ACRS-2656
PDR 2/21/90

CERTIFIED
8/4/89

DATE ISSUED: 8/11/89

SUMMARY/MINUTES OF
THE ACRS SUBCOMMITTEE MEETING ON
AUXILIARY AND SECONDARY SYSTEMS
JULY 12, 1989
BETHESDA, MARYLAND

INTRODUCTION

The ACRS Subcommittee on Auxiliary and Secondary Systems held a meeting on July 12, 1989, in Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland, to discuss the Staff's proposed actions for dealing with the recommendations of the Fire Risk Scoping Study. Mr. Sam Duraiswamy was the cognizant ACRS Staff Engineer for this meeting. The entire meeting was open to the public attendance. A list of documents submitted to the Subcommittee is included in Attachment A. A copy of the presentation schedule for the meeting is included in Attachment B.

ATTENDEES

ACRS: C. Michelson (Subcommittee Chairman), W. Kerr, C. P. Siess, and C. J. Wylie.

Sam Duraiswamy, Cognizant ACRS Staff Engineer.

Principal Speakers

NRC: J. Flack, J. Chen, and C. McCracken.

SNL: J. Lambright.

EXECUTIVE SESSION

Mr. Michelson, the Subcommittee Chairman, convened the meeting at 1:30 p.m. and stated that during this meeting the Subcommittee will hear presentations by and hold discussions with representatives of the Office of Nuclear Regulatory Research (RES), Office of Nuclear Reactor

RSO1
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DESIGNATED ORIGINAL

Certified By

Regulation (NRR), and the Sandia National Laboratories (SNL) with respect to the following:

- Summary and Results of the Fire Risk Scoping Study performed by SNL.

- Staff's proposed actions delineated in SECY-89-170, "Fire Risk Scoping Study: Summary of Results and Proposed Staff Actions," for dealing with the recommendations resulting from the scoping study.

- NRC's External Events Fire Subcommittee's activities for dealing with fire protection issues.

He stated that the Subcommittee had received neither written comments nor requests for time to make oral statements from members of the public.

PRESENTATION BY RES - MR. J. FLACK, RES

Mr. Flack discussed the purpose, significant findings, and recommendations of the Fire Risk Scoping Study.

Purpose of the Fire Risk Scoping Study

The primary purpose of the scoping study was to assess:

- The risk significance and dominant sources of uncertainty associated with fire at nuclear power plants.

- The risk significance of potential fire-related issues raised by the ACRS and fire protection experts.

- The need for fire protection research and appropriate areas of research (if any).

Significant Findings of the Study

The significant findings resulting from the study include the following:

- The study confirms that fire is a major contributor to core-melt frequency at some nuclear power plants, even after all NRC fire regulatory criteria have been met.

- State-of-the-art methodology for assessing fire risk and fire-related effects has serious shortcomings. These shortcomings result in large uncertainties in the fire-risk estimates.

- Fire PRAs do not adequately address fire vulnerabilities in several important areas noted below. These areas could add an order of magnitude to fire-risk estimates.

  - Fire induced alternate shutdown control room panel interactions.

  - Smoke control and manual fire fighting effectiveness.

  - Adequacy of fire barriers.

  - Equipment survival in fire-induced environment.

  - Seismic/Fire interactions.

Recommendations for Follow-on Efforts

Based on the Fire Risk Scoping Study, SNL has recommended some follow-on efforts as noted below.

- A study should be undertaken to review current remote shutdown implementation practices in an attempt to assess the adequacy of those practices.

- An effort should be undertaken to process the data from the 25 large-scale enclosure fire tests that have already been performed.

- Fire occurrence data base generated by SNL, that had been used extensively in the scoping study, accounts for fire events only through June 30, 1985. An effort should be established to periodically update and maintain this data base.

- A more extensive review of the available information associated with the impact of spurious suppression system actuations on plant safety should be performed in an attempt to provide a more solid basis for the evaluation of plant-specific suppression system impact potentials.

- An effort should be undertaken to expand the data base on the failure of plant equipment in fire environments, and on the vulnerability of cables to thermal exposure.

