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APPENDICES MINUTES OF THE 347TH ACRS MEETING MARCH 9-11, 1989

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1.	Attendees	
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Foderal Ragister / Vol: 06. No. 10 / Thursday, March & toos / Notice MYO

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in the Axultary Building and is upsides subsequently discharged to the Cetawise Bloor by way of the Conventional Waste Water Basin.

The proposed changes do not alter the design of the dewatering system of the function. Therefore, the groundwater levels normally maintained by this system and groundwater hydrology for the site are not changed. Similarly, the quentity and quality of groundwater collected and discharged from the station are not changed. The purpose of the TS is to one are

that groundwater levels are monitored and preventing from rising to a potential fathure to limit for the Auxiliary Building (such as could result from gross fa"ure of the undrain system, followed by prolonged instiention). The potential Auxiliary Building is susceptible to a s calculations indicating that the requirements of the proposed TB change. If groundwater level at the Authlasy Building exceeds elevation 781 Bet MSL as indicated by 5 of 5 specified groundwater monitor all rms, and cannot be reduced in 1 hour, the Macuire units would be placed to a cold shutelown coudition. Other analyses ... have determined that the Reactor . Buildings and the Diesel Conerstor of Buildings are dreigned to withstand hydrostatic losdings due to groundwater levels up to top of grade (750 feet 1852.) which is also the full pond level for meaning Lake Norman. Therefore, no TS requirement is needed regarding proundwater for the Reactor Bulklings or Diesel Cenerator Bulklings. The staff has reviewed the proposed

changes and has found there to be based upon conservative analyses of limiting structural concerns due to groundwater. and to provide for reliable and timely indications of the need for actions to bece the facility in a safer condi before groundwater levels sufficient to cause these limiting structural concerns could be reached. The requirement to be in cold shutdown bafore groundwates levels at structura! limits can be reached to consistent with the existing TS. Thus, the proposed change does not increase the probability or consequences of accidents.

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The groundwater system is a somradiological system. The proposed change invoives no adverse change in the types or amounts of rediological for non-radiological) effluents that may be released offsite, and no increase in allowable individual or camulative

Accordingly, the Commission

would reach to the stantificant a dversoon onvironmental tapad, bout os gruppen Alternative to the Proposed Aution

Since the Commission coccuded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts

The principal alterne the would be to deny the requested amendments. This would not reduce an vironmental impacts of plant operation and could result in reduced operational flexibility and needless shutdowns.

Alternative Use of Resources ...

This action does not involve the use of resources not previously considered in connection with the "That ' Rovironmental Statement Relating to January 1001. 1000 to night institute Agencies and Persons Consultad

The NRC staff has reviewed the licenses's request and did not consult, y

Plading of No Significual Expect A. 1. M.

The Commission has detarmined bot amendmanta.

Based upon the foregoing - 1. environmental accossment, we conclude that the proposed action will not have a significant adverse effect on the quality of the human environment.

For farther details with respect to this action, see the application for amendmants dated jenuary 27, 1938 and a previous exploation of Cotaber St. 1984, which is septemed. Also see the we licenses's letters dated April 23, June 31, and August 33, 1958, which provided revised or supplemental information in " support of the January 27, 1838 application. A detailed description of the ground water system can be found in McGuire FSAR esction 8.4.18. These documents are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW. Weshington, DC and at the Atkins Library, University of North Carolina, Charlotte (UNOC Station), North Caroline 28228.

Dated at Rockville, Maryland, the 24th day of Pobruary 1968.

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Par the Machinas Regulatory Consultations David B. Matthews, Devid B. Etatliceves, Director, Project Directorate II-2. Dirielas of Reader Projects - 1/11. Office of Nucleur Reactor Registeres (PR. Doc. 60-3000 Piled 0-4-60, 0-68 and 19 BALLENS COURS PERS-49-4 1. Sala 19 151.3.3.2.1.

Advisory Lemmittee on Receipe Inc. Bandduarder Weeting Agence 101:

In exercision with the perposes of sections 29 and 182b. of the Atarias Energy Act (48 U.S.C. 2006, 2232b), the Advicery Committee on Reacter March 9-11, 1968, in Room P-110, Page Norfolk Avenas, Betheeda, 86d. Noffoe of this meeting was published in One Foderal Register on Petroary 23, 1008, 13 Trent at

Thursday, March 9, 1989

A 30 a.m. -6.45 a.m. Comments by ACRS Chahman (Open) - The ACRS Chairman will report briefly reparding items of extremt interest.

BAS a.m.-12:00 Noon: Peach Bottom

245 a.m.-1200 Noon: Peach Bottom Nuclear Power Station (Opr.) The Committee will review and no. 4 on the proposed risters of the Freach Bottom Nuclear Fores Station 100 J.M.-230 J.E. Containment Delas Collection J. Containment Delas Collection (Open) - Discuss proposed ACRS certvitles reparting the development of containment delas eritaria for future nuclear power plants. 245 p.m.-2.18 p.m. Petere ACRS. Activities (Open) - The member will discuse auticipated ACRS proposed the considers tion by the full Committee activities and Heme proposed the considers tion by the full Committee activities and Heme proposed the

Subcommittee Activities (Open-The members will bear and disease for

ACR3 Members (Open/Closed)-Discuss the status of appointment of ACRS members and proposed plans for selection of future ACRS members.

Puriless of this coston will be closed as appropriate to discuss information the release of which would represent a clearly anwarranted investor of personal privacy.

Priday, March 10, 1989

0.50 a.m.-Q.30 a.m.: NRC Sofery Good Policy (Open) - Discoss proposed ACRS commente/recommendations regarding the use of NRC Safety Goal Policy for evaluating the effectiveness of NRC "" regulations is pretender the public . beatth and sulety. 0:30 a.m.-1200 noon Fre Before-Break Technology ICourt Discuss proposed FillC Commission policy statement regarding additional application of the leak-before break technology to emergency core coofing systems design and environmental

gualification of components. 1:00 p.m.-2:30 p.m. Meeting with the NRC Executive Director for Operations (Open)-The members will discuss the plane for completion and use of MUREC-1180, Readtor Risk Reference Document, and other matters of mutual

Document, and other matters of working wide p.m. - 5:30 p.m.: Preparation of ACRS Reports (Open)-Discuse isoposited ACRS reports to NRC regarding items considered during this meeting.

Beturday, March 11, 1900

ACRS Reports (Open)-Discuse proposed ACRS reports to NRC regarding items considered during this mosting

reserving items considered out is in 2:00 p.m. 2:00 p.m. Miscel/queous (Open) — Continue discussion of items considered during this meeting. Procedures for this conduct of and participation in ACRS mostings were, published in the Federal Resister on Codoble 27 1988 (55 FR 45407) fill according to the Federal Resister on Codoble 27 1988 (55 FR 45407) fill according to the Poblic recordings will be participation into the problems, or by members of the public recordings will be participation only during those particips of the sheeting when a transcript is being kept, and questions may be asked only by members of the Committee, its consultants, and Staff. Persons destring to make oral statements should notify the ACRS Executive Director as far in advance as Executive Director as far in advance as practicable so that appropriate another the necessary time during the meeting for such statements. Use of still, motion icture and talevision cameras during this mosting may be limited to selected portions of the meeting as determined by the Chairman. Information regarding the time to be set saids for this purpose may be obtained by a prepaid telephone call to the ACRS Executive Director, Mr. Exymond P. Prelay, prior to the meeting. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as peorssary to facilitate the conduct of the meeting. persons planning to attend should check with the ACRS Executive Director if each rescheduling would result in major incomvenience. With the ACRS Executive Director if each rescheduling would result in major incomvenience.

necessary to close portions of this meeting as noted above to discuse information the release of which would represent a clearly unwarranted bivasiop of personal privacy (5 U.S.C.

552b(c)(6)). Further information regarding topics to be discussed, whether the meeting has been sancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted can be obtained by a prepaid telephone call to the ACRS Executive Director, Mr. Raymond F. Praley (telephone \$01/492-8049). between \$15 a.m. and 500 p.m.

Date: Petruary 34, 1988

John C. Hoyle, Part 1 5 1 Advisory Committee Management Officen (PR Doc 60 4006 Pled \$ 4:00 \$46 am) SELLING CODE 7009-01-0 3 11 4 1 1

[Docket No. 00-428A]

Georgia Powar Co., et al; No Significant Antitrust Changes and Time for Filing Requests for Reevaluation

The Director of the Office of Nuclear Reactor Regulation has made a finding in accordance with section 105c(2) of the In accordance with section 105(2) of the Atomic Energy Ast of 1964, as amended, that no significant (antitrust) changes in the licensesses activities or proposed activities have excluded subsequent to the previous antivities oppiciting floence review of Unit 1 of Plant Vogtle by the Attorney General and the Commission. The finding is as follows:

Section 106c(2) of the Atomic Energy Act of 1964, as amended, provides for an antitrust review of an application for an operating license if the Commission determines that significant changes in the licensee's activities or proposed activities have occurred or proposed activities have occurred subsequent to the previous construction permit review. The Complesion has delegated the sufficiently to make the "significant change" determination to the Director, Office of Nuclear Reactor Regulation. Based upon an examination of the events since the issuance of the Plant Vertile 1 constitute license to Georgia Power the events since the issuance of the Plant Vogtle 1 operating license to Georgia Power Company, et al., the staffs of the Policy Development and Technical Support Branch, Office of Nuclear Reactor Regulation and the Office of Suclear Reactor Regulation and the Office of Suclear Reactor Regulation and the Office of the General Counsel, hereafter referred to as "staff," have jointly concluded, after consultation with the Department of Justice, that the changes that have occurred since the Plant Voetle Unit 1 antifrant since the Plant Vogtle Unit 1 antitrust operating license review are not of the nature to require a second antitrust review at the

operating license stage of the application. In reaching this conclusion, the staff considered the structure of the electric utility industry in Georgia, the events relevant to the Pant Vogtle Unk 1 operating licence review. as well as the events that have occurred

entregendet to the Plant Vogtle Unit 1 operating license review. The conclusion of the staff's analysis in an follows:

