC and ITAAC at each stage. The staff findings, assuming that the acceptance criteria are successfully met, would then be published in the Federal Register.

Dr. Wilkins requested that a representative from the ACRS staff attend the upcoming workshop on the design certification rule to be held on November 23, 1993.

GE Staff Presentation

Mr. Anthony James, General Electric, stated that the Certified Design Material, for the ABWR submittal, will consist of six sections. The bulk of the material will be in the systems sections, which are about 140 systems. A typical safety system might have two or three pages of descriptive text that is the design description. This material would summarize the principal design bases. For each of these systems, there would be an ITAAC that would cover the inspections, tests and analyses. He noted that, as an example, the reactor protection system has test confirming that the logic and instruments in the system are all there and operating correctly.

Mr. James stated that with the DAC system, processes and plans are certified rather than specific designs. He said that all the design information specified for a system appears in the SSAR. He noted that the SSAR also includes other commitments, codes, standards, qualification processes, or any other information necessary to complete a staff review. He observed that, for the area of software, the DAC defines the processes for developing and verifying the software and implementation of the hardware.

Mr. Peter Davis asked why the functional specifications of the software are not part of the instrumentation and control design? Mr. Barry Simon, GE, stated that the specifications are in the form of the functional logic and the interconnections between the processing blocks of the system from the sensor to the output devices are stated explicitly in the SSAR. The representatives of GE and several members discussed the software design process, the level of detail found in the SSAR for safety-related components, the relative complexity of engineering algorithms, and very large scale integration.

Mr. James concluded that it is important to understand that the purpose of this DAC is to implement the software and associated hardware so that it will meet the functional requirements of the system as defined in the SSAR. Also, he observed that GE has standardized to the level of design in accordance with the underlying ground rule of Part 52. If you go a step beyond to standardize the software, you are in the process of picking specific hardware.

Dr. Lewis asked whether programmable read-only memory (PROM) is considered hardware? Mr. Matthew Chiramal, NRR, replied that PROM is considered hardware, once the software is integrated into the hardware. While it is being designed, tested and implemented, GE considers PROM as software, but once the PROM is in the system, then it is part of the reactor protection system.

Dr. Lewis cautioned that the DAC must be sufficiently rigorous to avoid loose interpretations. Mr. Vermeil observed that, in addition to the DAC, the standards and the SSAR contain a fair level of specificity to ensure that the designer produces a quality product without loose interpretations. Mr. Carroll noted that the ACRS consultants report that the present standards are weak and out of date.

Mr. Simon reviewed the level of detail provided in the SSAR and stated that the system configuration and logic are defined in sufficient detail to support certification. He described the generalized safety system logic and control, including the exercise of the logic using randomized input signals. The four division control system is a set of distributed independent controllers, partly in the main control room and partly in the reactor building, but outside secondary containment. There is no master clock either within a division or between divisions. Independent controllers simply send data from one box to another with error detection at each controller input. Self tests are continually conducted within each controller as well as additional off-line surveillance testing. Mr. Simon noted that there is fiber optic isolation for both electrical and physical isolation between divisions.

Dr. Lewis and the representatives of GE discussed the worst case common mode failure of the entire multiplexing system. Dr. Lewis stated that one should not do a worst case analysis if it is of low probability -- that is the trend in modern regulation.

During a discussion of the product design activities, Mr. Carroll asked when this DAC would be first applied assuming the design certification is completed? Mr. Dennis Crutchfield, NRR, replied that a combined operating license applicant could begin to implement the DAC process before submitting the application or could wait until after the combined operating license is approved. It depends on where the applicant wants to be in the design process. Mr. Crutchfield observed that a certification is issued for 15 years and is renewable for another 15 years.

Mr. Simon summarized some of the items in the DAC, including organization management responsibilities, the verification and validation process, the definition of life-cycle phases and the deliverables at the end of each phase.

NRR Staff Presentation

Mr. Chiramal stated that the design is adequate as presented in the design certification material and in the SSAR. There is sufficient information in the SSAR about the design itself. The NRC staff used the existing standard review plan (SRP) criteria as well as Regulatory Guide 1.152 for the safety determination. However, the SRP, as it presently exists, does not consider or address the computer designs that are being implemented in the ABWR design, so, the NRC staff used industry standards.

Dr. Lewis asked Mr. Chiramal to remind the Committee exactly what the Commission approved. Mr. Chiramal replied that the staff proposed four detailed positions. The first three positions addressed the analysis of the design for defense in depth and diversity. The fourth position required a safety-grade back-up control system, i.e., a set of manual actuated controls that will circumvent the computer-based system. These four positions were approved by the Commission. The staff used the ultimate diversity position that was approved by the Commission. Dr. Lewis observed that some members are uncomfortable with the staff's definition of "diversity" and it is not true that everything that is in the staff diversity position has been approved by the Commission.

Mr. Chiramal indicated that the basic architecture and functional requirements in the SSAR satisfy all the SRP criteria for single failure, separation redundancy, and fail safe. The basic architecture shows that the design meets the diversity position as approved by the Commission.

Mr. Chiramal noted that there are four areas flagged in the NRC Safety Evaluation Report (SER) that will need staff approval before any changes can be made. The four areas are software development and multiplex of design, set point methodology, equipment qualification and electromagnetic compatibility.

Mr. James pointed out that the GE staff considers the issue of diversity to be closed. As a result of interactions with the NRC staff, the scope of some of the suggestions regarding diversity have been narrowed to a manageable set. Dr. Lewis stated that it is a generic question that will continue to come up in the context of the use of computers in nuclear power plant operations.

Conclusion

The Committee agreed that this completed its review of ABWR I&C Chapter 7 and its associated DAC.

VII. AP600 Confirmatory Test Program/Modifications of the ROSA Facility (Open)

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

Dr. Ivan Catton, Chairman of the Thermal Hydraulic Phenomena Subcommittee, introduced this topic to the Committee for its review. He indicated that the RES has contracted with the Japan Atomic Energy Research Institute (JAERI) for modification and testing of the ROSA test facility in order to simulate thermal hydraulic (T/H) behavior of the Westinghouse AP600 passive nuclear power plant design. The T/H Phenomena Subcommittee met on October 28, 1993, to review this matter. Dr. Catton indicated that the principal concerns of the Subcommittee resulting from this meeting were the several hardware atypicalities identified as extant to the facility, and the potential for these atypicalities to distort the test data.

RES Staff Presentation

Dr. Brian Sheron, RES, took note of the October 28, 1993 Subcommittee meeting and indicated that, in accordance with a Commission Staff Requirements Memorandum, the ACRS was asked to review the ROSA test matrix and facility modifications and additions, including instrumentation and controls, all prior to initiation of testing.

Dr. Sheron indicated that RES had received copies of the reports of Messrs. Dhir, Schrock, and Wulff, ACRS Consultants, who attended the above-noted Subcommittee meeting. Dr. Sheron noted that the Consultants expressed a continuing concern with the scaling

rationale for ROSA. He indicated that RES did not provide adequate background material on the scaling study, believing that they had addressed this matter, both in previous subcommittee meetings and in documentation provided to ACRS in the past.

Dr. Sheron said that RES will closely review the Consultants' reports and will respond to any specific concerns cited that have not been previously addressed as noted above.

ROSA Test Program

Dr. Louis Shotkin, RES, discussed the research issues associated with the AP600 design, the modifications made to ROSA facility, instrumentation and control systems added for same, the facility test matrix, and the facility scaling rationale.

Key points noted by Dr. Shotkin included:

- After noting the specific AP600 design features deemed in need of additional safety assessment, the staff determined that full-height, full-pressure integral testing conducted under NRC auspices was desirable, given that the AP600 safety features must operate under three high-pressure accident scenarios: SBLOCA, SGTR, and, steam line break.

- Integral system testing by Westinghouse Electric Corporation (W) and NRC at three facilities (SPES, OSU, and ROSA) will provide the most comprehensive T/H test data obtained to date for any nuclear reactor type.

- The ROSA facility has been modified to simulate the AP600 configuration. The new facility has been designated ROSA-V. Costs of the modifications is $6.73 million. Shakedown tests will begin in January 1994. The NRC has a full-time representative (from Idaho National Engineering Laboratory (INEL)) on site.

- Noting the modifications made to the facility (Figure 1), Dr. Shotkin said that, with the exception of the pressurizer, all the new equipment can be valved out as desired pursuant to JAERI's desire to conduct their own set of facility tests.