- In view of the fact that the COMPBRN fire code has significant shortcomings, an effort should be undertaken to develop and validate a fire simulation model which retains the desirable features of this code (e.g., simplicity of application, low level commitment of computer time, and simulation of cable tray fire growth).

- Correlations used in the fire codes for the prediction of cable tray flame spread rates, flame heights, the damaging and ignition of cables, and mass burning rates of cable fires are currently validated inadequately. Therefore, experimentation at an intermediate scale should be performed to obtain data for use in validating the fire codes in an attempt to reduce uncertainty in the code

predictions and to quantify the level of uncertainty remaining within the code.

- An analysis of the fire barrier elements and an evaluation of those fire barriers under realistic fire exposure conditions should be performed to determine the adequacy of the current Standards used in the qualification of those barriers and also to identify vulnerable fire barrier systems.

- A study of the practices associated with manual fire fighting should be undertaken. Such a study could provide useful guidance to plant managers on how fire brigades can be used in such a way as to provide for more effective fire protection while at the same time maximizing the effective use of fire brigade personnel.

- A study should be performed to investigate the vulnerability of fire protection features to seismic degradation and seismically induced spurious actuation.

Proposed Staff Actions

Mr. Flack discussed briefly the actions proposed by the Staff in dealing with the recommendations resulting from the Fire Risk Scoping Study:

- No fire protection research is proposed at this time. The need for additional fire protection research will be reconsidered following the definition of the fire-related parts of Individual Plant Examination for External Events (IPEEE) program, the peer review of the NUREG-1150 fire risk analyses, and future discussions with the ACRS.

- Guidance for dealing with the following issues will be considered for inclusion in the IPEEE program:

- Fire induced alternate shutdown control room panel interactions.

- Smoke control and manual fire fighting effectiveness.

- Adequacy of fire barriers.

- Seismic fire interactions.

• The issue related to equipment survival in fire-induced environments will be included in the resolution of generic issue 57, "Effects of Fire Protection System Actuation on Safety Related Equipment."

• In addition to considering the following issues in the IPEEE program, they may also be considered as potential generic issues:

- Fire induced control system interactions.

- Smoke control and manual fire fighting effectivcness.

- Adequacy of fire barriers.

Dr. Kerr asked how much uncertainty is associated with the conclusion that fire is an important contributor to core melt at some nuclear power plants. Mr. Lambright, SNL, stated that they did not try to quantify the uncertainties associated with this conclusion. However, the risk assessments performed at Surry and Peach Bottom plants for use in NUREG-1150 indicated that the contribution of fire to total core-damage frequency was a factor of 3 to 6 greater than the contribution from all internal events combined.

Dr. Catton asked whether SNL has used the information resulting from the work performed by the National Bureau of Standards (NBS). Mr. Lambright stated that in the process of soliciting expert opinions for use in performing the Fire Risk Scoping Study, SNL had consulted with the personnel at NBS.

Mr. Michelson asked whether the issue of smoke and heat migration has been included in the model related to the NUREG-1150 risk analysis. Mr. Lambright stated that at this time, they haven't looked at the effects of smoke and heat migration into adjacent areas. However, in analysis performed at the Surry plant they have looked at the inadvertent actuation of fire protection system due to smoke and heat migration.

Mr. Michelson asked whether anyone has attempted to determine the possibility of the fire protection system in a room adjacent to the actual fire location getting actuated inadvertently due the migration of heat and smoke. Mr. Lambright stated to his knowledge no one had done that.

Mr. Michelson stated that the effects of heat and smoke on the operability of certain essential equipment is an important matter and should be explored. Mr. Lambright agreed that it is an important issue. He stated that existing fire codes do not have the capability to predict the effects of smoke and heat on equipment located in areas adjacent to the actual fire.

Dr. Catton asked whether they have tried to find out if there are codes other than COMPBRN available for use in the fire risk analysis. Mr. Lambright stated that based on their evaluation of other available codes, they have concluded that although COMPBRN III has some limitations, it is the best code currently available for modeling fire issues at nuclear power plants.

Dr. Catton suggested that they investigate the feasibility of using some other existing codes for modeling fire issues prior to developing a new code.