Section 105c of the Atomic Energy Ad a 1964, as amended, provides for pre-licensing antitrust mviews of commercial power reactors at the construction permit and operating license stages of the licensing process. The antitust operating license review is not intended as a de novo revie

review is not intended as a de novo review bet is focused only on those activities of the licensee(s) that have occurred since the completion of the construction permit review. This concept of reviewing only significant charger in the licensee's activities at the operating licepae stage has been applied by the staff to reviewa of multiunit plant applications. For those plants with multiple reactor licenses, the staff comducts separate antitust reviews for each reactive when the reactor's are licensed on a delayed or steggered scheduls, i.e., when the reactors are scheduled to be licensed eighteen months or more apart.

or more apart. As indicated supra, the antitrust operating Biomas review of Unit 1 of Plant Vogtis was completed in November of 1988 and the reactor was licensed in March of 1987. Unit 2

reactor was licensed in March of 1967. Unit 2 of Plant Vogtle is scheduled to be licensed in March of 1960 and in light of the two-year inpee since the previous review of the Nonsoes, the staff initiated a separate antitrust review of Unit 5—with the focus of the review on any significant changes in the Nonsees' activities since the completion of the previous review in 1966. The changes in the licenses' activities since the previous antitrust review have been bergely the result of policies and agreements that prive initiated as a result of license. Georgia Power Company, during the sattrast construction permit review. The staff sound in its operating license review of Unit 1 of Plant Vogthe, that the competitive process in the Georgia electric bulk power industry had improved markedly. Moreover, the staff attributed this positive change to the automation of the preview of the antiment sturbuted this positive change to the successful implementation of the antitrust Scense conditions imposed by the Commission. It was also noted that power evaluation of the second states and adjacent states were better able to control their own power supply destinies by taking advantage of new power supply options and alternatives made available by a more competitive bulk

power supply system. The staffs review of changes in the licensees' activities since 1980 indicates that the procompetitive effects identified during the Votgle 1 OL review are continuing. Various energy exchange agreements among industry players have been entered into and activated, thereby stimulating more efficient operations among a wide variety of industry players throughout the southeastern portion of the country. Ceorgia Power Company is providing power and energy transactions to various power systems in Georgia as well as Morida. The integrated transmission system that emerged from the Commission's antitrue construction permit review of Plant Vogtle In the mid-1970's allows for ownership of portions of the Georgia transmission grid by



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

February 28, 1989

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SCHEDULE AND OUTLINE FOR DISCUSSION 347TH ACRS MEETING MARCH 9-11, 1989 BETHESDA, MARYLAND

Thursday, March 9, 1989, Roo	m P-110, 7920 Norfolk Avenue, Bethesda, Md.
1) 8:30 - 8:45 A.M.	Chairman's Comments (Open) 1.1) Opening remarks (FJR) 1.2) Items of current interest (FJR/RFF)
2) 8:45 - 12:00 Noon (BREAK: 10:00-10:15 A.M.)	Peach Bottom Nuclear Station (Open) 2.1) Subcommittee report regarding proposed restart of this station (WK/HA) 2.2) Meeting with NRC Staff and licensee
12:00 1 pon - 1:00 P.M.	LUNCH
3) 1:00 - 2:30 P.M.	Containment Design Criteria (Open) 3.1) Discuss proposed ACRS plan of action to develop containment design criteria for future nuclear power plants per SRM dated 7/28/88
2:30 - 2:45 P.M.	BREAK
4) 2:45 - 4:15 P.M.	Severe Accident Research Program Plan (Open) 4.1) Report by ACRS Subcommittee chairman (WK/MDH) 4.2) Meeting with NRC staff representatives
5) 4:15 - 5:00 P.M.	Future ACRS Activities (Open) 5.1) Anticipated ACRS Subcommittee Activities (GRQ/RFF) 5.2) Topics proposed for consideration by the full Committee (FJR/RFF) 5.3) ACRS participation in US-USSR Information Exchange (FJR/RFF)
6) 5:00 - 5:30 P.M.	ACRS Subcommittee Activities (Open) 6.1) Report of ACRS Planning and Proced- ures Subcommittee meeting on February 8, 1989 (FJR/RFF)

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347th ACRS Meeting Agenda

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7) 5:30 - 6:00 P.M.

Appointment of ACRS Members (Open/Closed) 7.1) Discuss the status of appointment of ACRS members (Closed) (CM/RFF/MFL) 7.2) Discuss proposed plans for filling future ACRS vacancies (CM/RFF/MFL) (Note: Portions of this session will be closed as necessary to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy.)

Friday, March 10, 1989, Room P-110, 7920 Norfolk Avenue, Bethesda, Md.

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8) 8:30 - 9:30 A.M.	NRC Safety Goal Policy (Open) B.1) Discuss proposed ACRS comments/re- port regarding the use of NRC Safety Goal Policy for evaluating the effectiveness of NRC regula- tions in protecting the public health and safety (HWL/MDH)
9) 9:30 - 12:00 Noor (10:00-10:15-BREAK)	Leak-Before-Break Technology (Open) 9.1) Comments by ACRS Subcommittee Chairman (DAW/PAB) 9.2) Meeting with representatives of NRC Staff, as appropriate
12:00 - 1:00 P.M.	LUNCH
10) 1:00 - 2:30 P.M.	Meeting with Executive Director for Operations (Open) 10.1) Discuss proposed plans for completion and use of NUREG-1150, Reactor Risk Reference Document, and other matters of mutual interest (WK/MDH)
2:30 - 2:45 P.M.	BREAK
11) 2:45 - 5:30 P.M.	Preparation of ACRS Reports (Open) 11.1) Discuss proposed ACRS reports to NRC regarding: 11.1-1) Peach Bottom Nuclear Station (WK/HA)

11.1-2) Severe Accident Research Program Plan (WK/MDH) 347th ACRS Meeting Agenda

Saturday, March 11, 1989, Room P-110, 7920 Norfolk Avenue, Bathesda, Md.

Preparation of ACRS Reports to NRC (Open) 12.1) Discuss proposed ACRS reports to NRC 12) 8:30 - 12:00 Noon regarding: 12.1-1) Leak-Before-Break Technology (DAW/PAB) Peach Bottom Nuclear Station 12.1-2) (WK/HA) 12.1-3) Severe Accident Research Program Plan (WK/MDH) Use of Safety Goal Policy 12.1-4) (HWL/MDH) 12:00 Noon - 1:00 P.M. LUNCH Miscellaneous (Open) 13) 1:00 - 2:30 P.M. 13.1) Complete discussion of items considered during this meeting.

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MINUTES OF THE 347TH ACRS MEETING MARCH 9-11, 1989

The Advisory Committee on Reactor Safeguards (ACRS) met on March 9-11, 1989 at 7920 Norfolk Ave., Bethesda, Md. The purpose of this meeting was to conduct the discussions and to perform the actions described in the attached agenda. The meeting was chaired by Dr. Remick.

All of the discussions were held in open session. A transcript of selected portions of the meeting was kept and is available in the NRC Public Document Room. [Copies of the transcript are also available for purchase from the Heritage Reporting Corporation, 1220 L St., N.W., Washington, D.C. 20005.]

1. Chairman's Report (Open)

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

Dr. Remick began the meeting with a brief summary of the planned agrida and the procedures under which the meeting discussions were being conducted. He noted that Dr. Catton was in attendance and welcomed him to the Committee. Dr. Remick stated that the February 27, 1989 meeting had been successful and that a meeting summary and a copy of the transcript would be provided to the members. He also noted that the NRC would be conducting a Regulatory Information Conference on April 18-20, 1989 and asked that the members who wished to attend notify Mr. Fraley.

II. Peach Bottom Restart (Open)

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

Dr. Kerr stated that about two years ago the NRC issuer an order to the Philadelphia Electric Company (PECO) which suspended power operation of the two units at the Peach Bottom Atomic Station to be suspended until PECO management could convince the Commission that operation of the plant could be carried out without undue risk. Since the shutdown, there has been a significant reorganization and a major change in staffing. In addition, there has been a large-scale effort to improve the physical status of the two plants.

Dr. Kerr asked if there were any comments from members of the Peach Bottom Subcommittee who were present. Hearing none, Dr. Kerr then called upon Mr. Bruce Boger for the first presentation.

Mr. Bruce Boger, Division of Reactor Projects, Office of Nuclear Reactor Regulation (NRR), discussed the events leading to the issuance of the shutdown order. He noted that in June of 1986 there was an incident in which the control rods were withdrawn out of sequence. At about the same time, an SALP report was issued which cited a number of management weaknesses. The Region initiated a Diagnostic Inspection, the results of which confirmed the SALP findings. Later that summer, the Executive Director for Operations met with senior PECO management to discuss the NRC's concerns related to the conduct

of operations at Peach Bottom. At this meeting, allegations were received by the NRC which resulted in lack of confidence by NRC that the station could be operated in a manner that reasonably assured public health and safety. In response to that meeting, PECO formulated a program to deal with the NRC's concerns and subsequently attempted to correct the root causes which had led to the NRC concerns. An order was issued on March 31, 1987 by the NRC suspending power operations at Peach Bottom after allegations were confirmed by the NRC.

As a result of the licensee's investigation and evaluations, several issues were identified. These issues included: inattentiveness of the operators and the shift management, licensee's lack of effectiveness in corrective actions, and lack of management involvement and follow-up of corrective actions.

The licensee's examination of these issues led to the identification of four root causes:

- 1. Inadequate management leadership at the Peach Bottom site.
- Failure to implement a timely licensed operator replacement training program.
- A station culture that had not adapted to the post-TMI change in nuclear regulatory philosophy and requirements.
- Failure of corporate management to identify problems and take sufficient corrective action.

Mr. C. A. McNeill, Executive Vice President Nuclear, PECO, summarized the corrective action takens as a result of the deficiencies noted in the plant's operations by INPO, NRC, and the licensee's assessment process. Mr. McNeill noted that PECO believes that the corrective actions required for plant, restart have been completed.

Mr. Richard Smith, Vice President, Peach Bottom Atomic Power Station, discussed the actions taken with respect to weakness in leadership, operator replacement, and station culture. A lack of adequate personal leadership qualities and management skills on the part of senior management of the plant had been identified as contributors. The leadership offered by site management was believed to be inadequate to develop employee understanding of high nuclear standards. Management coals and expectations were not communicated effectively, task responsibilities were not clearly established, and communication among the site groups was poor.