- Concerning the test schedule, RES will be able to provide data in a timely manner to support NRR's regulatory review schedule. In response to Dr. Wilkins' question, Mr. Richard Borchardt, NRR, indicated that NRR hopes to hold the due date for the Final Safety Evaluation Report for the AP600 design, despite the impact of the slip in W's test schedules. Dr. Shotkin also noted that RES may

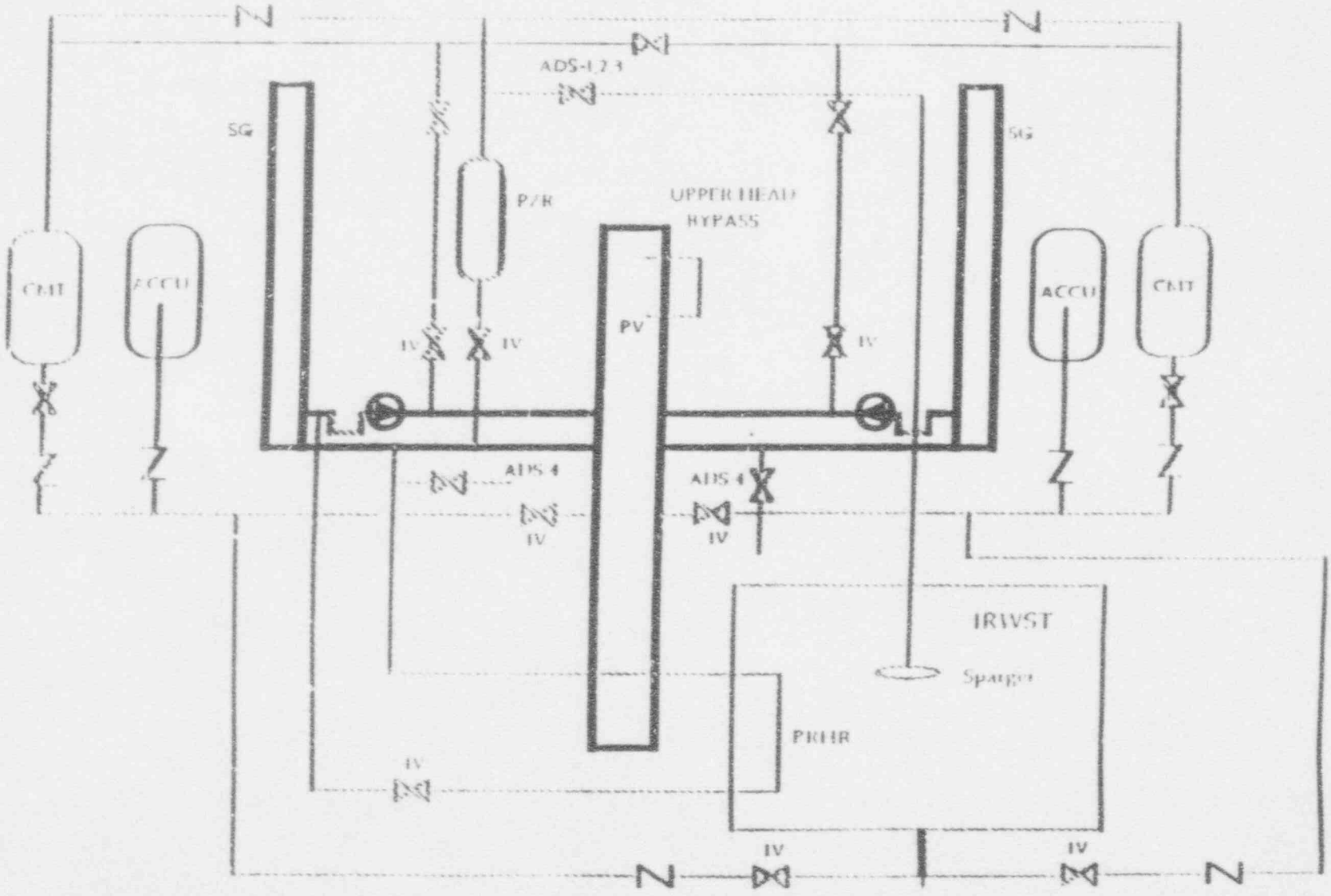
ROSA-V MODIFICATIONS FOR AP600 TESTING
EXISTING COMPONENTS
NEW COMPONENTS
(New components, elevations, including IRWST) correspond to AP600 design
N
ADS-1,2,3
SG
SG
P/R
UPPER HEAD
BYPASS
CMT
ACCU
ACCU
CMT
PV
IV
IV
IV
ADS 4
ADS 4
IV
IV
IRWST
Sparger
PRHR
IV
IV
IV
N
N

Figure 1

perform its own tests at the W OSU facility sometime in 1995.

During the discussion following a question from Mr. Carroll regarding the above-noted Consultants' reports, Dr. Catton noted that the Subcommittee objected to RES's use of the RELAP5 code in support of the ROSA scaling analysis. He indicated that a rigorous analysis is called for given the unique analytical challenges posed by the AP600 passive design.

- Pictures of the facility components were shown. Dr. Catton indicated that the ROSA facility will not be able to capture the potential for vapor blanketing of the PRHR tubes. Dr. Shotkin noted that this phenomena will occur late in a transient (if at all), and is believed to be an insignificant concern. Capture of phenomena occurring early in a transient was deemed to be more important.

- Selection criteria for the facility instrumentation included obtaining necessary data on fluid and energy distributions for code assessment. To that end, emphasis was placed on obtaining highly reliable (e.g., commercially available) instrumentation. The facility control logic follows the same logic used on the AP600 plant. One notable exception is that automatic depressurization system (ADS) activation will be initiated using "DP" sensors rather than the RTDs that are to be used in AP600. RES will, however, take steps to accommodate the impact on test phenomena resulting from delay in ADS actuation that may be caused by this difference. W is evaluating the effect of RTD-based ADS actuation as part of its CMT separate effects test program.

In response to Mr. Lindblad, Dr. Shotkin indicated that RES made no compromises pertaining to the scope of the instrumentation used on ROSA-V.

- The Phase I test matrix (Figure 2) includes 12 tests. Recently, in response to NRR's request, two of the tests have been changed to examine phenomena classified as "beyond-design basis accident (DBA)."

- An overview of the scaling approach used by RES for ROSA-V was shown (Figure 3). RES began this scaling study in 1987 with the development of a set of experimental objectives and a PIRT analysis. In response to Dr. Catton, Dr. Shotkin indicated that RES had employed a "top-down" scaling approach. Dr. Catton indicated that he was more comfortable with RES's scaling analysis after seeing this information.

COUNTERPART TESTING AND ANALYSIS

	RELAP/ROSA-AP600	RELAP/AP600	OSU	SPES	W SER
INADVERTENT ADS-1 OPENING	X	X	X	X	X
0.5" COLD LEG BREAK	X	X			
1" COLD LEG BREAK	X	X	X	X	X
1" COLD LEG BREAK FAILURE ADS 1-3	X	X			
2" CL BREAK W/NON-SAFETY SYS	X			X	
2" COLD LEG BREAK W/O RCP TRIP	X	X			
2" COLD LEG PBL BREAK	X	X	X	X	X
200% COLD LEG PBL BREAK	X	X	X	X	X
200% DIRECT VESSEL INJECTION BREAK	X	X	X	X	X
SINGLE SG TUBE RUPTURE	X	X		X	X
MSGTR WITH ADS ACTUATION	X	X		X(?)	
100% MAIN STEAM LINE BREAK	X	X		X	X