Dr. Catton asked why the fire protection system was not effective in putting out a recent fire at the Oconee Plant. Mr. McCracken stated that the Oconee fire was confined to a small area. The fire brigade responded to that fire tried to suppress it using CO_2 until the electrical buses were deenergized. After the buses were deenergized, they used water to put out the fire. If that fire started to grow faster, they would have used water earlier to suppress it.

Dr. Catton commented that people responsible for putting out a fire should have a thorough knowledge about the effectiveness of a fire suppressant in putting out certain types of fires. Mr. McCracken stated that the fire brigade was knowledgeable about the effectiveness of various suppressants. However, in the Oconee case, since fire was confined to one small area, they did not want to use water until the electrical buses were deenergized.

Mr. Michelson asked whether they have looked at the ability of the fire barriers to withstand elevated differential pressure. Mr. Flack stated this issue will be addressed in the proposed generic issue related to fire barriers.

Mr. Michelson commented that the resolution of the proposed generic issue may take several years. He wondered how they are going to provide guidance for existing plants and some of the future plants that may get design certification prior to the resolution of proposed generic issue.

With reference to a statement made by Mr. Flack that the issue related to the survivability of equipment in a fire-induced environment will be addressed in the resolution of generic issue 57, Mr. Michelson stated

that, to his knowledge, generic issue 57 addresses the survivability of equipment in an environment resulting from random actuation of fire protection systems. It does not deal with the consequences of the inadvertent actuation of fire protection system due to migration of heat and smoke in areas outside of the fire zone. Since there is no experience associated with the effects of heat and smoke, he believes that they should develop a good analytical tool to deal with this issue or perform some actual tests to gather data.

Mr. Michelson stated that since the fire protection systems are not seismic Category I systems, there is no clear evidence as to how they will behave during a seismic event. He believes that analysis should be performed to determine the behavior of the first protection systems during a seismic event.

PRESENTATION BY NRR - MR. C. McCRACKEN

Mr. McCracken, Chairman of the Fire Subcommittee associated with the External Events Steering Group, discussed the activities of the Fire Subcommittee for dealing with fire-related issues. He stated that based on the inspection performed to determine the adequacy of implementation of Appendix R requirements, they found that at some plants the implementation was inadequate. Those plants will be required to make necessary modifications to comply with the Appendix R requirements.

Mr. McCracken stated that in accordance with the provisions of the Severe Accident Policy statement, they plan to perform a limited scope analysis to discover particular fire vulnerabilities. Any plant-specific vulnerabilities identified through this process will be addressed through the backfit process.

Mr. McCracken stated that the results of the fire PRAs performed so far indicate that fire can be a significant contributor to core melt. Also, the Fire Risk Scoping Study performed by SNL indicated the potential for

plant-specific fire vulnerabilities in several important areas. Consequently, the Fire Subcommittee decided that existing regulations are not adequate to address the fire vulnerabilities. Therefore, it recommends that each operating plant should be evaluated to determine plant-specific vulnerabilities to internal fires. He stated that a Level 1 PRA is an acceptable methodology to perform the evaluation of fire vulnerabilities. Although other methodologies may be acceptable, they may need further development.

Mr. McCracken stated that Generic Letter 88-20 related to the Individual Plant Examination (IPE) program permits the use of a fire PRA, enhanced IDCOR methodology, or other systematic methods acceptable to the Staff to address fire vulnerabilities.

Mr. McCracken stated that based on the lessons learned from the operating experience and from the Appendix R reviews, they have eliminated the 20-ft separation criterion for Advanced Light Water Reactors (ALWRs). For ALWRs, they require that plants must be capable of safe shutdown assuming total loss of any one fire area and no operator re-entry.

Mr. McCracken discussed briefly the planned actions for identification of fire vulnerabilities:

- Plants should be evaluated to identify plant-specific fire vulnerabilities.

- Staff is working with NUMARC/EPRI to develop an acceptable methodology for use on two test plants by September 1990 to identify fire vulnerabilities.

- Significant issues raised by the Fire Risk Scoping Study, such as seismic/fire interactions, manual fire fighting effectiveness, control system interactions, and fire barrier qualifications, will be included in the methodology.