Mr. Smith stated that a critical part of the corrective actions was a major management reorganization at PECO and at the Peach Bottom station. He stated that he believed that the management team had been significantly improved and has provided more focused management direction and accountability. Position descriptions have been written with clear designations of responsibility for

each position. The staff members' responsibilities have been communicated to them. Mr. Smith said he believes they have a strong interactive management team that has created an environment in which good teamwork and very open communications exist.

Mr. Smith discussed the shift manager's responsibility at the Peach Bottom station. The shift manager assigned to an operating shift is the senior person on that shift. The shift manager holds a senior reactor operator's license and provides a line of communication between the operator and site management.

Mr. Smith stated that the company failed to initiate timely licensed operator replacement training programs. Mr. Smith noted that there were not enough people in the training program to provide reserve operators or to produce replacements on a timely basis to cover personnel turnover. Shortages of operators resulted in the use of excessive overtime to meet Technical Specification and plant operating requirements. Mr. Smith stated that PECO has improved personnel policies and compensation and have been hiring potential candidates for reactor operators at entry-level positions.

Mr. Smith noted that they have raised the level of qualifications for these entry-level positions. Previously, a high school diploma was required; now, two years of college or experience in the Navy nuclear power program is required.

Mr. Smith noted that the Peach Bottom station culture had its roots in fossil and pre-TMI nuclear operations and had not adapted to changing nuclear requirements. PECO addressed this problem by working to identify and to establish the appropriate cultural values throughout the organization. The first efforts emphasized operations and, particularly, with the reactor operators. An attitude assessment and modification training program was developed for the reactor operators. In this program the potential for each of the licensed operators was evaluated to better understand the individual's attitude, ability to change behavior pattern, and willingness to do so. Mr. Smith noted that he had personally interviewed each operators that were selected for the retraining program participated in a program designed to enhance their self-awareness, interpersonal skills, ability to deal with stressful situations, and to improve their ability to work with outside agencies.

He discussed some of the actions they have taken to make this cultural change occur. One was the implementation of a statement of philosophy for the assurance of quality; another was the holding of intergroup meetings to improve group communication. A suggestion box system has been established, and employees are encouraged to make contributions. Mr. Smith noted that he reads all the suggestions and takes action where appropriate.

A system of annual face-to-face performance appraisals was implemented as part of the cultural change. Mr. Smith noted that since the shutdown they

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have trained all supervisors in the nuclear group in the conduction of performance appraisals.

Mr. Smith stated their operations manual attempts to spell out what is expected of a reactor operator, so that there is a clear understanding of what the operator is expected to do and what is expected of operations management. The operations manual includes the "Commitment to Excellence Action Statement," as part of the code of conduct. This code is intended to be a standard for professional behavior.

Mr. McNeill discussed the corporate management's failure to recognize the developing severity of the problems at Peach Bottom and to take effective corrective actions. Mr. McNeill pointed out that there had been a lack of clear assignment of accountability and authority. He said that the management systems were weak and that managers did not have the skills to perform self-assessments and to resolve problems. The systems were weak.

Mr. McNeill discussed the self-assessment process. The line urganization and management is responsible for the effectiveness of the organization and for taking the corrective actions which need to be taken. The plant Urersight Review Committees provide support in the form of advice and independent evaluation. The nuclear quality assurance organization provides independent oversight by conducting routine audits and monitoring operations. The Nuclear Committee of the Board (NCB) provide independent oversight by reviewing the management effectiveness of the nuclear organization.

Mr. Smith discussed plant changes made at Peach Bottom since the shutdown. He noted that prior to the shutdown there were large volumes of radicactive waste in storage. The volume of radwaste in storage has been reduced from about 1600 cubic meters to about 600 cubic meters. Significant progress has been made in decontaminating the surface areas of the plant. PECO's goal is to have no more than 1000 man-rem of collective exposure during the 1989 calendar year.

The preventive maintenance backlog has been reduced so that there is currently no overdue preventive maintenance items. The industry average for incomplete corrective maintenance is about 1000 items. Currently, Peach Bottom has about 800 items.

Mr Smith stated that PECO believes that Peach Bottom Unit 2 will be ready for restart on April 1, 1989. He said that they could be ready to begin power ascension in mid-April if the Commission approves the April 1 restart. Mr. Smith said the power ascension program would include "hold points" at about 30 percent power and at about 70 percent power. At each hold point the NRC would have to grant approval to increase power.

Mr. Smith said that he expects Unit 3 to be ready to be started up in the third quarter of 1989.

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Mr. McNeill discussed the letter from Councilwoman Risacher. He said that Councilwoman Risacher had expressed concerns regarding the structural integrity of the containment and pressure vessel. In response to her concerns. Mr. McNeill noted that a hardened containment vent and an alternate supply from the diesel-driven, fire system had been installed. PECO believes that their inspection program for detecting intergranular stress corrosion cracking is adequate and will address Councilwoman Risacher concerns.

Mr. Robert Martin, NRC Peach Bottom Project Manager, discussed the NRC staff's Safety Evaluation Report. He noted that it was essentially a review of the licensee's restart program plan. He stated that when a plant which has been shut down for safety reasons, the licensee must recognize reasons for the shutdown, identify the appropriate root causes, and complete a satisfactory implementation of corrective actions to address the root-cause issues.

Mr. Martin noted that the licensee had reorganized their staff to provide for increased control, accountability, and corporate direction of nuclear operations. Mr. Martin noted an improvement in the licensee's establishing and defining accountability for organizations, programs, and individual positions. Mr. Martin said that the licensee has established management staff with strong leadership and management skills.

The licensee has responded to the operator-resources problems by ensuring the availability of enough operators to restart the plant and by maintaining an adequate reserve of operators to provide opportunity for off-site rotation for training for alternate career paths.

Mr. Martin noted that the licensee had identified appropriate cultural values and ways to use these values to ensure safe operation of the plant.

Mr. Martin said that the staff's overall conclusion was that PECO's plan for restart meets the conditions of the shutdown order requiring the submittal of stailed and comprehensive plan and schedule to ensure safe operation and compliance with all NRC requirements.

Mr. Jim Linville, Project Section Chief for Region I, discussed the NRC's inspection program at the Peach Bottom Station. He said that the safety assessment performance for the period of June 1987 to July 1988 indicated that the new independent oversight organization, the nuclear quality assurance department, and consolidation of previously fragmented groups provided improved oversight of operating activities.

Mr. Linville stated the actions the licensee had taken to increase the number of operators would reduce overtime, improve morale, and increase the attentiveness of the operators in the control room.

Mr. Linville noted there had been a problem with inadequate oversight of the licensee contractor security personnel. He said the licensee had replaced

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the senior security specialist on-site and replaced security contract personnel. Performance of the security personnel has since improved.

Mr. Linville discussed the NRC's evaluation of operator attitude improvement training. The conclusions reached were that the training had a positive impact on the attitudes of the operators but that continued management support and follow-up training was needed for long-term effectiveness.

Mr. Linville discussed the performance of the shift crew was initially evaluated on the Limerick simulator. The conclusion was that the technical performance was satisfactory. It was noted however that this was not a Peach Bottom specific simulator and questions still remain as to how operators would perform on Peach Bottom. The performance of shift crews was observed on the Peach Bottom simulator in September 1988. Performance weaknesses were observed with respect to implementation of emergency operating procedures. The shift crews were reevaluated after retraining, and it was concluded that they performed adequately.

Mr. Linville stated that the results of a maintenance team inspection showed that the licensee had an effective program and was eliminating the maintenance backlog.

An Emergency Operating Procedures Inspection in August of 1988 concluded that these procedures were acceptable, capable of being implemented, and understood by the operators. An Emergency Response Exercise was held in September of 1988. The conclusion was that the procedures and capability for implementation would adequately protect the health and safety of the public.

The most recent inspection was the Integrated Assessment Team Inspection (IATI). The IATI focused on the four "root cause" areas and SALP functional areas. In the area of site management and leadership, positive improvements were noted. The schedule for implementation of the new systems operating procedures was identified as a weakness. The licensee has committed to implementation of those procedures required to support startup of Unit 2. An additional weakness was identified in the licensed operator resource development area. The weakness is the progress toward providing opportunity for career rotation paths and educational programs for the operators. This is a long-term action and the licensee has committed to report on a periodic basis their progress in this area.

Significant progress was noted in the reduction of contaminated areas, and the general decontaminating of the plant. It was noted health physics technicians at Peach Bottom were relatively inexperienced. PECO is planning training for these health physics technicians on what to expect during plant operations with respect to radiological conditions and will work toward improving their skills.

The overall conclusion of the IATI is that the corporate action plan is in place and is being effectively implemented. Performance is improving in all SALP areas. Subject to correction of identified weakness and other physical

work that has to be completed the licensee is ready to support restart and safe operation.

After further discussion, the Committee decided to send a report to the Commission on the proposed restart of the Peach Bottom Atomic Power Station. The report is discussed in Section VIII.B.

111. Containment Design Criteria (Open)

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

Mr. Ward, Chairman of the Containment Systems Subcommittee, summarized the Staff Requirements Memorandum (SRM) dated July 28, 1988, in which the Committee was requested to submit a paper on design criteria for containment based on present knowledge. He noted that written reports by D's. W. Kerr, P. Shewmon, and C. Siess had been provided to the Committee. Mr. Ward then discussed his proposed approach to development of a new set of containment criteria.

Mr. Ward's proposed approach was as follows:

- Invite a number of experts (perhaps a dozen) to discuss their views as to how they would propose to use what is presently known about severe accidents and risk to develop a new set of design requirements/ performance criteria for containment. These discussions would be with the members of the Containment Systems Subcommittee. One of the ACRS Fellows would be assigned to work essentially full time to provide technical support for this activity.
- The members of the Containment Systems Subcommittee would use these insights to draft a set of proposed containment criteria.
- The Containment Systems Subcommittee would report to the full Committee and develop a set of final recommendations.

Mr. Ward proposed that the Committee work towards completing this work by November/December 1989. The Committee concurred with Mr. Ward's proposed plan.