Figure 2

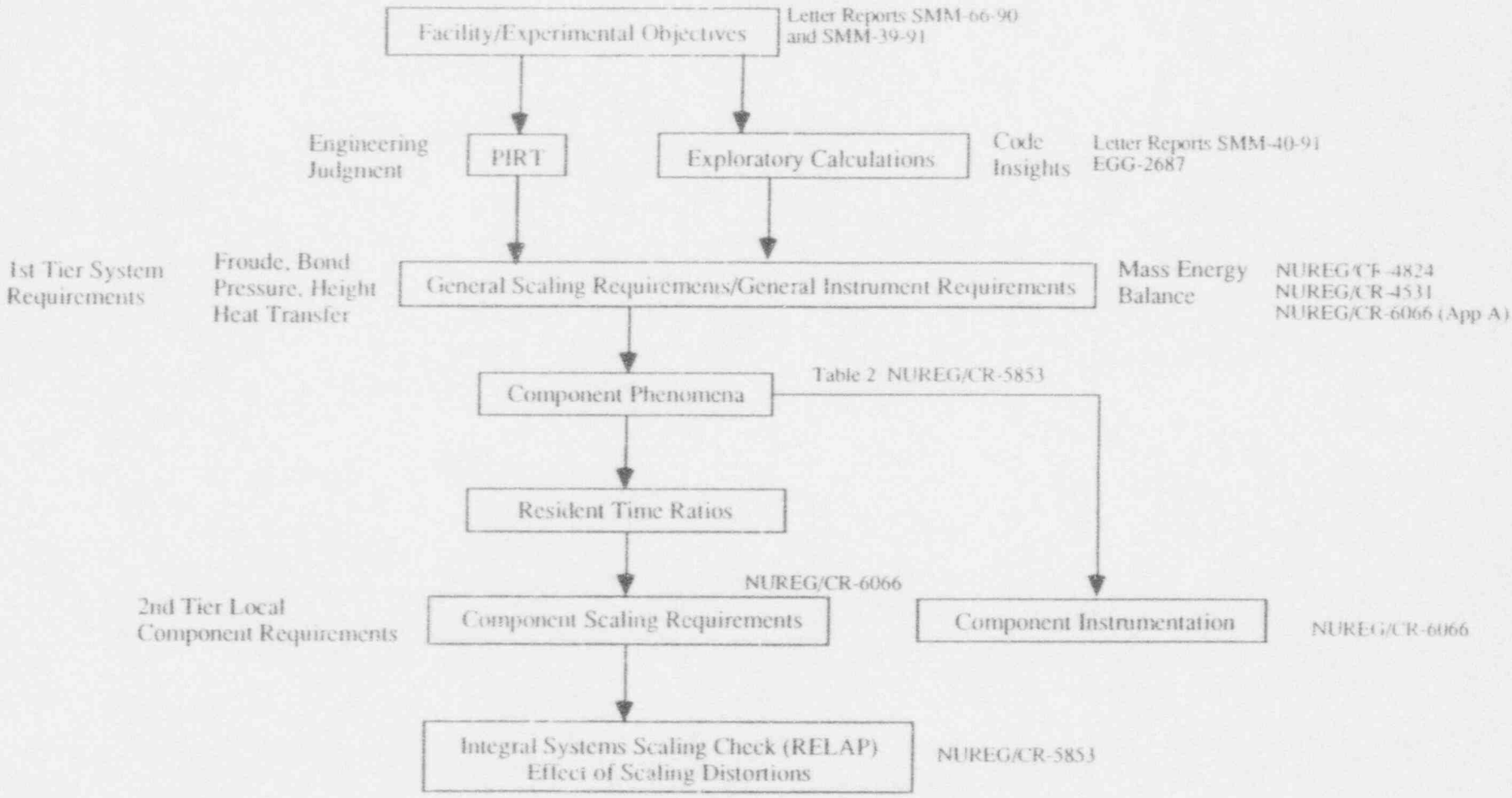
Facility/Experimental Objectives
Letter Reports SMM-66-90 and SMM-39-91
Engineering Judgment
PIRT
Exploratory Calculations
Code Insights
Letter Reports SMM-40-91 EGG-2687
1st Tier System Requirements
Froude, Bond Pressure, Height Heat Transfer
General Scaling Requirements/General Instrument Requirements
Mass Energy Balance
NUREG/CR-4824 NUREG/CR-4531 NUREG/CR-6066 (App A)
Component Phenomena
Table 2 NUREG/CR-5853
Resident Time Ratios
NUREG/CR-6066
2nd Tier Local Component Requirements
Component Scaling Requirements
Component Instrumentation
NUREG/CR-6066
Integral Systems Scaling Check (RELAP) Effect of Scaling Distortions
NUREG/CR-5853

Figure 3

There was some discussion with an INEL representative concerning the details of the scaling analysis. Although Dr. Catton expressed agreement with RES's approach, he said that his concern centers on the modeling of the T/H phenomena in the CMT, in particular, modeling of the condensation phenomena. He said that both RES and W must be able to show that its code models can be validated prior to attempting an extrapolation of said models to the nominal plant design.

NRR Staff Presentation

Dr. Alan Levin, NRR, provided comments on the ROSA-V test program. Commenting on the Phase I test matrix, he noted that RES has added two "beyond-DBA" type tests: a one-inch CL SBLOCA combined with failure of ADS Stage 1-3 valves to open, and, a pressure balance line break combined with failure of coolant pumps to trip.

Dr. Catton inquired about the intent of the multiple SGTR tests. Dr. Levin said that one issue NRR is interested in studying is the T/H phenomena resulting from high pressure in the secondary system, combined with a rapid blowdown of the primary system.

NRR believes that ROSA will reproduce key controlling (T/H) phenomena for a range of simulated accidents. While the Phase I test matrix addresses mostly DBA-type events, a planned Phase II matrix will examine phenomena resulting from beyond-DBA transients.

In response to Messrs. Carroll and Wilkins, Dr. Levin indicated that NRR has examined all the relevant scaling documentation supporting ROSA-V that was prepared by RES and INEL. Dr. Catton indicated that ROSA-V will not be able to simulate possible loop-to-loop interactions, given existing atypicalities. Dr. Levin responded by indicating that among the three integral facilities available (OSU, SPES, and ROSA-V), sufficient data should be forthcoming to address this modeling concern.

Mr. Peter Davis asked if the NRR staff has a "fall-back" position if its RELAP5 code cannot successfully model AP600 behavior. Dr. Levin indicated that the staff's intent is to ensure RELAP5 can do the job. Dr. Catton indicated that if adequate test data is available, the code can be "tuned" to the plant design. This action, in turn, necessitates rigorous scaling analyses of the subject test facilities to ensure the capture of all key phenomena.

Dr. Catton thanked all NRC staff presenters for their efforts.

Conclusion

This briefing was for information only. No action was taken by the Committee.

VIII. Westinghouse Experimental Program in Support of the AP600 Design Certification (Open)

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

Dr. Ivan Catton, Chairman of the Thermal Hydraulic Phenomena Subcommittee, introduced this matter, noting that the NRC staff and Westinghouse have performed excellent jobs with regard to the Westinghouse-sponsored experimental program for scaling and hardware. A meeting of this Subcommittee was held on September 21, 1993, on the campus of the Oregon State University (OSU) to review its AP600 testing program.

Westinghouse Electric Corporation Staff Presentation (Open)

Mr. Larry E. Hochreiter, Consulting Engineer for the Westinghouse Electric Corporation, discussed the Westinghouse-sponsored AP600 test and analysis program, including the status of the major design certification tests. The discussion supported the Westinghouse conclusion that the test data will verify the SSAR codes and that the AP600 design certification test/analysis program is extensive and is responsive to the concerns of the NRC and utilities.

The Westinghouse-sponsored program includes the following integral systems experiments:

- SPES-2 (1/395 power to volume scale, full height, full pressure) to examine SBLOCA, SGTR, and MSLB transients. SPES-2 is in a hot shakedown testing mode.

- OSU (1/4 height, 1/192 volume scaled using a maximum pressure of 400 PSI) full simulation of the AP600 geometry to examine SBLOCA, and long-term cooling. Construction of the OSU facility is nearing completion.

- A 1/8th diameter scaled large containment facility in Pittsburgh will be used to perform tests to verify the WGOTHIC Code for AP600 type design basis transients. Many other tests in this large scale containment facility are planned and/or have already been completed.

The small break LOCA transients and long term cooling response are more of significant interest for the AP600 since the passive systems act to depressurize the RCS and provide adequate core cooling. Also, containment transients are of interest since the containment is passively cooled, which replaces the spray systems and fan coolers in existing nuclear power plants.

The Westinghouse design certification test/analysis program will perform separate effects experiments on AP600 features such as the

core makeup tank, the automatic depressurization system sparger, and the passive plant containment condensation features such as the wetting film and condensation heat transfer. Also, the program will provide a data base to develop component models for the AP600 passive plant features.

A list containing descriptions of about 60 tests already completed and/or planned supporting the AP600 design certification was provided to the Committee.

Westinghouse Electric Corporation Staff Presentation (Closed)

[This session was closed to discuss information considered proprietary by Westinghouse Electric Corporation. Supplemental Minutes are Official Use Only.]

NRC Staff Presentation (Open)

Mr. Alan E. Levin, Reactor Systems Branch, Office of Nuclear Reactor Regulation (NRR), discussed the status of the NRC's review of the Westinghouse test program. He noted that the NRC staff reviewed the SPES and OSU test programs, including the facility design, scaling, instrumentation and test matrix. There are some open issues that remain on some aspects of the test matrix. The staff is continuing its review of the ADS and core makeup tank (CMT) tests. The staff is waiting for additional information on the tests of the passive reactor heat removal heat exchanger, the Stage 4 of the ADS, and some large 12" diameter check valves.

The staff concerns and open issues have been transmitted to Westinghouse Electric Corporation. Westinghouse has expressed its willingness to meet with the NRC staff to work toward the resolution of these matters.

Conclusion

This briefing was for information only. No action was taken by the Committee. The Thermal Hydraulics Phenomena Subcommittee is scheduled to meet in Pittsburgh, PA, in January 1994, to continue its discussion on related matters.

