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GE-NRC MANAGEMENT MEETING  
GESSAR PRA REVIEW

BETHESDA, MD  
OCTOBER 25, 1983

GE-NRC MANAGEMENT MEETING  
GESSAR PRA REVIEW

AGENDA

- INTRODUCTION
  
- SPECIFIC GE CONCERNS - FRONT END REVIEW
  - Diesel Generator Common Mode Failure
  - Transient Initiator Frequency
  - ADS Reliability
  - Feedwater System Recovery
  - ATWS and SORV After ATWS
  - Loss of DC Power
  
- GENERAL CONCERNS - BACK END REVIEW
  
- BASIS FOR APPLICATION OF SEISMIC ANALYSIS
  
- FUTURE MILESTONES AND SCHEDULE

SPECIFIC GE CONCERNS

PRA FRONT END REVIEW

## ISSUE

### DIESEL GENERATOR COMMON MODE FAILURE PROBABILITY

## BACKGROUND

- STRONG INFLUENCE ON OVERALL CORE DAMAGE PROBABILITY
- ~90% CORE DAMAGE FROM STATION BLACKOUT SEQUENCE

| <u>DATE</u>               | <u>GE VALUE</u>                   | <u>BNL VALUE</u>     |
|---------------------------|-----------------------------------|----------------------|
| GESSAR PRA                | $6 \times 10^{-4}$                |                      |
| 5/5/83                    |                                   | $6 \times 10^{-4}$   |
| 8/15/83 GE-BNL<br>Meeting | $<1 \times 10^{-4}$               |                      |
| 10/1/83                   |                                   | $4.2 \times 10^{-4}$ |
| 10/15/83                  | $<1 \times 10^{-4}$<br>With Basis |                      |

## CONCLUSION

GE STUDY NOT CONSIDERED IN BNL REVIEW

## ISSUE

### TRANSIENT INITIATOR FREQUENCY

## BACKGROUND

- SIGNIFICANT QUANTITY OF INFORMATION SUPPLIED BY GE  
SUPPORTING INITIATOR FREQUENCY VALUE

| <u>DATE</u> | <u>GE VALUE</u> | <u>BNL VALUE</u> |
|-------------|-----------------|------------------|
| GESSAR PRA  | 6.16/yr         |                  |
| 5/5/83      |                 | 13.06/yr         |
| 8/15/83     | 6.16/yr         |                  |
| 10/1/83     |                 | 12.88/yr         |

## CONCLUSION

BNL NOT GIVING CREDIT FOR WEIGHTING OF DATA BASE BY  
EARLY PLANT OPERATION

## ISSUE

ADS RELIABILITY

## BACKGROUND

| <u>DATE</u> | <u>GE VALUE</u>      | <u>BNL VALUE</u>     |
|-------------|----------------------|----------------------|
| GESSAR PRA  | $1 \times 10^{-5}$   |                      |
| 5/5/83      |                      | $5 \times 10^{-5}$   |
| 8/15/83     | $1.1 \times 10^{-5}$ |                      |
| 10/1/83     |                      | $2.5 \times 10^{-5}$ |

- ☐ GE CONCEDED AN ERROR ON ORIGINAL FAULT TREES
- ☐ GE ERROR DID NOT APPRECIABLY AFFECT RESULTS
- ☐ NOT CLEAR HOW BNL ARRIVED AT THEIR NEW VALUE

## CONCLUSION

BNL NEW BASIS UNCLEAR

## ISSUE

### FEEDWATER SYSTEM RECOVERY

## BACKGROUND

| <u>DATE</u> | <u>GE VALUE</u> | <u>BNL VALUE</u> |
|-------------|-----------------|------------------|
| GESSAR PRA  | 0.17            |                  |
| 5/5/83      |                 | 0.6              |
| 8/15/83     | 0.17            |                  |
| 10/1/83     |                 | 0.6              |

- ☐ BNL APPARENTLY IGNORED GE RESPONSE TO ROUND 2 QUESTION #5

## CONCLUSION

BASIS FOR BNL VALUE UNCLEAR

GE PROVIDED ADDITIONAL SUPPORTING INFORMATION

## ISSUE

ATWS AND STUCK OPEN RELIEF VALVE AFTER ATWS

## BACKGROUND

- BNL DID NOT REVIEW ATWS IN MAY
- BNL 10/1/83 REPORT INDICATES SIGNIFICANT CHANGES TO ATWS EVENT TREES WHICH WILL IMPACT OFFSITE CONSEQUENCES DUE TO ATWS

- SORV AFTER ATWS

| <u>DATE</u> | <u>GE VALUE</u>   | <u>BNL VALUE</u>                              |
|-------------|---|---|
| GESSAR PRA  | $3 \times 10^{-3}$ -1 Valve<br>$3 \times 10^{-4}$ $\geq 2$ Valves |   |
| 5/5/83      |   | Not Reviewed                                  |
| 10/1/83     |   | 0.12 -1 Valve<br>$5 \times 10^{-3}$ -2 Valves |