Mr. Michelson recommended that the subcommittee members discuss background material and formulate issues to pursue at the first meeting. He believes the NRC staff reviewers who are involved with improved LWRs, EPRI, and the containment improvements program should be invited to the first subcommittee meeting.

Mr. J. Wilson, RES, noted that the staff's was currently developing a rulemaking for implementation of the Severe Accident Policy for evolutionary LWRs. Dr. Kerr expressed concern that the design of these containments would

be based on the large-break LOCA design basis accident and would only be analyzed to determine their capability to withstand a severe accident.

Mr. Ward proposed that the agenda for the first subcommittee meeting would consist of one-half day of NRC staff presentations on their views of current and improved containment types and one-half day of discussion during which ACRS members could develop a letter to send to invited participants for the follow-up meetings. Included in the agenda would be a presentation by Mr. M. Stella, ACRS Senior Fellow, on the European design criteria.

A combined Containment Systems/Structural Engineering Subcommittee meeting was scheduled for April 18, 1989 to begin this review. Dr. Remick sent a memorandum to the Commission on the Committee's plans for this review. The content of the memorandum is discussed in Section VIII.B.

IV. Severe Accident Research Program Plan (Open)

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

Dr. Kerr, Chairman of the Severe Accident Subcommittee, reported on the discussions which took place at the March 7, 1989 meeting of the Subcommittee. The purpose of the meeting was to provide a preliminary review of the draft Severe Accident Research Program (SARP) Plan dated February 1989. He indicated that the Subcommittee was favorably impressed by the plan and that a more thorough review would be performed in a few months after the plan has been finalized.

Dr. Sheron, RES, discussed the background and objectives for the SARP Plan. He indicated that the plan had been refocused to more efficiently integrate the various tasks to be addressed in this research. He described briefly the short-term and long-term portions of the plan. The issues addressed in the short-term plan were direct containment heating (DCH), BWR Mark I liner melt-through, ice condenser containments, water addition to molten core. in-vessel and ex-vessel steam explosions, sealing of experiments, and performance goals for severe accident codes.

Dr. Shewmon expressed concern that no one has ever adequately demonstrated that the scenario addressed in the research on DCH could be expected to occur in severe accidents. He stated that he believed that there is no mechanism by which a stream of corium will be driven out of the vessel at high pressure. Yet, the DCH concept commonly being pursued is that a small orifice will form and practically the entire core will be expelled as a molten stream through this orifice at high pressure. Dr. F. Costanzi, RES, indicated that NRC is reexamining the question of how the bottom head fails.

Dr. Sheron noted that there was currently a large number of severe accident codes and various concurrent revisions of some of the codes in use. He indicated that code development is now being controlled so that the basic/ initial version of a code is completed before going to the next revision.

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The overall number of codes supported in the NRC's program will be reduced to provide a more cost effective program.

Dr. Costanzi continued the discussion of the draft SARP Plan. The research plan was to:

- provide the technical base for assessing containment performance over a range of risk significant core melt events,
- (2) provide a capability for evaluating the efficacy of generic containment performance improvements, and
- (3) provide a better understanding of the phenomena which are associated with severe accidents and the impacts of generic accident management strategies.

Dr. Catton expressed a concern about the current use of scaled experiments in the "tuning" of codes. Dr. N. Zuber, RES, indicated that only the important phenomena for a particular scenario, (e.g., DCH) would be addressed. Dr. Catton stated that there might be instances where the code model is correct and the experimental arrangement used to test the code model is wrong.

Dr. Kerr asked what the NRC staff's plans were for the development of invessel melt progression codes which would have the capability to predict coolability within the vessel. This issue is one of those in the proposed long-term program.

Dr. Kerr proposed that the Committee consider making some general comments on the SARP Plan at this time. He further indicated that a more detailed review of the plan would be performed by the Subcommittee in the near future (2-3 months). After further discussion, the Committee decided to send a report to the Commission on this topic. The report is discussed in Section VIII.B.

V. NRC Safety Goal Policy (Open)

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

The Committee continued its discussion of a proposed ACRS report on the use of the NRC's Safety Goal Policy. The Committee decided not to send a report of this type at this time. Dr. Lewis subsequently sent a personal memorandum to the Commission on this subject. The memorandum is discussed in Section VIII.B.

VI. Review of Additional Applications of Leak-Before-Break (LBB) Technology (Open)

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

Dr. Kerr (acting on behalf of Mr. Ward, Chairman of the Thermal-Hydraulic (T/H) Phenomena Subcommittee) discussed the history of the development of the LBB broad scope rule by the NRC staff. He noted that the suggestion was made at the time of the rule revision that LBB technology could possibly be applied to other areas such as ECCS systems and environmental qualification (EQ). The T/H Phenomena Subcommittee met on March 7, 1989 to review the NRC staff's proposed Policy Statement on extension of the applications of LBB technology. Dr. Kerr said there did not appear to be clear consensus among industry representatives who appeared before the Subcommittee as to what action the NRC staff should take in this matter. Westinghouse believes the benefits available via LBF can be obtained through the revised ECCS rule. Other industry representatives said they believe there are substantial potential benefits to be obtained via LBB. The NRC staff indicated that extension of LBB was not a high-priority issue and that little was to be gained by its use.

Dr. Catton overviewed a parametric study conducted by BNL for the ACRS at the behest of Mr. Ward. The purpose of the study was to determine the effect of pipe break opening time on peak-clad temperature (PCT) and containment pressure and temperature for a large-break loss of coolant accident (LB LOCA). Dr. Catton said that BNL made a presentation at the March 7 Subcommittee meeting, showing that to break opening time did not significantly affect the containment pressure or temperature profiles. The PCT was impacted somewhat, but not to a great extent. Overall, there was little impact. In response to Dr. Shewmon, Dr. Catton said that reducing the break size by an order of magnitude did not really affect the above results; however, Dr. Catton indicated the limitations of the code used to do this analysis (RELAP-5/MOD2) may be influencing these results.

Dr. Catton recommended that the ACRS carefully review any proposals for relaxation of EQ requirements. He is concerned that there is little or no margin available under the current requirements. Dr. Siess noted that the EQ margin being addressed here today is for the design basis accident (DBA) LOCA. The margin for severe accident considerations has not been evaluated and may be limiting. Dr. Kerr indicated that severe accident considerations would be addressed in the IPES.

Mr. Carroll asked NRC to address the potential impact of use of LBB for the gualification of MOVs in their presentation.

Mr. R. Bosnak, NRC staff, discussed the proposed NRC policy statement on additional applications of LBB technology. He discussed the chronology of the development of the LBB rule via an amendment to GDC-4. An NRC staff requirements memorandum dated October 9, 1987, approved the broad scope amendment to GDC-4 and requested a review to determine whether ECCS and EQ requirements could be modified using LBB technology. The Commissioners directed that public comment should be solicited and that allocation to NRC staff resources should be applied on a first priority basis to enhancing safety (as compared to improved economics with little change in safety). A policy statement on application of LBB technology to ECCS and EQ, developed

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from public comments and staff evaluations, was transmitted by the EDO to the Commission on November 22, 1988.

Mr. Bosnak discussed the safety benefits that might be obtained applying LBB to EQ issues. Increased service life of electrical equipment is an expected benefit if the less restrictive EQ requirements resulting from application of LBB are used. Longer service life implies less replacement and, as a result, less radiation exposure for workers. Equipment replacement involves the risk of human error. The benefits of applying LBB technology will not be obtained for areas inside the containment unless most large-diameter high-energy lines inside the containment satisfy LBB requirements. Mr. Bosnak does not expect that this would be possible -- industry has little interest in applying LBB technology to areas outside of containment because the EQ requirements are not very severe. NRC representatives noted that they would welcome development of a generic EQ profile by the industry for NRC review. To date, this has not been done.

NRC prefers use of exemption requests to gain relief from EQ requirements rather than application LBB technology to the LBB rule because:

- There is a desire on the part of the NRC staff to gain experience with the process of developing replacement criteria prior to investing the resources required to conduct a generic rulemaking on EQ.
- The safety benefits are only potential, and may not be realized either inside or outside the containment. A careful integrated evaluation is needed.

Regarding the ECCS-related uses of LBB technology, NRC representatives indicated that the safety benefits identified to date (relief for emergency diesel generator cold fast-starts, reduced radiation embrittlement to the reactor pressure vessel, etc.) can be obtained via the revised ECCS rule. In response to Dr. Shewmon, Mr. Bosnak said he believed the revised ECCS rule may allow the testing requirements for emergency diesel generator start times to be relaxed to about 1-2 minutes. In response to Mr. Carroll, NRC said the GDC-4 broad scope rule exemption provision only applies to the EQ issue.

Mr. Bosnak provided NRC response to a letter recently received by NRC/ACRS from the Nuclear Utility Group on Equipment Qualification. He quoted passages from this letter to illustrate the staff's disagreement with the central premises of their arguments in favor of a rule revision by NRC to allow LBB to be applied to the EQ issues.

In conclusion, Mr. Bosnak noted that, although rulemaking to expand LBB technology to EQ and ECCS is not recommended at this time, the staff encourages industry to develop quantitative information which will demonstrate safety benefits or benefits which lead to simplification of operation or design that will be gained when LBB is used for EQ and ECCS. This information would support consideration of rulemaking.

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Dr. Shewmon noted that many BWRs have performed piping replacements to 316L grade pipe which should resolve the IGSCC concern. He asked if any BWR licensees have come in with a proposed request to make use of LBB technology. Dr. O'Brien, NRC staff, said no licensee has made a submittal to date. It is, however, expected that licensees will do so in the near future.

Mr. Bosnak, in response to Mr. Carroll's earlier request for NRC staff comment on use of LBB, vis-a-vis qualification of MOVs, indicated that use of LBB should be of help here. Mr. Carroll indicated that NRC should be receptive to reviewing proposals in the area. Mr. Bosnak said NRC will entertain submittals on this item as allowed by the GDC-4 revision.

Mr. E. Siegel (CE) and Mr. D. Williams (CEOG) provided comments on the extension of LBB technology. CE noted it has been involved in LBB for almost 19 years and has gualified all its plants for LBB.

CE has applied LBB to the main RCS loops and pressurizer surge line (for stratified flow conditions) of their Korean plant. In addition, CE has presented NRC with arguments for applying LBB to the main steam line of U.S. CE plants. The NRC has agreed that the main steam line is a candidate for applications of LBB technology.