IX. Proposed Technical Training Programs (Open)

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

Mr. Edward Jordan, Director, Office for Analysis and Evaluation of Operational Data (AEOD), discussed the changes that have occurred since his last briefing of the Committee in 1990. He remarked that risk considerations, accident sequence, and severe accident

concerns have been introduced into the technical training program. All Technical Training Center instructors have been trained in PRA techniques and PRA courses have been added to the program.

Mr. Jordan noted that the training program uses two advisory groups. The training advisory group provides feedback to the training program to ensure that the user needs are satisfied. The training advisory council plans future strategies. He said that the AEOD would appreciate any advice provided by the Committee on future planning. He said that the AEOD plans to submit a paper on its future plans to the Committee for comment in early 1994.

Mr. Kenneth Raglin, Director, Technical Training Center, said that most instructors have at least a Bachelors degree and some have higher degrees. The few instructors that do not have degrees have many years of experience in the nuclear field. He pointed out that some technical training is provided by other organizations on a contract basis. A great deal of staff time is devoted to contract management. He described the classrooms, simulators, and facilities, noting that they have four simulators and expect to receive a BWR/4 design simulator.

Mr. Raglin pointed out that most training is responsive to staff qualifications and training requirements. The training covers a wide spectrum of NRC technical positions. He mentioned that future plans include training for nuclear materials license reviewers. He noted that the area of fuel cycle training will receive greater emphasis in the future. He said that the number of new personnel to be trained will be reduced due to the downsizing of the agency.

Mr. Raglin said that the training at the Technical Training Center can be divided into two broad categories, reactor technical training and specialized technical training. During fiscal year 1993, the Technical Training Center conducted 90 different reactor technology courses. Based on course duration, this amounts to 116 course weeks. Using instructional hours as a measure, where an instructional hour is one hour of classroom or simulator activity per student, the reactor technology training varies from about 35,000 to about 55,000 instructional hours a year.

Mr. Raglin discussed curriculum development. He noted that the training manuals must be routinely upgraded to correct errors, to add new features, and to add pertinent new information. He said that the courses need to be overhauled to reflect the systems present in the simulator for that reactor design. He remarked that there is continual simulator procedure development. He mentioned that there is an effort to develop EOP flow charts. He stated that there was much work with computerized exam bank systems, identifying and correlating the questions that are used on the exams with the learning objectives in the courses.

Mr. Carroll asked if they would conduct their training in a different manner if they were accredited by the Institute of Nuclear Power Operations (INPO)? Mr. Raglin replied that their training is similar to an INPO accredited program with the exception that NRC does not conduct a job task analysis.

Mr. Raglin mentioned that one area of training is specialized technical training. Included in this category are engineering support, health physics, safeguards, and inspection or examination techniques courses. Engineering support includes courses such as welding technology and codes, NDE technology and codes, and any current testing. Health physics courses include courses for both reactor health physicists and nuclear materials physicists. The safeguards courses are arranged through other organizations, such as the Department of Energy. The training material for the inspection or examination techniques courses is developed inhouse, but the actual teaching is conducted under contract. The amount of training in specialized courses is about 40,000 instructional hours per year.

Mr. Raglin briefly discussed other areas. He noted that they have a course on reactor concepts for nontechnical personnel. He mentioned that they conduct national news media seminars in support of public affairs. In this situation, reporters and other communications specialists are briefed on nuclear topics such as nuclear reactor concepts, simulators, and radiation protection. He observed that, from time to time, they have been requested to provide technical assistance to various groups within the NRC.

Dr. Wilkins asked if any thought had been given toward gaining accreditation toward degree work for these courses? Mr. Raglin said that they did not have the resources necessary to sustain accreditation.

Mr. Jordan stated that he was very pleased with the support received from the senior management of the NRC. He noted that the training program has received international recognition and they have had foreign students taking some courses. Mr. Jordan stated that the AEOD will ask the Committee to review its training program needs survey that is expected to be in final form in early 1994. Mr. Carroll recommended that an ad hoc Subcommittee be established in order to respond to this request.

Conclusion

This briefing was for information only. No action was taken by the Committee.

X. REPORT ON A MEETING OF THE ADVANCED BOILING WATER REACTORS SUBCOMMITTEE (Open)

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

Mr. Carlyle Michelson, Chairman of the Subcommittee on Advanced Boiling Water Reactors, summarized the Subcommittee meeting held on October 26-27, 1993, to review the NRC staff's Final Safety Evaluation Report for the General Electric Nuclear Energy (GE) Advanced Boiling Water Reactor (ABWR) design. He observed that the preliminary drafts are difficult to read and sometimes make assertions without any foundation.

Mr. Michelson and Dr. Medhat El-Zeftawy, ACRS staff, discussed the delayed schedule for chapters 3, 6, 13, 14, 17, 18, and 19.3. Dr. Wilkins noted that he is scheduled to meet with Chairman Selin to discuss, among other items, the possible slippage of the ACRS report on the ABWR design certification. Mr. Michelson stated that it his intention to bring a draft final report to the February 1994 full Committee meeting for review.

Conclusion

This briefing was for information only. No action was taken by the Committee.

XI. REPORT ON THE MEETING OF THE PLANNING AND PROCEDURES SUBCOMMITTEE HELD ON NOVEMBER 3, 1993

[Note: The Committee did not discuss the results of the Planning and Procedures Subcommittee meeting held on November 3, 1993, because of inadequate time.]

XII. RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS (Open)

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

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

- EDO letter, dated October 13, 1993, responding to the ACRS report dated September 20, 1993, concerning ACRS Comments on the Proposed Rule Amending Fracture Toughness Requirements for Light Water Reactor Pressure Vessels, Proposed Rule Regarding Requirements for Thermal Annealing of Reactor Pressure Vessels, and Draft Regulatory

Guide on Format and Content of Application for Approval for Thermal Annealing of Reactor Pressure Vessels.

Conclusion

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

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

Conclusion

The Committee believes that the EDO's response did not satisfactorily address the Committee's comments. The Committee will consider this issue further during the next full Committee meeting. Ms. Helen Pastis commented on the expedited rulemaking. She stated that she would bring this issue to the attention of the EDO.

XIII. NRC DIGITAL SYSTEMS RELIABILITY AND NUCLEAR SAFETY WORKSHOP, SEPTEMBER 13-14, 1993, AT CROWN PLAZA HOTEL, ROCKVILLE, MD (Open)

Dr. Harold Lewis, Chairman of Subcommittee on Computers in Nuclear Power Plant Operations, reported that the subject workshop was organized and run more like a professional society topical session than like the workshop format recommended in the ACRS report, dated March 18, 1993.

Conclusion

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

XIV. REPORT ON THE TMI-2 VESSEL INVESTIGATION PROJECT CONFERENCE (Open)

Mr. William Lindblad reported on the results of an OECD/NEA/NRC-sponsored conference on the results of the TMI-2 Vessel Investigation Project, held on October 20-22, 1993.

Conclusion

This briefing was for information only. No action was taken by the Committee.

XV. REPORT ON THE SEMIANNUAL MEETING OF THE NUCLEAR UTILITIES SOFTWARE MANAGEMENT GROUP (NUSMG) (Open)

Dr. Lewis, Chairman of the ACRS Subcommittee on Computers in Nuclear Power Plant Operations, reported to the Committee on the semiannual meeting of the Nuclear Utilities Software Management Group, held on October 21, 1993. NUSMG is working on guidelines for commercial dedication of commercial software, which is expected to be issued early next year.

Conclusion

Dr. Wilkins suggested that the ACRS staff continue to observe future NUSMG meetings on a regular basis. The Committee concurred. No other action was taken by the Committee.

XVI. MISCELLANEOUS (Closed)

[Note: Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting. This portion of the meeting was closed to discuss information of a personal nature the release of which would constitute a clearly unwarranted invasion of personal privacy.]

The Committee and Dr. Larkins discussed personnel issues related to the ACRS staff.

XVII. EXECUTIVE SESSION (Open)

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

A. Reports

Draft Final Report of the PRA Working Group (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated November 10, 1993)

Draft Commission Paper, "Policy and Technical Issues Associated with the Regulatory Treatment of Non-Safety Systems in Passive Plant Designs" (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated November 10, 1993)

NRC Confirmatory Test Program in Support of the AP600 Design Certification (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated November 18, 1993)

Computers in Nuclear Power Plant Operations (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated November 16, 1993)

SECY-93-289, "Issuance of the Draft Preapplication Safety Evaluation Report (PSER) for the Power Reactor Innovative Small Module (PRISM) Liquid-Metal Reactor" (Report to Chairman Selin from J. Ernest Wilkins, Jr., ACRS Chairman, dated November 10, 1993)

B. Quadripartite Meeting of the Advisory Committees

The Committee discussed the preparation of a trip report from the Quadripartite Meeting of the Advisory Committees on October 11-15, 1993. Dr. Wilkins requested individual reports to be submitted prior to his scheduled meeting with Chairman Selin on December 8, 1993. Individual trip reports will be merged into one report by Dr. Larkins.