Mr. McCracken stated that as a result of the ongoing and planned activities for dealing with fire issues, the Staff has recommended to the Commission that no fire protection research is needed at this time. The need for additional research will be reconsidered following the definition of the fire-related parts of the IPEEE program, peer review of NUREG-1150 fire risk analyses, and further discussions with the ACRS.

Dr. Kerr asked whether the implementation of Appendix R requirements has reduced appreciably the fire-risk contribution to core-melt frequency. Mr. Lambright stated that the results of the Fire Risk Scoping Study indicate that there is an order of magnitude reduction in fire-induced core-damage frequency as a result of Appendix R modifications. In the case of the Limerick plant, the reduction was roughly a factor of three.

Dr. Kerr asked if Appendix R modifications had contributed to the reduction of core-melt frequency in an order of magnitude why the Fire Risk Scoping Study concludes that fire is still a major contributor to core melt. Mr. McCracken stated that the contribution of Appendix R modifications to reducing the core-melt frequency is very plant specific. For some plants, the reduction may be close to nothing, and for some other plants it may be significant. Mr. Chen stated that it is clear that Appendix R modifications have made the plant safer than before. However, they cannot specify a typical number for core-melt frequency reduction across the board..

Mr. Michelson stated that heat and smoke may migrate to areas outside of the fire zone where some essential equipments are located and may actuate the fire suppression systems in those areas. He asked whether the consequences of spraying fire suppressants on essential equipment will be addressed in the fire vulnerability analysis. Mr. McCracken stated that it would be considered in the vulnerability analysis.

Mr. Michelson stated that to determine the effects of the actuation of fire protection systems resulting from the migration of heat and smoke on essential equipment, they need to have an analytical tool to first determine the temperature rise and the amount of smoke in a given area. He does not believe they have such a tool at present. He asked, in the absence of such a tool, how they plan to address this issue in the vulnerability analysis. Mr. McCracken stated that they plan to find out first the consequences of accidentally spraying fire suppressants on certain essential components. If the consequences are found to be serious, they have to make provisions to ensure that it won't happen.

Mr. Michelson stated that water resulting from fire suppression activities may travel to other locations through cracks in the floor and electrical conduits and may have some impact on certain equipment which in turn may result in systems interactions problems. He asked whether this issue will be considered in the analysis. Mr. McCracken stated that guidance will be included for use by the licensees to ensure that there will not be any systems interactions resulting from such an event.

Dr. Kerr commented that even though the Staff is not able to quantify the contribution of Appendix R modifications to reduction in core-melt frequency, it seems such modifications had taken care of some obvious deficiencies associated with the fire protection features. The approach being proposed by the Staff for dealing with fire protection issues may result in large expenses to the industry and the Staff. In view of the large uncertainties associated with the approach being proposed, he is not sure how much additional risk reduction will be achieved by implementing the new approach.

Mr. McCracken stated that although they cannot quantify the risk reduction resulting from the implementation of Appendix R modifications, they are sure that such modifications have made the plants safer than before. Mr. Michelson commented that he does not believe that all of

the Appendix R modifications have contributed to risk reduction. For example, automatic fire suppression systems installed in accordance with Appendix R requirements may have made the plants less safe. Mr. McCracken agreed that in some cases automatic fire suppression may not be the best choice.

Dr. Kerr asked whether some of the proposed changes applicable to ALWRs will be accomplished through regulations. Mr. McCracken stated that development of regulations is a time consuming process. In view of the fact that the review of applications for certification of certain ALWR designs is already under way, they do not believe that they would be able to develop regulations on a timely basis. However, they have already informed the applicants about the changes that need to be made in their designs, and they have agreed to incorporate those changes. When reviewing the design, the Staff will make sure that these changes have been incorporated.

Dr. Kerr commented that without regulations he does not believe that the Staff would be able to enforce the new changes. He believes that regulations should be developed to give clear guidance to the applicants as to what specific changes are required by the NRC Staff.

Mr. Michelson asked whether they plan to require that the applicants look at the integrity of fire barriers under differential pressure conditions. Mr. McCracken stated that since they did not believe that it is a significant issue, they did not require the applicants to look into it.