Mr. Siegel said CE is pursuing application of LBB technology to the areas of environmental qualification of equipment, containment design pressure and temperature profiles requirements, and ECCS requirements.

Mr. Siegel related that CE believes that applying LBB technology to the areas inside containment would reduce containment loading requirements for periodic leak rate testing by 30-50 percent. He noted, however, that CE has not performed a rigorous analysis to support this estimate. Dr. Siess indicated that he was skeptical that any real benefits would be obtained.

Mr. Siegel cited four specific areas where benefits might be obtained by applying LBB technology:

- Containment building integrity.
- EQ of equipment.
- Emergency operating procedures.
- Plant equipment/operational flexibility.

CE proceeded to discuss the potential benefits for each of the above areas.

Dr. Catton again raised his objections to the relaxation of EQ requirements. He said that a severe blowdown which occurred at an FRG plant showed that one must consider the synergistic effects of heat and mass flow. This is not done in establishing the requirements for current EQ tests.

Dr. Siess asked if CE has evaluated the impact of a relaxation of EQ requirements on severe accident considerations. CE has not done so. Dr. Siess indicated that such an evaluation may dramatically change the current

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prospective as to the impact of EQ failures on risk of beyond design basis accidents.

Mr. Siegel concluded that CE believes LBB should be pursued for additional applications beyond those allowed by GDC-4.

Mr. Williams (AP&L) noted the adverse impact on such areas as operating margins, emergency operating procedures, plant equipment and operational flexibility that result from applying the LB LOCA requirements per NRC regulation. He also provided examples of how additional margin could be gained assuming application of LBB technology.

In response to Mr. Michelson, Mr. Williams indicated they are encouraged by the NRC statement indicating that NRC and industry should work together to develop information upon which a basis for rulemaking would be possible. They do not see a need for a rule change at this time. It was noted that this is a change from their position put forth at the March 7, 1989 T/H Phenomena Subcommittee meeting (i.e., that a rule change should be unortaken).

Mr. C. Hirst (Westinghouse) provided Westinghouse comments on the additional applications of LBB technology. Westinghouse reviewed LBB technology for: (1) application to Westinghouse-designed plants, (2) impact on operating plants (safety injection systems, containment systems, and environmental qualification). (3) potential impact on new plants, and (4) impact of approved Appendix K ECCS models and best-estimate methodology (Appendix K Rule change).

For current LOCA analysis considerations, Mr. Hirst noted that for LB LOCA (>1 sq. ft), fluid behavior is dominated by inertial effects and that for intermediate breaks, fluid behavior is controlled by inertia and gravity. Intermediate breaks have received limited attention and may become limiting when LB LOCA is eliminated. Small breaks (≤ 8 -inch dia) give low flow rates and slow depressurization.

Westinghouse noted that if the DBA LOCA can be reduced to <1 sq. ft^2 , it may be possible to change the related safety requirements as follows:

- Benefits in reliability may be realized by modifying Technical Specification safety injection flow rates and justifying less demanding diesel generator start times.
- Comparative benefits may also be obtained from applying advanced LOCA modeling technology.
- ^o However, existing safety injection system equipment will remain necessary for the current operating plants.

In summary, Westinghouse sees the major benefits to be gained by applying the revised ECCS rule (not LBB) to current plants. Mr. Hirst indicated that the

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benefits of LBB on containment systems and environmental qualification are minimal.

With regard to Westinghouse new plant designs, Mr. Hirst said that use of LBB could result in the elimination or reoptimization of HPSI for the APWR design. For the AP600 design, the accumulators could be eliminated.

In conclusion, Westinghouse sees the following benefits for current W plants: (1) relaxation of the Technical Specifications on allowable peaking factors, (2) the increased reliability associated with reduced emergency diesel start times, and (3) somewhat relaxed EQ requirements. Westinghouse believes that the revised ECCS rule (instead of LEB) provides the greatest benefit for current plants.

After further discussion, the Committee decided to send a report to the Commission on additional application of leak-before-break technology. This report is discussed in Section VIII.B.

VII. Meeting with the Executive Director for Operations (Open)

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

Mr. Stello first addressed the Committee's letter dated January 23, 1989, Subject: "NUREG-1150: Resolution of ACRS Comments." He indicated that he had reread the referenced statement in SECY-88-337, and he agreed that the ACRS comments were appropriate. He apologized for the statements that the ACRS took issue with.

Mr. Stello asked the Committee to review its position on NUREG-1150 and provide the Commission with guidance on the interim use of NUREG-1150 (Revised Draft) as soon as possible. He indicated that a new peer review group had been established to review the second draft of NUREG-1150, and it was hoped that this review could start in May 1989.

Mr. Stello further indicated that he had been aware of problems in scheduling with regard to getting the Committee involved in the review of NRC staff work in a timely manner. He stated that a memorandum is being drafted to correct this problem and that the NRC staff will be sensitive to the need for improved coordination with the ACRS.

Mr. Murphy, RES, discussed the intended uses of NUREG-1150. Those were given in SECY-88-147 and repeated in SECY-88-337 as follows:

The probabilistic models of the spectrum of possible accident sectences, containment events, and off-site consequences have been and are being used to develop insights for the review of and the conduct of the search for vulnerabilities through the individual plant examinations and for

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the development of the framework for considering accident management strategies.

The analytical information base obtained from NUREG-1150, including the analyses performed to assist the experts in the elicitation process, will be a useful input to considerations of the need for improvement of containment performance under severe accident conditions. This effort has added significantly to the analytical data base.

- * The NUREG-1150 analyses will add to the compendium of PRA information on the frequency of severe accidents and the dominant accident contributors which can be used to assist in identifying plant operational features or practices which have an adverse impact on plant safety.
- The models of NUREG-1150 will provide a testbed for the evaluation of alternative safety goal implementation strategies at five plants of differing designs and evaluation of the risk reduction benefit of various accident management options.
- In addition, for the plants analyzed, NUREG-1150 will identify the major contributing factors to core damage frequency and various measures of risk, and to the uncertainties associated with those estimates. These will form an important data base which can be used as one element in the evaluation of research priorities and the prioritization and resolution of generic issues.

Mr. Murphy stated that the second draft of NUREG-1150 would be comprised of two volumes with approximately 20 supporting contractor reports and is expected to be available on April 17, 1989.

Dr. Remick asked if the staff's concern was mainly that NUREG-1150 would be embargoed until the peer review was finished. Mr. Murphy stated that he was concerned that the insights gained from numerous code runs would not be utilized but was not concerned that bottom-line risk values would not be used.

Dr. Kear stated it would be a mistake not to pay any attention to the bottomline numbers, just as it would be a mistake to use them without the appropriate caution.

Mr. Murph/discussed some of the insights from the NUREG-1150 studies. It was noted that most of these insights seemed to be self-evident based on engineering judgment.

In regard to a Committee report on the uses of NUREG-1150, Dr. Kerr indicated that he would want to give the Commission a soundly based set of recommendations and that the new version of the report must be given some preliminary ACRS review prior to issuance of a report.

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Dr. Lewis indicated that he believed that the initial version of NUREG-1150 was a flawed document and not as high quality as WASH-1400, and that the revised document might also be flawed.

Dr. Beckjord defended NUREG-1150 and stated that it goes much further than previous risk assessment studies and cited the treatment of uncertainties as an example.

Dr. Siess expressed a concern in regard to an apparent effort by the NRC staff to achieve perfect PRAs without a decision being made on how to use them.

Dr. Shewmon mentioned the proposed Committee approach in regard to containment design criteria and Dr. Remick inquired about the appropriate staf⁵ personnel who might participate in the initial meeting on April 18, 1989. Dr. Beckjord indicated he would provide the names to the ACRS staff.

Dr. Siess asked if the EDO had given much thought to the allocation of responsibilities between the ACRS and the ACNW. Some of the issues were briefly discussed.

Dr. Remick asked about the nature of the forthcoming NRC Regulatory Information Conference on April 18-20, 1989. Dr. Murley, Director, NRR, indicated that this conference had been organized to provide a forum for discussing current regulatory issues with a large number of licensees and other organization.

Dr. Lewis asked about the apparent difference of opinion between NRC and DOE on the question of whether containment is necessary no matter how scall the core melt frequency. Mr. Stello indicated that DOE has not made a final decision on this matter and that he expects to have additional discussions on this issue.

VIII. Executive Sessions (Open)

- A. Subcommittee Reports (Open)
 - 1. Occupational and Environmental Protection Systems

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

Mr. Carroll, Chairman of the Occupational and Environmental Protection Systems (O&EPS) Subcommittee presented a report based on a Subcommittee meeting on emergency preparedness that was held on March 1-2, 1989. The Subcommittee meeting was held in response to the October 6-7, 1988 Committee request that the Subcommittee on O&EPS hold a tutorial session with the NRC staff, FEMA, and industry groups to discuss the status of emergency preparedness at

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nuclear power plants and to develop recommendations for future ACRS actions.

The Incident Response Center (IRC) was visited by the Subcrimittee. This was a highly informative tour and was recommended for ACRS members.

The NUMARC Graded Response Task Force, chaired by H. Sprcter, NYPA, is finishing its study on graded response strategy. Mr. Carroll noted that Mr. Specter expressed frustration at the ruor understanding of graded response, which essentially is the prompt evacuation of the inner zone (to about 2-3 miles or about 10% of the EPZ population), sheltering in the outer zone as appropriate, and a longer term relocation, if warranted. Graded response is believed by Mr. Specter to be substantial improvement over a massive evacuation.

Mr. Edward Warman, Stone & Webster, discussed a study on post-Chernobyl international emergency preparedness and response. It was noted that the EPZ used in the United States is one of the largest when compared to the EPZ used in Europe. NUMARC believes that the large EPZ is counterproductive and has a significant adverse psychological effect on the public. Mr. Warman recommended that EPZ for advanced plants be set at the site boundary (about 1/2 mile); Mr. Carroll does not favor this concept for prudence sake.

Dr. Remick stated that he believes the sheltering concept is a very sound one and wondered how to convey the message that sheltering is preferable to an all-out evacuation to the public and governing authorities. In addition, he stated that the insights of PRA and IPE studies should be integrated into emergency planning studies.