C. Future ACRS Activities

- Dr. Wilkins noted that election of new officers (Chairman, Vice-Chairman, and Member-at-Large to the Planning and Procedures Subcommittee) will be scheduled during the December meeting. He requested that members advise Dr. Larkins, in writing, if they do not wish to be considered for nomination.

- In regard to the anticipated draft Commission paper on ALWR Policy Issue - Source Term, Dr. Kress concluded that the review of this matter would not require a subcommittee meeting. The Committee concurred.

- Dr. Kress agreed to inquire into the merits of a joint meeting with representatives of MITI and JAERI (Japanese industrial and regulatory agencies) in Japan to discuss hydrogen control issues.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 404th ACRS Meeting, December 9-11, 1993, and future Subcommittee meetings.

The 403rd ACRS meeting was adjourned at 3:25 p.m. on Saturday, November 6, 1993.

11/4-6193

Act on May 23, 1991 (56 FR 23723). The last notification was filed with the Department on April 9, 1993. A notice was published in the Federal Register pursuant to section 6(b) of the Act on May 17, 1993 (58 FR 28901).

Joseph H. Widmar,

Director of Operations, Antitrust Division.

[FR Doc. 93-26492 Filed 10-27-93; 8:45 am]

BILLING CODE 4410-01-M

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice 93-083]

NASA Advisory Council (NAC), Aeronautics Advisory Committee (AAC); Meeting on Materials and Structures

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Advisory Committee Act, Public Law 92-463, as amended, the National Aeronautics and Space Administration announces a NAC, Aeronautics Advisory Committee meeting on materials and structures.

DATES: November 18, 1993, 8:30 a.m. to p.m.; and November 19, 1993, 8 a.m. o 4:30 p.m.

ADDRESSES: National Aeronautics and Space Administration, Langely Research Center, room 124, Building 1229, Hampton, VA 23681.

FOR FURTHER INFORMATION CONTACT:

Mr. Charles Blankenship, National Aeronautics and Space Administration, Langely Research Center, Hampton, VA 23681, 804/864-6005.

SUPPLEMENTARY INFORMATION: The meeting will be open to the public up to the seating capacity of the room. The agenda for the meeting is as follows:

—Advanced Subsonic Initiatives

—High Speed Research Initiatives

—Selected Critical Technology Programs

It is imperative that the meeting be held on these dates to accommodate the scheduling priorities of the key participants.

Dated: October 22, 1993.

Timothy M. Sullivan,

Advisory Committee Management Officer.

[FR Doc. 93-26506 Filed 10-27-93; 8:45 am]

BILLING CODE 7510-01-M

[Notice 93-084]

Intent To Grant an Exclusive Patent License

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of intent to grant a patent license.

SUMMARY: NASA hereby gives notice of intent to grant Dr. Fred Volinsky of Salem, Massachusetts, an exclusive, royalty-bearing, revocable license to practice the invention described and claimed in U.S. Patent No. 5,116,543, entitled "Whole Body Cleaning Agent Containing N-Acyltaurate." The proposed patent license will be for a limited number of years and will contain appropriate terms, limitations and conditions to be negotiated in accordance with the NASA Patent Licensing Regulations, 14 CFR part 1245, subpart 2. NASA will negotiate the final terms and conditions and grant the exclusive license, unless within 60 days of the Date of this Notice, the Director of Patent Licensing receives written objections to the grant, together with any supporting documentation. The Director of Patent Licensing will review all written objections to the grant and then recommend to the Associate General Counsel (Intellectual Property) whether to grant the partially exclusive license.

DATES: Comments to this notice must be received by December 27, 1993.

ADDRESSES: National Aeronautics and Space Administration, Code GP, Washington, DC 20546.

FOR FURTHER INFORMATION CONTACT: Mr. Harry Lupuloff, (202) 358-2041.

Dated: October 18, 1993.

Edward A. Frankle,

General Counsel.

[FR Doc. 93-26507 Filed 10-27-93; 8:45 am]

BILLING CODE 7510-01-M

NUCLEAR REGULATORY COMMISSION

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 November 4-6, 1993, in room P-110, 7920 Norfolk Avenue, Bethesda, Maryland. Notice of this meeting was published in the Federal Register on September 23, 1993.

Thursday, November 4, 1993

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

8:45 a.m.-10:15 a.m.: PRA Working Group Final Report (Open)—The Committee will review and comment on the proposed Final Report of the PRA Working Group and an associated Commission paper. Representatives of the NRC staff will participate.

10:30 a.m.-11:30 a.m.: Preapplication Safety Evaluation Report (PSER) for the PRISM Design (Open)—The Committee will review and comment on the NRC staff's draft PSER for the PRISM liquid-metal-cooled reactor design. Representatives of the NRC staff will participate.

11:30 a.m.-12:15 p.m.: Regulatory Treatment of Non-Safety Systems (Open)—The Committee will review and comment on the proposed NRC staff positions on issues related to the regulatory treatment of non-safety systems. Representatives of the NRC staff will participate.

1:15 a.m.-3:15 p.m.: Safeguards and Security Requirements (Open/Closed)—The Committee will review and comment on the proposed commission paper on Internal Threat, SECY-93-270, "Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants," and safeguards and security requirements for the ABWR design.

A portion of this session may be closed to discuss safeguards and security information. Representatives of the NRC staff will participate.

3:30 a.m.-6 p.m.: Instrumentation and Control Systems and Certified Design Material for the ABWR Design (Open/Closed)—The Committee will review and comment on Chapter 7, "Instrumentation and Control Systems," of the Standard Safety Analysis Report for the ABWR design and Certified Design Material (Tier 1) for the Instrumentation and Control Systems, Human Factors, Radiation Protection, and Piping Design. Representatives of the NRC staff and the General Electric Nuclear Energy (GE) will participate. A portion of this session may be closed to discuss information deemed proprietary by GE.

6:00 p.m.-6:30 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

Friday, November 5, 1993

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

8:35 a.m.-10:15 a.m.: AP600 Confirmatory Test Program/Modifications to the ROSA Facility (Open/Closed)—The Committee will review and comment on the adequacy of the proposed test matrix and modifications and additions to the ROSA test facility prior to performing the tests proposed by the NRC staff in support of the AP600 design certification review. Representatives of the NRC staff will participate.

A portion of this session may be closed to discuss information deemed proprietary by the Westinghouse Electric Corporation.

10:30 a.m.–12:30 p.m.: Westinghouse Analytical and Experimental Programs Related to the Certification of the AP600 Design (Open/Closed)—The Committee will hear briefings by and hold discussions with representatives of the Westinghouse Electric Corporation and the NRC staff regarding the Westinghouse Analytical and experimental programs related to the AP600 passive plant design certification effort.

A portion of this session may be closed to discuss information deemed proprietary by the Westinghouse Electric Corporation.

1:30 p.m.–2:30 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

2:30 p.m.–3:15 p.m.: Future ACRS Activities (Open)—The Committee will discuss topics proposed for consideration during future ACRS meetings.

3:30 p.m.–3:45 p.m.: Reconciliation of ACRS Comments and Recommendations (Open)—The Committee will discuss responses from the NRC Executive Director for Operations to recent ACRS comments and recommendations.

3:45 p.m.–4:45 p.m.: Proposed Technical Training Programs (Open)—The Committee will hear a briefing by and hold discussions with representatives of the NRC's Office for Analysis and Evaluation of Operational Data (AEOD) on the technical training programs being developed by AEOD for the Technical Training Center in Chattanooga, Tennessee.

4:45 p.m.–6:30 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports regarding items considered during this meeting.

Saturday, November 6, 1993

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

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

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

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

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

Procedures for the conduct of and participation in ACRS meetings were published in the Federal Register on September 30, 1993 (58 FR 51118). In accordance with these procedures, oral or written statements may be presented by members of the public, electronic recordings will be permitted only during the open portions of the meeting, and questions may be asked only by members of the Committee, its consultants, and staff. Persons desiring to make oral statements should notify the ACRS Executive Director, Dr. John T. Larkins, as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during this meeting may be limited to selected portions of the meeting as determined by the Chairman. Information regarding the time to be set aside for this purpose may be obtained by contacting the ACRS Executive Director prior to the meeting. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with the ACRS Executive Director if such rescheduling would result in major inconvenience.