Mr. Michelson stated that the British analyzed the fire barrier integrity under differential pressure conditions and found it to be a significant safety issue. As a result, they have made provisions at the Sizewell-B plant to take care of this problem. He does not understand

why the Staff seems to believe that it is not a major issue. Mr. McCracken stated that he is not sure that the provisions made at the Sizewell-B plant to maintain the integrity of fire barriers under the differential pressure situations will be effective. Since they did not have sufficient information to declare this as a significant safety issue, they did not require the applicants to make special provisions to take care of this problem. Mr. Flack stated that this issue has been raised as a potential generic issue and they plan to evaluate its safety significance under that generic issue.

In response to a question from Dr. Catton, Mr. Flack stated that the adequacy of the British positions in dealing with the fire protection issues are being evaluated by SNL and they expect to receive a report from SNL in the near future. He will provide copies of that report to the ACRS when available.

Dr. Catton requested a copy of the available written information on the MAGIC code. Mr. Chen agreed to provide a copy.

After further discussion, Mr. Michelson stated that it seems that we need to look carefully at the adequacy of the IPEEE guidance document for dealing with fire-related issues. He suggested that the Staff provide a copy of that document when available. Mr. Flack agreed to provide a copy.

Mr. McCracken provided responses to the specific issues raised by Mr. Michelson that were included in the attachment to the meeting agenda (Attachment C, Pages 1-4).

SUBCOMMITTEE REMARKS/ACTION

Mr. Michelson solicited comments from the Subcommittee members.

Dr. Kerr stated the following:

- He has no problem with the actions proposed by the Staff for dealing with the fire protection matters.
- He does not believe that additional research is going to provide major contributions to the development of fire-related guidance for inclusion in the IPEEE program.
- He is concerned about the uncertainties associated with some of the conclusions related to fire-risk issues.
- He believes that a decision should be made whether the automatic fire protection feature is a good idea; if it is not a good idea, something needs to be done.
- He suggested that the Staff require the use of armored cables in future plants.

Dr. Catton stated it seems that the Staff is going to use engineering judgment in making decisions on several matters. He suggested that the Staff consult with some experts and develop a multizone code for use in modeling fire-risk issues.

Mr. Wylie stated that he agrees with the actions proposed by the Staff. He also believes that requiring the use of armored cables in future plants is a good idea.

Mr. Michelson stated that the ACRS should carefully review the adequacy of the IPEEE guidance document when made available.

The Subcommittee discussed the proposed ACRS report prepared by Mr. Michelson and suggested some editorial changes. Mr. Michelson agreed to prepare another draft, incorporating the suggestions provided by the

Subcommittee, for submittal to the full Committee during the July ACRS meeting.

The Subcommittee suggested that Mr. McCracken provide a briefing to the full Committee on the activities of the External Events Fire Subcommittee for dealing with fire-risk issues.

ACTION, DECISION, AGREEMENTS, AND REQUESTS

- The Subcommittee decided to submit a proposed report, including comments and recommendations on the adequacy of the proposed Staff actions for dealing with fire risk issues, to the full Committee for consideration during the July ACRS meeting.

- The Subcommittee suggested that Mr. McCracken, Chairman of the External Events Fire Subcommittee, provide a briefing to the full Committee on the activities of his Subcommittee for dealing with fire-risk issues. Mr. McCracken agreed.

- Mr. Michelson requested a copy of the IPEEE guidance document when available. Mr. Flack, RES, agreed to provide a copy.

- Dr. Catton requested information related to the MAGIC code. Mr. Chen, RES, agreed to provide such information.

- Dr. Catton and Mr. Michelson requested a copy of the SNL comments on the fire protection provisions being used by the British at the Sizewell-B plant. Mr. Flack agreed to provide a copy when available.

Mr. Michelson thanked all the participants and adjourned the meeting at 5:20 p.m.

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NOTE: Additional meeting details can be obtained from a transcript of this meeting available in the NRC Public Document Room, 2120 L Street, N.W., Washington, D.C. 20006, (202) 634-3273, or can be purchased from Heritage Reporting Corporation, 1220 L Street, N.W., Suite 600, Washington, D.C. 20005, (202) 628-4888.