Mr. Carroll suggested that emergency planning should be coupled to severe accident research.

The following actions were agreed to:

- Mr. Carroll would develop a proposal for a 2-3 hour presentation at a future ACRS meeting.
- (2) A Stone & Webster report entitled "Review of the Basis for Emergency Planning Zone Size in the U.S. and Recent Developments with Possible implications for Change," dated February 1989, for HM Nuclear Installation Inspectorate (U.K.) has been received and will be distributed to all members.
- (3) A proposed report on emergency preparedness will be prepared by the O&EP Subcommittee for ACRS action at some time in the near future.

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B. Reports, Letters, and Meroranda (Open)

1. Review of the Peach Bottom Atomic Power Station Restart (Report to Chairman Zech dated March 14, 1989)

The Committee stated that it found no reason to disagree with the NRC staff's position that, subject to completion of certain welldefined commitments to plant modifications and revisions of procedures, the Philadelphia Electric Company can operate the Peach Bottom Atomic Power Station without undue risk to the health and safety of the public. The Committee endorsed the staff's plans to continue a close monitoring and evaluation of the Peach Bottom managerial and operational team for an appropriate period after operation at power has begun.

 Additional Applications of Leak-Before-Break Technology (Report to Chairman Zech dated March 14, 1989)

The Committee agreed with the NRC staff that undertaking a rulemaking at this time on the additional applications of leak-beforebreak technology would be premature. However, the Committee believes that an avenue for consideration of additional applications of leak-before-break technology should exist. The Committee recommended that in the staff's proposed policy statement on additional applications of leak-before-break technology the staff make it clear that it is open to a serious consideration of industry proposals to extend this concept to situations for which technical justification can be provided.

 Proposed Severe Accident Research Program Plan (Report to Chairman Zech dated March 15, 1989)

The Committee stated that the NRC staff's proposed plan represented a substantial improvement over the approach used by the staff in the past and commented on the procedures for the justification of contractor work, the approach to the resolution of the direct containment heating issue, and the consideration of the results of research performed by the U.S. industry and foreign organizations.

4. <u>Containment Design Criteria</u> (Memorandum dated March 15, 1989, to Chairman Zech from F. J. Remick)

The ACRS Chairman stated that the Committee had discussed plans for its own work on the development of containment design criteria and scheduled a subcommittee meeting to continue the discussion of this issue. The Committee will concentrate its efforts on criteria for future plants.

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5. Appointment of ACRS Members (Memorandum dated March 13, 1989 to Chairman Zech from F. J. Remick)

The Committee approved a plan for filling current and anticipated ACRS vacancies as requested by Chairman Zech.

C. Other Conclusions (Open)

 ACRS Member Personal Memorandum on Use of NRC's Safety Goal Policy as a Standard to Measure Effectiveness of NRC Rules and Regulations

The Committee discussed a draft report proposed by Dr. Lewis on the use of the NRC's Safety Goal Policy as a standard to measure the effectiveness of NRC rules and regulations in protecting the public health and safety. The Committee decided not to send a letter of this type at this time. Dr. Lewis subsequently transmitted a personal memorandum to the Commission with recommendations on this type of use of the NRC's Safety Goal Policy. (See memorandum dated March 11, 1989 to the Commissioners from Harold W. Lewis.)

 Decision Not to Review Draft Final Rule "Centralization of Material Control and Accounting Licensing and Inspection Activities for Non-Reactor Facilities"

The Committee decided not to review the draft final rule "Centralization of Material Control and Accounting Licensing and Inspection Activities for Non-Reactor Facilities." (See memorandum dated March 16, 1989 to V. Stello from R. F. Fraley.)

 Decision to Review Generic Issue 115, "Enhancement of Reliability of the Westinghouse Solid State Protection System"

The Committee decided to review the proposed resolution of Generic Issue 115, "Enhancement of Reliability of the <u>W</u> Solid State Protection System." A meeting of the Subcommittee on Instrumentation and Control Systems has been tentatively scheduled for April 5, 1989 to review this material. (See memorandum dated March 15, 1989 to K. Kniel from R. F. Fraley.)

 Establishment of Ad Hoc Subcommittee to Review Conflict of Interest Guidelines (Appendix K) of the ACRS Bylaws

The Committee established an ad hoc subcommittee to review the conflict of interest guidelines (Appendix K) of the ACRS Bylaws. Mr. Michelson is chairman of this ad hoc subcommittee and Dr. Kerr and Dr. Lewis are the members. R. P. Savio is the cognizant staff engineer.

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 Reaffirmation of Decision to have Safety Issues Associated with "Hot Particles" Reviewed by the Subcommittee on Occupational and Environmental Protection Systems

The Committee reaffirmed its decision to have the Subcommittee on Occupational and Environmental Protection Systems review the safety issues associated with "hot particles." Dr. Moeller has been invited to participate as an invited expert.

 Discussion with Mr. Stello, EDO, Regarding Possible Uses of Revised NUREG-1150

The Committee met with Mr. Stello and discussed the possible uses of the revised NUREG-1150 report. The revised report is expected to be available by April 17, 1989. The Committee agreed to have subcommittee and full Committee discussions after the revised NUREG-1150 report is available, and to provide comments on possible uses of this report. Dr. Kerr will be the cognizant subcommittee chairman for this review.

- D. Future Activities (Open)
 - 1. Future Agendu

The Committee agreed to the tentative future agenda as shown in Appendix II.

2. Future Subcommittee Activities

A schedule of future subcommittee activities was distributed to members (Appendix III).

The 347th ACRS meeting was adjourned at 1:00 p.m., Saturday, March 11, 1989.

APPENDICES MINUTES OF THE 347TH ACRS MEETING MARCH 9-11, 1989

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1.	Attendees		
11.	Future	Agenda	
111.	Future	Subcommittee	Activities

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IV. Other Documents Received

APPENDIX I ATTENDEES 347TH ACRS MEETING MARCH 9-11, 1989

THURSDAY, MARCH 9, 1989

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Public Attendees

Melanie A. Miller, PECO (TENERA) Harry R. Abendroth, Atlantic Electric Mary E. Martin, SPPT Robert H. Zong, PECO-NED John B. Cotton, PECO-PBAPS Jamas A. Basiliom OECI K, Connor, SAIC George A. Hunger, Jr., PECO S. J. Kowalski, PECO R. J. Lees, PECO R. R. Reichel, Delmarva Power D. R. Helwig, PECO A. J. Wasong, PECO D. Woodrow, PECO B. Reid, Evening Sun, Baltimore S. Poltorak, SERCH J. Franz, PECO Bryan Gorman, PSE&G E. P. Fogarty, PECO R. A. Kankus, PECO D. M. Smith, PECO S. P. Main, Jr., Pa. BRP G. A. Krueger, PECO Eddie R. Grant PECO Ted Rabb, PECO J. Wm. Jones, PECO D. Kardos, ERCE L. Nendza, PECO Ellen F. Rice, NUS K. Unnerstall, Newman & Holtzinger G. A. Brown, Stone & Webster L. N. Rib, LNR Assoc. Joe Martore, PECO (TENERA, L.P.) D. Trimble, OCM/JRC C. A. McNeill, PECO John Bagnulo, GAO

NRC Attendees

J. P. Durr, R I R. E. Martin, NRR B. A. Boger, NRR H. B. Clayton, OEDO R. A. Hermann, NRR Drew Persinko, NRR Jerry Wilson, RES 347TH ACRS

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FRIDAY, MARCH 10, 1989

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Public Attendees

NRC Attendees

R. Bosnak, RES

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- J. O'Brien, RES C. Ader, OCM D. Persinko, NRR

R. Borsum, B&W Ellen F. Rice, NUS Gil Brown, NUMARC Eve Fotopoulos, SER H Licensing, Bechtel Eve Fotopoulos, SER:H Licensing, Bechtel Carl Hirst, Westinghouse Keith Matthews, Mestinghouse Dan Williams, Arkansas P&L Gerald Doney, Combustion Engineering Ed Siegel, Combustion Engineering Charles Brinkman, Combustion Engineering Gregory Brown, Stone & Webster L. Connor, SAIC M. Beaumont, Westinghouse J. Basilio, PECO

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APPENDIX II

TENTATIVE SCHEDULE FOR APRIL 6-8, 1989 ACRS MEETING

Maintenance of Nuclear Power Plants (Open) (CM/HA) Estimated time: 3 hrs. -Review and comment on proposed rule and Regulatory Guide regarding maintenance programs at nuclear power plants.

Pressurized Thermal Shock (Open) (PGS/EGI) Estimated time: 1 hr. - Review and comment on the proposed amendment to the pressurized thermal shock rule (10 CFR Part 50.61).

Generic Issue 101 (Open) (WK/MME) Estimated time: } hr. - Review and comment on proposed resolution of Generic Issue 101, "BWR Water Level Redundancy."

Embrittlement of Reactor Pressure Vessel Supports (Open) (PGS/EGI) Estimated time: 1 hrs. - Review and comment on proposed resolution of problems associated with embrittlement of reactor pressure vessel supports (NUREG/CR-5320).

Meeting with Director, NRR (Open) (FJR/RFF) Estimated time: 1 hr.of Discuss items of mutual interest, including NRR activities regarding containment performance requirements.

Emergency Response Data System (Open) (JCC/EGI) Estimated time: Information briefing on proposed generic letter to nuclear plant licensees regarding an emergency response data system.

Future ACRS Activities (Open) (FJR/RFF/GRQ) Estimated time: 11 hrs. - Discuss anticipated subcommittee and full Committee activities as well as the division of work responsibility between the ACNW and ACRS.

Appointment of ACRS Members (Closed) (FJR/ML) Estimated time: # hr. - Discuss the status of the appointment of ACRS members and the qualifications of nominees proposed as candidates for appointment to the Committee.

ACRS Subcommittee Activities (Open) (FJR/RFF) Estimated time: 1 hr. - Hear and discuss the status reports of cognizant ACRS subcommittees regarding designated activities including consideration of degraded piping in nuclear power plants.

Generic Issue 115 (Open) (WK/CJW/MME) Estimated time: 14 hrs. - Review and commant on the proposed resolution of Generic Issue 115 "Enhancement of the Reliability of the W Solid State Protection System."