I have determined in accordance with Subsection 10(d) Public Law 92–463 that it is necessary to close portions of this meeting noted above to discuss information that involves the internal personnel rules and practices of this advisory Committee per 5 U.S.C. 552b(c)(2), to discuss safeguards and security information per 5 U.S.C. 552b(c)(3), to discuss proprietary information applicable to the matters being considered per 5 U.S.C. 552b(c)(4), and to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy per 5 U.S.C. 552b(c)(6).

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

Dated: October 22, 1993.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 93–26482 Filed 10–27–93; 8:45 am]

BILLING CODE 7590–01–M

Advisory Committee on Reactor Safeguards, Subcommittee on Advanced Boiling Water Reactors; Meeting

The ACRS Subcommittee on Advanced Boiling Water Reactors will hold a meeting on November 16–17, 1993, in room P–110, 7920 Norfolk Avenue, Bethesda, MD.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Tuesday, November 16, 1993—8:30 a.m. until the conclusion of business.

Wednesday, November 17, 1993—8:30 a.m. until the conclusion of business.

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

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

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

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

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by contacting the cognizant ACRS staff engineer, Dr. Medhat El-Zeftawy (telephone 301/492–9901) between 7:30 a.m. and 4:15 p.m. (EST). Persons planning to attend this meeting are urged to contact the above named individual five days before the scheduled meeting to be advised of any changes in schedule, etc., that may have occurred.

Dated: October 21, 1993.

Paul Boehnert,

Acting Chief, Nuclear Reactors Branch.

[FR Doc. 93–26483 Filed 10–27–93; 8:45 am]

BILLING CODE 7590–01–M

[Docket Nos. 50–325 and 50–324]

Carolina Power & Light Co.; Issuance of Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment Nos. 166 and 197 to Facility Operating License Nos. DPR–71 and DPR–62, respectively, issued to Carolina Power & Light Company (the licensee) that revised the Technical Specifications for operation of the Brunswick Steam Electric Plant, Units 1 and 2, located in Brunswick County, North Carolina. Amendment No. 166 for

APPENDIX II

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

OCTOBER 27, 1993

SCHEDULE AND OUTLINE FOR DISCUSSION
403RD ACRS MEETING
November 4-6, 1993

Thursday, November 4, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD.

1) 8:30 - 8:45 A.M.

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

2) 8:45 - 10:~~15~~ 05 A.M.

PRA Working Group Final Report (Open) (HWL/MDH)
2.1) Remarks by the Subcommittee Chairman
2.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed final recommendations of the PRA Working Group and an associated proposed Commission paper

(See page 5)

10:~~15~~ 20 - 10:~~30~~ 35 BREAK

3) 10:~~30~~ 35 - 11:~~30~~ 35 A.M.

Preapplication Safety Evaluation Report (PSER) for the PRISM Design (Open) (JEW/MME/JM)
3.1) Remarks by the Subcommittee Chairman
3.2) Briefing by and discussions with representatives of the NRC staff regarding the staff's PSER for the Power Reactor Innovative Small Module (PRISM) design

4) 11:~~30~~ 35 - 12:~~15~~ 20 P.M.

Regulatory Treatment of Non-safety Systems (Open) (CJW/TSK/MME)
4.1) Remarks by the Subcommittee Chairman
4.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed NRC staff positions on issues related to the regulatory treatment of non-safety systems

[= Transcribed portion of meeting

12:~~15~~ 20 - 1:~~15~~ 20 P.M. LUNCH

5) 1:~~15~~ 20 - 3:~~15~~ 05 P.M. Safeguards and Security Requirements (Open/~~Closed~~) (HWL/HA)

5.1) Remarks by the Subcommittee Chairman

5.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed Commission paper on Internal Threat, SECY-93-270, "Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants," and safeguards and security requirements for the ABWR design.

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

(See page 5)

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

6) 3:30 - 6:~~00~~ 05 P.M. Design Certification Material for ABWR (Open/~~Closed~~) (JCC/HWL/DC)

6.1) Remarks by the Subcommittee Chairmen

6.2) Briefing by and discussions with representatives of the General Electric Nuclear Energy (GE) regarding Design Certification Material in the areas of Instrumentation and Control Systems, Human Factors, Radiation Protection, and Piping Design for ABWR

(Note: A portion of this session may be closed to discuss GE proprietary information applicable to this matter.)

7) 6:~~00~~ 05 - 6:~~30~~ 45 P.M. Preparation of ACRS Reports (Open)

7.1) Discussion of Proposed ACRS Reports on:

7.1-1) PRA Working Group Final Report (HWL/MDH)

7.1-2) Preapplication Safety Evaluation Report for the PRISM Design (JEW/SD/JM)

7.1-3) Regulatory Treatment of Non-Safety Systems (CJW/TSK/MME)

7.1-4) Safeguards and Security Requirements (HWL/HA)

7.1-5) Design Certification Material for ABWR (JCC/HWL/DC)

Friday, November 5, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD

8) 8:30 - 8:35 A.M. — Opening Remarks by the ACRS Chairman (Open) (JEW/SD)

9) 8:35 - 10:~~15~~ 30 A.M. — AP600 Confirmatory Test Program/ Modifications to the ROSA Facility (Open/~~Closed~~) (IC/PAB)

9.1) Remarks by the Subcommittee Chairman

9.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed confirmatory tests to be conducted at the ROSA Facility in support of the AP600 design certification review, and proposed modifications and additions to the ROSA facility

(Note: A portion of this session may be closed to discuss Westinghouse proprietary information applicable to this matter.)

10:~~15~~ 30 - 10:~~30~~ 45 A.M. BREAK

10) 10:~~30~~ 45 - 12:30 P.M. — Westinghouse Experimental Program in Support of the AP600 Design Certification (Open/Closed) (IC/PAB)

10.1) Remarks by the Subcommittee Chairman

10.2) Briefing by and discussions with representatives of the Westinghouse Electric Corporation regarding the experimental program proposed by Westinghouse in support of the AP600 design certification.

Representatives of the NRC staff will participate.

(Note: A portion of this session may be closed to discuss Westinghouse proprietary information applicable to this matter.)

11:25 - 12:05 - Closed Mtg

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

11) 1:30 - 2:~~30~~ 35 P.M. — Preparation of ACRS Reports (Open)

11.1) Discussion of proposed ACRS reports

12) 2:35 - 3:~~15~~30 P.M. Future ACRS Activities (Open) (JEW/RPS)
4:55 - 5:00
12.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future meetings

3:~~15~~30 - 3:~~30~~45 P.M. BREAK

13) ~~3:30~~ - 3:45 P.M. Reconciliation of ACRS Comments and Recommendations (Open) (JEW, at al./SD)
4:55 5:15
13.1) Discussion of responses from the NRC Executive Director for Operations to comments and recommendations made in recent ACRS reports

14) 3:45 - 4:~~45~~55 P.M. Proposed Technical Training Programs (Open) (JCC/HA)
14.1) Remarks by the Subcommittee Chairman
14.2) Briefing by and discussions with representatives of the NRC's Office for Analysis and Evaluation of Operational Data (AEOD) regarding the technical training programs being developed by AEOD for the Technical Training Center in Chattanooga, Tennessee

15) 5:15
~~4:45~~ - 6:30 P.M. Preparation of ACRS Reports (Open)
15.1) Discussion of proposed ACRS reports on:
15.1-1) PRA Working Group Final Report (HWL/MDH)
15.1-2) Preapplication Safety Evaluation Report for the PRISM Design (JEW/SD/JM)
15.1-3) Regulatory Treatment of Non-Safety Systems (CJW/TSK/MME)
15.1-4) Safeguards and Security Requirements (HWL/HA)
15.1-5) Design Certification Material for ABWR (JCC/HWL/DC)
15.1-6) Proposed Confirmatory Test Program for the AP600 Design (IC/PAB)

6:30-6:45 p.m. - Closed Session to discuss staff personnel.

Saturday, November 6, 1993, Room P-110, 7920 Norfolk Avenue, Bethesda, MD

16) 8:30 - ~~12:00 Noon~~ 2:10 p.m.
Preparation of ACRS Reports (Open)
Complete discussion of proposed ACRS reports listed under Item 15

~~12:00 Noon - 1:00 P.M.~~ ~~LUNCH~~

17) ~~1:00 - 1:45 P.M.~~ (Not discussed)
Report of the Planning and Procedures Subcommittee (Open/Closed) (JEW/JTL)
17.1) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business and organizational and personnel matters relating to ACRS staff members.
(Note: A portion of this session may be closed to public attendance pursuant to 5 U.S.C. 552b(c)(2) and (6) to discuss organizational and personnel matters that relate solely to the internal personnel rules and practices of this advisory Committee and matters the release of which would represent a clearly unwarranted invasion of personal privacy.)