LIST OF DOCUMENTS SUBMITTED TO THE
AUXILIARY AND SECONDARY SYSTEMS SUBCOMMITTEE
JULY 12, 1989

1. Presentation Schedule.

2. SECY-89-170, Fire Risk Scoping Study: Summary of Results and Proposed Staff Actions, dated June 7, 1989. (Internal ACRS Use Only)

3. Memorandum from B. Morris to E. Beckjord regarding Fire Risk Scoping Study, dated November 2, 1988.

   - ACRS report to the EDO on Fire Risk Scoping Study, dated May 10, 1988.
   - Memorandum from C. McCracken to External Events Steering Group regarding the Fire Subcommittee Plan for Resolution of Internal Fires, dated June 23, 1988.
   - Memorandum from C. McCracken to T. King regarding Validation of Analytical Tools Used for Fire Risk Assessment, dated September 15, 1988.
   - Proposed Fire Protection Research - Prioritization Information.

4. Memorandum from R. Budnitz to C. McCracken regarding the outline of a methodology for studying plants for fire-initiated accident vulnerabilities.

5. Memorandum from E. Beckjord, RES, to T. Murley, NRR, regarding proposed RES Action, dated November 18, 1988.

6. Memorandum from F. Gillespie, NRR, to E. Beckjord, RES, regarding NRR responses to RES proposal, dated December 28, 1988.

7. Memorandum from E. Beckjord to L. Shao, regarding proposed RES Action, dated November 18, 1988.

8. Memorandum from L. Shao to E. Beckjord, regarding External Event Steering Group Responses, to RES Proposal (undated).

9. Sizewell 'B' PWR - Fire Protection Report, Volume 1, December 1983. (Internal ACRS Use Only)

ATTACHMENT A

PRESENTATION SCHEDULE

ACRS SUBCOMMITTEE MEETING ON THE
AUXILIARY AND SECONDARY SYSTEMS
JULY 12, 1989
ROOM P-110, 7920 NORFOLK AVENUE
BETHESDA, MARYLAND

ACRS CONTACT: Sam Duraiswamy
301-492-9522

NOTE:
- Presentation Time should not exceed 50% of the Total Time allocated for a specific item. The remaining 50% of the time is reserved for the Subcommittee questions and answers by the Staff or its contractors.
- Number of copies of the presentation materials to be submitted to the Subcommittee: 25 copies.

	ITEM	PRESENTER	TOTAL PRESENTATION TIME	ACTUAL TIME
1.	EXECUTIVE SESSION	--	15 min	1:30 - 1:45 pm
2.	PROPOSED RES PLANS TO IMPLEMENT THE RECOMMENDATIONS OF THE FIRE RISK SCOPING STUDY	John Flack (RES)	75 min	1:45 - 3:00 pm
	*** BREAK ***	--	15 min	3:00 - 3:15 pm
3.	NRR PRESENTATION (Discuss the issues identified in Attachment 1)	Conrad McCracken (NRR)	120 min	3:15 - 5:15 pm
	*** BREAK ***	--	15 min	5:15 - 5:30 pm
4.	SUBCOMMITTEE REMARKS	--	30 min	5:30 - 6:00 pm
	*** ADJOURN ***			6:00 pm

ATTACHMENT B

ATTACHMENT 1

Items For NRR Presentation
July 12, 1989 ACRS Subcommittee Meeting on
Auxiliary and Secondary Systems

A. Re 6/23/88 letter to External Events Steering Group (Enclosure 2)

1. When determining plant specific vulnerabilities and risk, how will the following fire-related uncertainties be evaluated by the licensee in an IPE to assure a valid and consistent comparison of core damage frequency estimates (e.g., what acceptable methodology exists to accomplish task, how will the plant specific models be developed, and what data sources exist?).

   a. Fire size, growth and frequency.

   b. Fire detection and suppression times.

   c. Component damage thresholds and behavior.

   d. Plant state.