Generic Issue 103 (Open) (CPS/EGI) Estimated time: on the proposed resolution of Generic Issue 103, "Design for Probable Maximum Precipitation."

Performance Indicators (Open) (FJR/PAB) Estimated time: 1 hr. - Discuss the status of the performance indicators program.

B&W OTSG Thermal Hydraulic Research Program (Open) (DAW/PAB) Estimated time: 14 hrs. - Discuss the NRC/Industry proposed thermal hydraulic research program for B&W OTSG.

APPENDIX 111 347TH ACRS MEETING MINUTES

ACRS/ACNW COMMITTEE & SUBCOMMITTEE MEETINGS

Materials and Metallurgy, March 15-16, 1989, Columbus, OH (Igne), 8:30 a.m. The Subcommittee will review the degraded piping program, including NDE and aging of centrifugally cast stainless steel piping material. Attendance by the following is anticipated, and reservations have been made at the Parke University Hotel for the nights of March 14 and 15:

Dr.	Shewmon	None	Dr.	Bush
Mr.	Ward		Dr.	Hutchinson

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Auxiliary and Secondary Systems, March 20, 1989, POSTPONED until June/July.

8th ACNW Meeting, March 23, 1989, Bethesda, MD, Room P-110.

Joint Materials and Metallurgy/Structural Engineering, March 23, 1989, 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m., Room P-422. The Subcommittees will review the proposed amendment to the pressurized thermal shock (PTS) rule updating the formula given in the PTS rule for calculating the level of radiation embrittlement in reactor vessel beltline and the staff's position on reactor support embrittlement. Attendance by the following is anticipated, and reservations have been made at the hotels indicated for the night of March 22:

Dr.	Shewmon	NONE	Mr. Ward	HOLIDAY INN
Dr.	Siess	HOLIDAY INN	Dr. Odette	NONE
Mr.	Michelson	DAYS INN-DC		

Mechanical Components, March 29, 1989, 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m. (morning only), Room P-110. The Subcommittee will continue its review of the NRC Staff's generic letter on MOV reliability. Attendance by the following is anticipated and reservations have been made at the hotels indicated for the night of March 28:

Mr.	Michelson	DAYS-INN-DC	Mr. Wylie	HOLIDAY INN
Mr.	Carroll	HOLIDAY INN	Mr. Wohld	HOLIDAY INN
Dr.	Siess	HOLIDAY INN		

Instrumentation and Control Systems, March 29, 1989, 792 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 1:00 p.m., Room P-110. he Subcommittee will review the proposed resolution of Generic Issue 101, "BWR Water Level Redundancy." Attendance by the following is anticipated, and reservations have been made at the hotels indicated for the night of March 28:

Dr.	Kerr	NONE	Mr. Wylie	HOLIDAY	INN
Mr.	Carroll	HOLIDAY INN	Mr. Davis	HOLIDAY	INN-CENTRAL
Dr.	Lewis	EMBASSY SUITES	Dr. Lipinski	NONE	
Mr.	Michelson	DAYS INN-DC			

Maintenance Practices and Procedures, March 30, 1989, 7920 Norfolk Avenue, Bethesda, MD (Alderman), 8:30 a.m., Room P-110. The Subcommittee will review the proposed maintenance rule. Attendance by the following is anticipated, and reservations have been made at the hotels indicated for the night of March 29:

Mr.	Michelson	DAYS INK-DC	Mr. Wylie	HOLIDAY INN
Mr.	Carroll	HOLIDAY INN		

Thermal Hydraulic Phenomena, April 5, 1989, 7920 Norfolk Avenue, Bethesda, MD (Boehnert), 1:00 p.m., Room P-110. The Subcommittee will review the final report of the joint NRC/B&W Owners Group/EPRI Technical Advisory Group on the need for edditional thermal hydraulic testing of B&W OTSGs. Lodging will be announced later. Attendance by the following is anticipated:

> Dr. Kerr Mr. Wylie

348th ACRS Meeting, April 6-8, 1989, Bethesda, MD, Room P-110.

Improved Light Water Reactors, April 11-12, 1989, EPRI Conference Center, 3412 Hillview Avenue, Palo Alto, CA (Alderman), 8:30 a.m. The Subcommittee will review Chapters 1-5 of the EPRI ALWR Requirements Document and have a preview of Chapters 6-9 of the EPRI ALWR Requirements Document. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Wylie Dr. Kerr (tent.) Mr. Michelson

Mr. Ward

Dr. Catton

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Dr. Siess Mr. Ward

Joint Containment Systems/Structural Engineering, April 18, 1989, 7920 Norfolk Avenue, Bethesda, MD (Houston/Igne), 8:30 a.m. The Subcommittees will discuss current containment design criteria with the NRC staff and plan future Subcommittee action to develop containment criteria for future plants. Lodging will be announced later. Attendance by the following is anticipated:

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

Occupational and Environmental Protection Systems, April 20, 1989, 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m. The Subcommittee will review the proposed interim standard for occupational exposure of the skin to beta radiation from small radioactive particles (hot particles). Lodging will be announced later. Attendance by the following is anticipated:

Mr.	Carroll	Mr. Kathren (tent.)
Dr.	Remick	Dr. Moeller
Mr.	Wylie	Dr. Shapiro (tent.)

Instrumentation and Control Systems, April 21, 1989, 7920 Norfolk Avenue, Bethesda, MD (El-Zeftawy), 8:30 a.m., Room P-110. The Subcommittee will review the implementation status of the ATWS rule. Attendance by the following is anticipated, and reservations have been made at the hotels indicated for the night of April 20:

Dr.	Kerr	NONE	Mr. Wylie	HOLIDAY INN
Mr.	Carroll	HOLIDAY INN	Mr. Davis	HOLIDAY INN-CENTRAL
Dr.	Lewis	EMBASSY SUITES	Dr. Lipinski	NONE
Mr.	Michelson	DAYS INN-DC	Mr. Oaks	NCNE

Limerick 2, April 25, 1989, Philadelphia, PA (Quittschreiber). The members will visit the site and meet to review the application of Philadelphia Electric Company for a license to operate Limerick Unit 2. Lodging will be announced later. Attendance by the following is anticipated:

Dr.	Kerr	Dr.	Siess
Dr.	Lewis	Mr.	Wylie

Dr. Remick

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9th ACNW Mecting, April 26-28, 1989, Bethesda, MD, Room P-110.

Materials and Metallurgy, April 27, 1989, Palo Alto, CA (Igne). The Subcommittee will discuss the status of the following matters: erosion/corrosion of pipes, hydrogen/water chemistry, zinc addition to primary coolant loop and its effects on materials, decontamination effects on materials, and other related matters. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Shewmon Mr. Ward Mr. Etherington

Planning and Procedures, May 3, 1989, 7920 Norfolk Averue, Bethesda, MD (Fraley), 1:00p.m. - 5:30 p.m., Room P-422. The Subcommittee will discuss matters related to ACRS activities and allocation of resources. Lodging will be announced later. Attendance by the following is anticipated:

Dr. Remick Mr. Michelson Mr. Ward

349th ACRS Meeting, May 4-6, 1989, Bethesda, MD, Room P-110.

Plant Operating Procedures, May 9, 1989 (tentative), 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m., Room P-110. The Subcommittee will review the status of the NRC program on Technical Specifications update. Also, it will review an anonymous letter to Ms. E. Weiss (Union of Concerned Scientists), dated September 27, 1988, on Technical Specifications inadequacies. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Carroll Dr. Remick

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Mr. Ward Mr. Wylie

General Electric Reactor Plants (ABWR), May 10-11, 1989, 7920 Norfolk Avenue, Bethesda, MD (Alderman), 8:30 a.m., Room P-110. The Subcommittee will continue its review of the GE ABWR. The Subcommittee will also preview Chapters 7,8,9,11,12,13,14, and 17 of the GE ABWR SAR. Lodging will be announced later. Attendance by the following is anticipated:

Mr.	Michelson	Mr. Ward
Dr.	Kerr	Mr. Wylie
Dr.	Remick	Dr. Okrent
Dr.	Shewmon	

International Conference on Quality, May 14-18, 1989, San Diego, CA (Igne). Attendance by the following is anticipated:

Dr. Remick Dr. Siess

Mr. Ward et al.

Materials and Metallurgy, May 25, 1989, 7920 Norfolk Avenue, Bethesda, MD (Igne), 8:30 a.m., Room P-110. The Subcommittee will review low upper shelf fracture energy concerns of reactor pressure vessels. Lodging will be announced later. Attendance by the following is anticipated:

Mr. Etherington

Dr. Shewmon Mr. Ward

Joint Regulatory Activities and Containment Systems, July 12, 1989, 7920 Norfolk Avenue, Bethesda, MD (Duraiswa...y/Houston), 8:30 a.m., Room P-110. The Subcommittees will review the proposed final revision to Appendix J to 10 CFR Part 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Lodging will be announced later. Attendance by the following is anticipated:

Dr. Siess Mr. Ward Dr. Kerr Mr. Michelson Mr. Wylie Extreme External Phenomena. Date to be determined (April), Bethesda, MD (Igne). The Subcommittee will review planning documents on external events. Attendance by the following is anticipated:

Mr. Michelson Mr. Wylie

Dr. Siess Dr. Kerr Dr. Lewis

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Advanced Pressurized Water Reactors, Date to be determined (May), Bethesda, MD (El-Zeftawy). The Subcommittee will discuss the comparison of WAPWR (RESAR SP/90) design with other modern plants (in U.S. and abroad). Attendance by the following is anticipated:

fr.	Carroll	Dr. Remick
)r.	Kerr	Dr. Shewmon
Ir.	Michelson	Mr. Wylie

Regulatory Policies and Practices, Date to be determined (May), Bethesda, MD (Quittschreiber). The Subcommittee will review a proposed rule on nuclear plant license renewal. Attendance by the following is anticipated:

Dr.	Lewis	Dr. Siess
Dr.	Kerr	Mr. Ward
Dr.	Remick	Mr. Wylie

Advanced Pressurized Water Reactors, Date to be determined (May/June), Bethesda, MD (El-Zeftawy). The Subcommittee will review the licensing review bases document being developed by the Staff for Combustion Engineering's Standard Safety Analysis Report Design Certification (CESSAR-DC). Attendance by the following is anticipated:

Mr.	Carroll	Dr.	Remick
Dr.	Kerr	Dr.	Shewmon
Mr.	Michelson	Mr.	Wylla

AC/DC Power Systems Reliability, Date to be determined (May/June), Bethesda, MD (EI-Zeftawy). The Subcommittee will review the proposed resolution of Generic Issue 128, "Electrical Power Reliability." Attendarce by the following is anticipated:

Mr.	Wylie	Dr. Lewis
Mr.	Carroll	Mr. Davis
Dr.	Kerr	Dr. Lee

Thermal Hydraulic Phenomena, Date to be determined (May/June), Bethesda, MD (Boehnert). The subcommittee will review the NRC staff's proposed resolution of Generic Issue 84, "CE PORVs." Attendance by the following is anticipated:

Mr. Ward Dr. Catton Dr. Kerr Mr. Hylie Dr. Plesset Mr. Schrock Dr. Sullivan Dr. Tien

Decay Heat Removal Systems, Date to be determined (May/June), Bethesda, MD (Boehnert). The Subcommittee will continue its review of the proposed resolution of Generic Issue 23, "RCP Seal Failures." Attendance by the following is anticipated:

Mr. Hard Mr. Michelson (tent.) Dr. Catton Mr. Wylie Dr. Kerr Mr. Davis

Joint Thermal Hydraulic Phenomena/Core Performance, Date to be determined (May/June), Bethesda, MD (Boehnert/Houston). The Subcommittees will review the implications of the core power oscillation event at LaSalle, Unit 2. Attendance by the following is anticipated:

Dr. Kerr Mr. Ward Dr. Catton Mr. Michelson Dr. Shewmon Mr. Wylie Dr. Lee Dr. Lipinski Dr. Plesset Mr. Schrock Dr. Sullivan Dr. Tien

Joint Severe Accidents and Probabilistic Risk Assessment, Date to be determined (May/June), Location to be determined (Houston). The Subcommittees will discuss second draft of NUREG-1150, "Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants." 'Attendance by the following is anticipated:

Dr.	Kerr	Dr. Siess
Dr.	Lewis	Mr. Ward
Dr.	Catton	Dr. Corradini
Mr.	Michelson	Mr. Davis
Dr.	Remick	Dr. Lee
Dr.	Shewmon	Dr. Saunders

Auxiliary and Secondary Systems, To be determined (June/July), Bethesda, MD (Duraiswamy). The Subcommittee will review the adequacy of the staff's proposed plans to implement the recommendations resulting from the Fire Risk Scoping Study and other matters related to fire protection systems. Attendance by the following is anticipated:

Mr. Michelson Mr. Carroll Dr. Siess Mr. Hylie

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Severe Accidents, Date to be determined (July/August), <u>Bethesda, MD</u> (Houston). The Subcommittee will discuss the NUMARC Accident Management guideline document and the NRC research program in the accident management area. Attendance by the following is anticipated:

Dr. Kerr Dr. Catton Dr. Shewmon Dr. siess Mr. Ward Dr. Corradini Mr. Davis Dr. Lee

Decay Heat Removal Systems, Date to be determined, Bethesda, MD (Boehnert). The Subcommittee will explore the issue of the use of feed and bleed for decay heat removal in PWRs. Attendance by the following is anticipated:

Ir.	Ward	Mr. Michelson (tent.)
Dr.	Catton	Mr. Wylie
Dr.	Kerr	Mr. Davis

Thermal Hydraulic Phenomena, Date to be determined, Bethesda, MD (Boehnert). The Subcommittee will discuss the status of Industry best-estimate ECCS mode? submittals for use with the revised ECCS Rule. Attendance by the following is anticipated:

Mr. WardDr. PlessetDr. CattonMr. SchrockDr. KerrDr. SullivanMr. MichelsonDr. Tien

Auxiliary and Secondary Systems, Date to be determined, Bethesda, MD (Duraiswamy). The Subcommittee will discuss the: (1) criteria being used by utilities to design Chilled Water Systems, (2) regulatory requirements for Chilled Water Systems design, and (3) criteria being used by the NRC staff to review the Chilled Water Systems design. Attendance by the following is anticipated:

Mr. Michelson Mr. Carroll

Mr. Wylie

Mr. Wylie

APPENDIX IV 347TH ACRS MEETING MINUTES OTHER DOCUMENTS RECEIVED

MEETING NOTEBOOK TAB

1 ..

2 PEACH BOTTOM ATOMIC POWER STATION RESTART

Slides used by speaker during presentation

- Table of Contents 1.
- 2. Tentative Schedule
- Purpose and Background 3.
- 4. Memorandum to W. Kerr from H. Alderman, Subject: Restart Review of the Peach Bottom Atomic Power Station, Units 1 and 2, dated February 16, 1989 Letter to V. Stello from R. Fraley, Subject: Question: Concerning
- 5. Peach Bottom Restart, dated October 7, 1988
- Letter to Chairman Zech from B. A. Risacher, County Council of 6. Harford County, Maryland, dated August 30, 1988
- Letter to Philadelphia Electric Co., Attn: Mr. C. A. McNeill, from W. T. Russell, Regional Administrator (I), NRC, Subject: Peach Bottom Atomic Power Station Safety Evaluation Report with enclosure (SER on 7. Philadelphia Electric Co.'s Plan for Restart of the Peach Bottom Atomic Power Station, U.S. NRC, Oct. 1988)
- 4 SEVERE ACCIDENT RESEARCH PROGRAM PLAN

Slides used by speaker during the presentation

- 1. Table of Contents
- 2. **Tentative Agenda**
- 3. Status Report
- Memorandum for Forrest J. Remick from B. W. Sheron, RES, Subject: 4. Revised Severe Accident Research Program Plan, dated February 10, 1989 with enclosure (Draft Predecisional - For Internal Use Only - Severe Accident Research Program Plan, Feb. 1989)
- 5.1 FUTURE ACTIVITIES
 - List of Planned Future Full Meetings and Subcommittee Meetings 1.
- 5.2 TOPICS PROPOSED FOR CONSIDERATION BY THE FULL COMMITTEE

Memorandum for ACRS Members from k. Fraley, Subject: Future ACRS Activities - 348th ACRS Meeting - April 6-8, 1989, dated March 8, 1989

APPOINTMENT OF ACRS MEMBERS (INTERNAL COMMITTEE USE) 7 1.

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- 9 NRC POLICY STATEMENT ON ADDITIONAL APPLICATIONS OF LEAK-BEFORE-BREAK (LBB) TECHNOLOGY
 - Slides used by speaker during the presentation
 - Table of Contents 1.
 - 2. Project Status Report with Attachments (below):
 - ACRS Letter dated 2/15/89 notifying Commission of intent to review LBB Policy Statement at March 1989 Meeting
 - ACRS Letter dated 8/12/87 Comments on final GDC-4 Broad Scope Rule
 - ACRS Letter dated 3/19/86 Comments on Broad Scope Rule revision to GDC-4
 - · Memo P. Boehnert to ACRS Summary of informa! meeting with NRC Staff on proposed LBB policy statement . dated Feb. 1, 1989
 - SECY-88-325: "Policy Statement on Additional Applications of Leak-Before-Break Technology" dated Nov. 22, 1988

- 10A 1. Table of Contents
 - 2. Tentative Agenda
 - 3. Status Report
 - 4. Letter to Chairman Zech from F. Remick, Subject: NUREG-1150. Resolution of ACRS Comments, dated January 23, 1989
 - 5.
 - 6.

 - Article, Inside N.R.C., February 13, 1989 re NUREG-1150 SECY-89-058, Subject: Status Report and Preliminary Results of NUREG-1150, dated February 17, 1989 SECY-88-337, Subject: Plans for Future Review of NUREG-1150, dated 7. December 8, 1988

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10B ACRS MEETING WITH EDO

Index for Tab

Memorandum from R. F. Fraley to V. Stello dtd. February 21, 1989, Subject: ACRS Activities (lists several items where ACRS has been bypassed by the NRC Staff)

Commission Interest in ACRS/NRC Staff Integration - Package of material regarding the Commission's desire to have ACRS-NRC Staff interaction on various issues

ACRS-NRC Memorandum of Understanding (Advanced Copy) dated 6/28/88

ACRS-NRC Memorandum of Understanding Regarding ACRS Participation in the NRC Technical Policy and Rulemaking Activities dated May 23, 1986

MEETING HANDOUTS

Agenda No. Item

- 1 6.1 Memorandum to ACRS Staff and Fellows from R. Fraley. Subject: ACRS Support and Planning, dated February 16, 1989 with attached summary of ACRS Planning Subcommittee on 2/8/89)(INTERNAL COMMITTEE USE)
- 2 5.3 Proposed Agenda for June 5-9, 1989 U.S. (NRC) and USSR information Exchange Meeting
- 3 5.2 Memorandum to ACRS Members from R. Fraley, Subject: Future ACRS Activities - 348th ACRS Meeting - April 6-8, 1989, dated March 9, 1989 with attachment (list of proposed topics)

INTERNAL COMMITTEE USE documents listed below: 3.1

- 1. Proposed ACRS Plan to Develop Containment Design Criteria, D. Ward (pages 1-7)
 - 2. Development of Containment Performance Criteria for LWRs, W. Kerr (pages 8-17)
 - 3. Comments on Containment Design Criteria, C. Siess (pages 18-21)
 - 4. Comments on Containment Design Criteria, P. Shewmon (page 22)
 - 5. Containment Filter Designs (pages 23-26)

5 9.0 Additional Application of LBB Technology

> Meeting Agenda for today's presentations on additional applications 1. of LBB technology.

- A set of slides distributed at the March 7, 1989 T/H Phenomena 2. Subcommittee meeting detailing the BNL pipe break parametric study requested by David Ward.
- A Working Copy of the meeting Minutes of the March 7, 1989 T/H 3. Phenomena Subcommittee meeting.
- A copy of a letter from the Nuclear Utility Group on Equipment 4. Qualification (NUREQ) addressed to D. Mard that provides their comments on the issue of extension of application of LBB to EQ matters.

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