18) ~~1:45 - 2:30 P.M.~~
ACRS Subcommittee/Members Activities (Open)
10:05 - 10:20 (Thursday) — 18.1 Report on the October 26-27, 1993 meeting of the Advanced Boiling Water Reactors (CM/MME)
5:40 - 5:45 pm (Friday) — 18.2) Report by Mr. Lindblad on the October 20-22, 1993 Conference regarding the TMI-2 Vessel Investigation Project
3:10 - 3:15 pm (Thursday) — 18.3) Report by Dr. Lewis on the October 21, 1993 semiannual meeting of the Nuclear Utilities Software Management Group (NUSMG)

19) ~~2:30~~ 2:10 - 3:00 P.M.
(Closed Session)
Miscellaneous (Open)
19.1) Discussion of matters considered during this meeting and matters considered but not completed at previous meetings as time and availability of information permit

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

APPENDIX III: MEETING ATTENDEES

403RD ACRS MEETING
NOVEMBER 4-6, 1993

NRC STAFF

C. Abbott	OC
L. Abramson	RES
F. Akstulewicz	NRR
K. Architzel	NRR
S. Arndt	AEOD
B. Boger	NRR
R. Borchardt	NRR
T. Boyce	NRR
K. Campe	NRR
M. Case	NRR
M. Chiramal	NRR
R. Correia	NRR
D. Crutchfield	NRR
M. Cunningham	RES
C. Doutt	RR
R. Erickson	NRR
J. Han	RES
R. Hasselberg	NRR
Y. Gene Hsii	NRR
T. Jackson	RES
C. Johnson	RES
R. Jones	NRR
R. Kenneally	RES
T. Kenyon	NRR
T. King	RES
R. Landry	NRR
R. Lazo	ASLBP
A. Levin	NRR
P. Loeser	NRR
N. Markisohn	NRR
B. McCabe	OEDO
G. McPherson	NRC/DSSA
J. Murphy	RES
H. Pastis	NRR
G. Pisanti	NRR
T. Polich	NRR
A. Ramey-Smith	DSSA
D. Rasmuson	AEOD
G. Rhee	RES
M. Rubin	NRR
C. Ryder	RES
S. Sands	NRR
R. Skelton	NRR
D. Terao	NRR
A. Thadani	NRR
E. Throm	NRR
H. Vandermolen	RES
L. Van Santen	OP
J. Wermiel	NRR
J. Wilson	NRR
F. Young	NRR

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

J. A. Beard	GE-NE
Mark Beaumont	Westinghouse
Rick Becker	GE-WASH
Timothy J. Boucher	INEL
Michael Breck	NUS
J. C. Butler	Westinghouse
John Ciccone	NUMARC
Lynn Connor	STS
Rich Enkeboll	NUMARC
Norman Fletcher	DOE
Frank Goldner	DOE
Hicholas Grossman	DOE
Dick Hardy	GE-NE
Philip Hemmle	DOE
John Herczeg	DOE
L. E. Hochreither	Westinghouse
Roger . ton	TVA
A. J. Ja :s	GE-NE
John Juliano	NUS
Stephen Madaras	Bechtel 0 SERCH Licensing
Patrick Magee	GE
Harry Martz	LANL
Marcos G. Ortiz	INEL
D. E. Palmrose	INEL
Tony Pietrangelo	NUMARC
Jim Quinn	GE-NE
Nasatka RE	NASATKA Barrier, Inc.
C. L. Reid	PPCO
B. H. Simon	GE-NE
Dave Wade	Argonne National Lab
Jack Wheeler	DOE
L. Zerr	STS

APPENDIX IV: FUTURE AGENDA

404th ACRS Meeting, December 9-11, 1993, Bethesda, MD. During this meeting, the Committee plans to consider the following:

Proposed Supplement to Generic Letter 86-10 on Fire Endurance Testing - Review and comment on the proposed supplement to Generic Letter 86-10 on Fire Endurance Testing, and the technical differences between NUMARC and the NRC Staff on the NUMARC test program related to the thermo-lag fire barrier. Representatives of the NRC staff and industry will participate.

EPRI Passive LWR Requirements Document - Discuss proposed ACRS report on the EPRI Passive LWR Requirements document. Representatives of the NRC staff will participate, as appropriate.

ABWR Certified Design Material - Review and comment on the Certified Design Material for the ABWR in the areas of piping design, human factors, and radiation protection. Representatives of the NRC staff and General Electric Nuclear Energy (GE) will participate.

ABWR and SBWR Water-Level Instrumentation - Review and comment on the NRC staff's recommendation that diversity of reactor pressure vessel water-level measurement be required for the ABWR and SBWR. Representatives of the NRC staff and industry will participate.

Insights Gained from the NRC Staff Reassessment of the Fire Protection Program - Hear a briefing by and hold discussions with representatives of the NRC staff on the lessons learned from the staff's recent reassessment of the fire protection program. Representatives of the industry will participate, as appropriate.

Report on the Extended Station Blackout Event at Narora Atomic Power Station (India) (Open/Closed) - Hear a briefing by and hold discussions with representatives of the NRC staff on the lessons learned from the severe turbine building fire that resulted in an extended station blackout on March 31, 1993, at the Narora Atomic Power Station (India).

Status of Individual Plant Examination (IPE) Program - Hear a briefing by and hold discussions with representatives of the NRC staff on the status of the IPE program, the methodologies used by the licensees in performing IPEs and the insights gained from these studies, and the use of the IPE/IPEEE programs to resolve generic issues.

First-of-a-Kind Engineering - Hear a briefing by and hold discussions with representatives of the DOE and EPRI on a program at Advanced Reactors Corporation in the area of first-of-a-kind engineering.

Resolution of ACRS Comments and Recommendations - Discuss responses from the NRC Executive Director for Operations to recent ACRS comments and recommendations.

Report of the Planning and Procedures Subcommittee (Open/Closed) - Hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business.

ACRS Subcommittee Activities - Hear reports and hold discussions regarding the status of ACRS subcommittee activities, including reports from the Subcommittees on Advanced Boiling Water Reactors and ABB-CE Standard Plant Designs.

Future Activities - Discuss topics proposed for consideration by the full Committee during future meetings.

Election of Officers (Open/Closed) - Elect new officers (Chairman, Vice-Chairman, and Member-at-Large to the Planning and Procedures Subcommittee) for calendar year 1994.

Miscellaneous - Discuss miscellaneous matters related to the conduct of Committee activities and complete discussion of matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

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

MEETING HANDOUTS

AGENDA ITEM NO.	DOCUMENTS
1	Opening Remarks by ACRS Chairman
	1. Memorandum to ACRS Members from William Lindblad, dated October 27, 1993, regarding remarks of E. Kintner
	2. NRC Press Release No. 93-153, dated October 19, 1993, regarding Dr. William J. Shack
2	PRA Working Group Final Report
	3. Draft Final Report of the PRA Working Group, Prepared by Mark Cunningham, dated November 4, 1993 [Viewgraphs]
	4. Current NRC PRA Activities, undated [Viewgraphs]
	5. Memorandum to James M. Taylor, EDO, from Thomas E. Murley, Director, NRR, Eric S. Beckjord, Director, RES, Edward L. Jordan, Director, AEOD, Robert M. Bernero, Director, NMSS, dated November 2, 1993, regarding Agency Directions for Current and Future Uses of Probabilistic Risk Assessment (PRA)
	6. NUMARC Regulatory Threshold Working Group Mission Statement, undated
3	Preapplication Safety Evaluation Report (PSER) for the PRISM Design
	7. Preapplication Safety Evaluation Report for the Power Reactor Innovative Small Module (PRISM) Liquid-Metal Reactor (NUREG-1368), dated November 4, 1993, Prepared by Edward D. Throm [Viewgraphs]
4	Regulatory Treatment of Non-Safety Systems
	8. Policy Issues Analysis and Recommendations for Passive Plants, undated [Official Use Only]
	9. Letter to R.W. Borchardt, Director, NRR, from J.C. DeVine, Jr., EPRI, dated September 30, 1993, regarding Draft Commission Paper on the Regulatory Treatment of Non-Safety Systems (RTNSS), with enclosures
5	Safeguards and Security Requirements
	10. Topics to be Covered: Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants; and Safeguards Review of Advanced Boiling Water Reactor Design, dated November 4, 1993

10a. Memorandum to James Taylor from Samuel J. Chilk, dated October 26, 1993, regarding SECY-93-270 - Proposed Amendments to 10 CFR Part 73 to Protect Against Malevolent Use of Vehicles at Nuclear Power Plants