2. How will the following fire risk issues not previously addressed in a PRA context be evaluated in an IPE (any available guidance documents or acceptable methodology?).

   a. Control system interactions.

   b. Seismic/fire interactions.

   c. Fire fighting effectiveness.

   d. Equipment survival (including fire-induced spurious suppression system actuation).

   e. Fire barrier adequacy (including differential pressure holding capability and heat and smoke penetration capability).

3. How will uncertainty in proposed analytical tools and data be handled?

4. Discuss specific guidance provided by consultant on August 1, 1988 (see Ref 6/23/88).

   * Include a copy of consultants report.

5. How will licensees be able to consider the applicability of items 1-4 for their plants?

6. For above items, how have the Appendix R modifications changed this situation (e.g., help, hurt or no effect)?

B. Re 12/28/88 Letter from Gillespie to Beckjord

1. Discuss letter as related to above questions.

C. Re Siswell B report on Fire Protection

1. Has the Staff reviewed this report? (If not, do they intend to?)

2. If reviewed, what is their view on the need for Chimneys to relieve compartment pressure during a fire?

3. If reviewed, there will be other questions on apparent differences between English and American practices.

ACRS AGENDA ITEMS

A. REGARDING 6/23/88 LETTER TO EESG

1A: FIRE SIZE, GROWTH, AND FREQUENCY

- LICENSEES WILL USE BEST CURRENT DATA BASE PLUS PLANT SPECIFIC DATA WHERE APPLICABLE; DATA BASE UPDATE MAY BE CRITICAL PATH
- MODIFIED COMPBURN III OR EQUIVALENT PLUS ENGINEERING JUDGEMENT TO DEVELOP TABLES

1B: FIRE DETECTION AND SUPPRESSION TIMES

- COMPBURN III OR EQUIVALENT PLUS ENGINEERING EVALUATION

1C: COMPONENT DAMAGE THRESHOLDS AND BEHAVIOR

- TO BE ADDRESSED IN METHODOLOGY, BASED ON AVAILABLE INFORMATION

1D: PLANT STATE

- NORMAL OPERATION

ATTACHMENT C

ACRS AGENDA ITEMS (CONTINUED)

A.2A: CONTROL SYSTEM INTERACTIONS

- INCLUDED IN PREVIOUS DISCUSSION

A.2.B: SEISMIC/FIRE INTERACTIONS

- INCLUDED IN PREVIOUS DISCUSSION

A.2.C: FIRE FIGHTING EFFECTIVENESS

- INCLUDED IN PREVIOUS DISCUSSION

A.2.D: EQUIPMENT SURVIVAL

- INCLUDED IN PREVIOUS DISCUSSION

A.2.E: FIRE BARRIER ADEQUACY

- INCLUDED IN PREVIOUS DISCUSSION

ACRS AGENDA ITEMS (CONTINUED)

A.3 UNCERTAINTY IN ANALYTICAL TOOLS

- EACH IPEEE SUBMISSION TO INCLUDE A THOROUGH DISCUSSION OF UNCERTAINTIES. BOTTOM LINE NUMBERS ARE USED ONLY TO PROVIDE DISCIPLINE IN PROCESS

A.4 SPECIFIC GUIDANCE FROM CONSULTANT

- THIS WAS A STRAW MAN TO FOCUS ON ISSUES AND WILL NOT BE FINALIZED

A.5 HOW WILL LICENSEES CONSIDER PLANT SPECIFIC APPLICABILITY OF A.1 THROUGH A.4

- GUIDANCE WILL BE INCORPORATED IN METHODOLOGY

A.6 APPENDIX R EFFECTS

- APPENDIX R AND OTHER FIRE PROTECTION GUIDANCE HAS MADE PLANTS SAFER. SANDIA ESTIMATES UP TO A FACTOR OF 10. HOWEVER VULNERABILITIES STILL EXIST

ACRS AGENDA ITEMS (CONTINUED)

B. REGARDING 12/28/88 LETTER FROM GILLESPIE TO BECKJORD

THIS LETTER IS CONSISTENT WITH THE PREVIOUSLY STATED POSITIONS AND SECY 89-170 WHICH PROVIDES THE RES ASSESSMENT TO THE COMMISSION

C. REGARDING SISWELL B REPORT ON FIRE PROTECTION