- JUSTIFICATION FOR GE VALUES PROVIDED IN RESPONSES TO ROUND 2 QUESTIONS

## CONCLUSION

BNL BASIS IN LIGHT OF GE INFORMATION UNCLEAR



## ISSUE

LOSS OF DC POWER

## BACKGROUND

- NEW EVENT ADDED BY BNL 10/1/83
- GE CONCLUDED EVENT BELOW CREDIBLE CUT-OFF POINT ON PROBABILITY
- EVENT CONSIDERED 2nd OR 3rd MOST IMPORTANT CONTRIBUTOR TO CORE DAMAGE BY BNL
- APPEARS BNL THINKS FAILING DC DIVISIONS 1 & 2 LEADS TO CORE DAMAGE
- APPEARS BNL NOT AWARE OF MULTIPLE GESSAR POWER DIVISIONS (4 DIVISIONS)

## CONCLUSION

BASIS FOR BNL CONCLUSIONS UNCLEAR

GENERAL GE CONCERNS  
PRA BACK END REVIEW

## ISSUE

### ANALYSIS OF POOL SCRUBBING EFFECTIVENESS

## BACKGROUND

- POOL SCRUBBING DF's DETERMINE OFFSITE CONSEQUENCES
- DRAFT NRC SOURCE TERM DOCUMENT BASIS FOR ASTPO/NRR INPUTS
  - Use of SPARC Code as Basis
  - Current Version of SPARC-Incorrect Models
  - Initial Values - No Credit For Pool For Small Aerosol Particles
- GE CURRENTLY WORKING WITH ASTPO TO RESOLVE SPARC ISSUES
- FURTHER ISSUE -- CODES TO BE USED IN SOURCE TERM EVALUATIONS
  - Version of MARCH?
  - Reevaluation of Sequences?

## CONCLUSION

MUST DEFINE APPROPRIATE BASIS FOR SOURCE TERM EVALUATIONS

## BASIS FOR APPLICATION OF SEISMIC ANALYSIS

### CONCERN

NO APPARENT UNIVERSAL STAFF POSITION ON APPLICATION OF  
STANDARD PLANT SEISMIC ANALYSIS

### GE APPROACH

- ☐ GESSAR II SEISMIC EVENT ANALYSIS SUBMITTED, REVIEWED  
AND APPROVED ON GESSAR II DOCKET
- ☐ APPLICANT PROVIDES SITE SPECIFIC HAZARD ANALYSIS
- ☐ SITE SPECIFIC HAZARD ANALYSIS COMPARED AGAINST GESSAR II  
TO DETERMINE ANY REQUIRED SITE SPECIFIC ANALYSES
- ☐ APPROACH CONSISTENT WITH TREATMENT OF OTHER SITE  
UNIQUE PARAMETERS

### CONCLUSION

MUST DEFINE UTILIZATION OF SEISMIC ANALYSIS (AND OTHER  
EXTERNAL EVENT ANALYSES) FOR STANDARD PLANT APPLICATION

# UNION OF CONCERNED SCIENTISTS

1346 Connecticut Avenue, N.W. • S. 1101 • Washington, DC 20036 • (202) 296-5600

13 March 1984

FREEDOM OF INFORMATION  
ACT REQUEST

**FOIA-84-175**

**Rec'd 3-15-84**

Mr. J. M. Felton, Director  
Division of Rules and Records  
Office of Administration  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

RE: Freedom of Information Act Request for the GESSAR-II  
Probabilistic Risk Assessment and Associated NRC  
and NRC-contractor Reviews of that Report (Sholly  
FOIA Request Number 84-07)

Dear Mr. Felton:

Pursuant to the Freedom of Information Act, please make  
available at the Commission's Public Document Room at 1717 H Street,  
N.W., Washington, D.C., copies of documents in the following  
categories:

- A. A copy of the General Electric Probabilistic Risk  
Assessment for the GESSAR-II standard plant design  
(BWR/6 Mark III), and all updates, amendments,  
appendices, addenda, supplements, and all other  
changes thereto.
- B. Copies of all NRC staff reviews of the documents  
described above in "A".
- C. Copies of all NRC contractor reviews of the documents  
described above in "A".
- D. For any review identified under "C" above, provide  
the name of the reviewing organization, the lead  
investigators, all other investigators, the NRC  
Contract and FIN numbers assigned to the review  
project, the funding provided for the review project,  
and the NRC Form 189 for each such project.

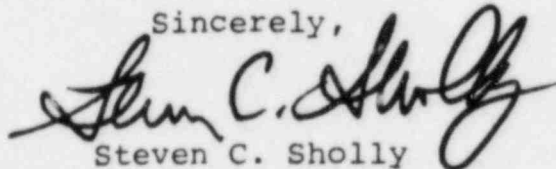
If there are any questions regarding this request, please  
contact me at 296-5600. It is my understanding that a proprietary  
claim has been made with respect to some or all of the documents  
identified in "A" above. This request specifically includes a  
request to review the bases for the proprietary claim and release  
all of the documents discussed in "A" above.

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I can see no basis for a proprietary claim on a probabilistic risk assessment study. Further, I am aware of no other such claim with respect to the dozens of other such studies which have been performed to date.

Your prompt attention to this request will be appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "Steven C. Sholly".

Steven C. Sholly  
Technical Research Associate