6 Design Certification Material for ABWR

11. Design Certification Material for ABWR [Handout #6-1]
12. Design Acceptance Criteria for I&C, dated November 4, 1993, Prepared by Thomas H. Boyce, PDST [Viewgraphs]
13. ABWR Design Certification, 11/4/93 ACRS Review of Design Acceptance Criteria, A. J. James, GE Nuclear Energy
14. ABWR Design Certification: SSAR Level of Detail vs. Design Acceptance Criteria Process for I&C, dated November 4, 1993, Prepared by B.H. Simon [Viewgraphs]
15. ABWR FSER Instrumentation and Control Systems, dated November 4, 1993, Prepared by Matthew Chiramal [Viewgraphs]

9 AP600 Confirmatory Test Program/Modifications to the ROSA Facility

16. Memorandum to ACRS Members from Paul Boehnert, dated November 3, 1993, regarding ACRS Review of NRC-RES ROSA-V AP600 Test Program - T/H Phenomena Subcommittee Consultants' Comments, with enclosures [Handout #9-1]
17. ROSA/AP600 Test Program: Overview, Instrumentation, Test Matrix and Scaling, dated November 5, 1993, Prepared by Louis Shotkin [Viewgraphs]
18. NRR Comments on Passive Reactor Vendor and Confirmatory Testing Programs, dated November 5, 1993, Prepared by Alan E. Levin [Viewgraphs]

10 Westinghouse Experimental Program in Support of the AP600 Design Certification

19. Westinghouse Electric Corporation Presentation to the United States Nuclear Regulatory Commission Advisory Committee on Reactor Safeguards, dated November 5, 1993 [Viewgraphs]
20. Westinghouse Electric Corporation Presentation to the United States Nuclear Regulatory Commission Advisory Committee on Reactor Safeguards, dated November 5, 1993 [Viewgraphs -- **Contains Westinghouse Proprietary Information**]

12 Future ACRS Activities

21. Memorandum to ACRS Members from R.P. Savio, dated November 5, 1993, regarding Future ACRS Activities - 404th ACRS Meeting December 9-11, 1993 [Handout #12-1]

13 Reconciliation of ACRS Comments and Recommendations
22. Reconciliation of ACRS Comments and Recommendations [Handout #13-1]

14 Proposed Technical Training Programs
23. NRC Technical Training Program, undated [Viewgraphs]
24. Technical Issue Training Bulletin: BWR Level Instrumentation Noncondensable Gas Release, dated June 25, 1993

17 Report of the Planning and Procedures Subcommittee
25. Minutes of Planning & Procedures Subcommittee Meeting, November 3, 1993 [Handout #17-1]

MEETING NOTEBOOK CONTENTS

TAB DOCUMENTS

2 PRA Working Group Final Report
1. Table of Contents
2. Tentative Agenda
3. Status Report
4. ACRS Report to Chairman Selin, dated July 19, 1991, regarding Consistent Use of Probabilistic Risk Analysis
5. ACRS Letter to James Taylor, EDO, dated May 20, 1993, regarding Draft Report of the PRA Working Group
6. Letter to J. Ernest Wilkins, Jr. from James Taylor, EDO, dated July 6, 1993, regarding Response to ACRS Letter of 5/20/93
7. Memorandum to ACRS Members from Dean Houston, dated October 12, 1993, regarding PRA Working Group Draft Final Report, with attachments [Official Use Only -- Predecisional]

3 Preapplication Safety Evaluation Report (PSER) for the PRISM Design
8. Table of Contents
9. Tentative Agenda
10. Status Report
11. Draft NUREG-1368, Preapplication Safety Evaluation Report for the Power Reactor Innovative Small Module (PRISM) Liquid-Metal Reactor," [Partial -- abstract, introduction, and summary]
12. Memorandum to the NRC Commissioners from Dennis Rathbun, Director, OCA, dated October 1, 1993, regarding House Joint Resolution 267, the Continuing Appropriations Bill, with attachment

13. ACRS Letter to Chairman Zech, dated November 22, 1988, regarding Safety Evaluation Report for the Power Reactor Inherently Safe Module (PRISM) Design
14. ACRS Letter to Chairman Zech, dated January 19, 1989, regarding Safety Evaluation Report for the Sodium Advanced Fast Reactor (SAFR) Design
15. ACRS Letter to Chairman Selin, dated February 19, 1993, regarding Issues Pertaining to the Advanced Reactor (PRISM, MHTGR, and PIUS) and CANDU 3 Designs and their Relationship to Current Regulatory Requirements

4 Regulatory Treatment of Non-Safety Systems

16. Table of Contents
17. Tentative Agenda
18. Status Report
19. SECY-93-087, Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs, dated April 2, 1993
20. Draft SECY, Policy and Technical Issues Associated with the Regulatory Treatment of Non-Safety Systems in Passive Plant Designs, undated
21. Letter to Paul Shewmon, ACRS Chairman, from James M. Taylor, EDO, dated May 19, 1993, regarding Response to ACRS Report, dated April 26, 1993, with enclosures.
22. Memorandum to James M. Taylor, EDO, from Samuel J. Chilk, Secretary, dated July 21, 1993, regarding SECY-93-087, Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs
23. Memorandum to J. Ernest Wilkins, Jr., ACRS Chairman, from Samuel J. Chilk, Secretary, dated September 9, 1993, regarding Staff Requirements -- Periodic Meeting with the Advisory Committee on Reactor Safeguards, 2:00 p.m., Thursday, September 9, 1993, Commissioners' Conference Room

5 Safeguards and Security Requirements

24. Table of Contents
25. Tentative Agenda
26. Project Status Report
27. Memorandum to Harold W. Lewis, Chairman, Safeguards and Security Subcommittee, from Herman Alderman, Staff Engineer, dated October 20, 1993, regarding Status Report: Meeting of the Safeguards and Security Subcommittee, November 3, 1993, with enclosure

6 Design Certification Material for ABWR

28. Table of Contents
29. Tentative Agenda
30. Project Status Report

31. ACRS Letter to Chairman Selin, dated June 16, 1992, regarding Interim Report on the Use of Design Acceptance Criteria in the Certification of the GE Nuclear Energy Advanced Boiling Water Reactor Design
32. ACRS Letter to Chairman Selin, dated October 16, 1992, regarding Second Interim Report on the Use of Design Acceptance Criteria in the Certification of the GE Nuclear Energy Advanced Boiling Water Reactor Design
33. Letter to David A. Ward, ACRS Chairman, from James M. Taylor, EDO, dated November 2, 1992, regarding Response to ACRS Letter, dated October 16, 1992
34. Questions for Further Discussion from the Chairman of the ad hoc DAC Subcommittee for Further ACRS Discussion, dated September 30, 1993
35. ABWR SSAR Section 14.3, Methodology for Determining the Contents of the Design Certification Material (Amendment 32)
36. DCM Section 3.0, Additional Certified Design Material

9 AP600 Confirmatory Test Program/Modifications to the ROSA Facility

37. Table of Contents
38. Project Status Report
39. ACRS Letter to Chairman Selin, dated July 17, 1993, Integral System and Separate Effects Testing in Support of the Westinghouse AP600 Plant Design Certification
40. Memorandum to James M. Taylor from Samuel J. Chilk, dated September 17, 1992, regarding SECY-92-219 - NRC-Sponsored Confirmatory Testing of the Westinghouse AP-600 Design
41. Handouts Detailing RES Modifications and Test Matrix for ROSA Facility Test Program
42. SECY-92-219, NRC-Sponsored Confirmatory Testing of the AP600 Design, dated June 16, 1992

10 Westinghouse Experimental Program in Support of the AP600 Design Certification

43. Table of Contents
44. Presentation Schedule
45. Project Status Report
46. ACRS Letter to Chairman Selin, dated July 17, 1992, regarding Integral System and Separate Effects Testing in Support of the Westinghouse AP600 Plant Design Certification
47. W Handouts - Details of AP600 Test Facilities
48. Memorandum to Ivan Catton, Chairman, Thermal Hydraulic Phenomena Subcommittee, from Paul Boehnert, dated October 26, 1993, regarding Minutes of September 21, 1993 ACRS T/H Phenomena Subcommittee Meeting, Corvallis, Oregon [**Contains W Proprietary Information**]
49. Memorandum to ACRS Members from Paul Boehnert, dated

September 10, 1993, regarding Certification of Minutes of the Thermal Hydraulics Phenomena Subcommittee Meeting, July 22-23, 1993, Bethesda, Maryland (**Contains Westinghouse Proprietary Information**)

14 Proposed Technical Training Programs
- 50. Table of Contents
- 51. Presentation Schedule
- 52. Project Status Report
- 53. Briefing Viewgraphs Used for the Advisory Committee on Nuclear Waste Meeting on October 27, 1993