

FILE

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

January 12, 1974

D. Okrent, Chairman
Grand Gulf Subcommittee

GRAND GULF SUBCOMMITTEE MEETING, JANUARY 17-18, 1974

The Grand Gulf Subcommittee will meet at the Hyatt House Hotel, in San Jose, California on January 17-18, 1974 to further consider the application by the Mississippi Power and Light Company for a permit to construct Units 1 and 2 and to inspect General Electric test facilities used to verify containment performance. The tentative schedule is:

January 17, 1974

- 8:30 AM Executive Session (Closed)
- 9:00 AM Meeting with the Mississippi Power and Light Company and the AEC Regulatory Staff (Open)
- 12:30 PM LUNCH
- 1:30 PM Resume meeting with the Mississippi Power and Light Company and the AEC Regulatory Staff (Open)
- 5:00 PM Visit General Electric test facilities (Closed)
- 7:00 PM Recess

January 18, 1974

- 8:30 AM Executive Session (Closed)
- 9:00 AM Meeting with the Mississippi Power and Light Company and the AEC Regulatory Staff (Open)
- 12:30 PM LUNCH
- 1:30 PM Resume meeting with the Mississippi Power and Light Company and the AEC Regulatory Staff (Open)
- 4:30 PM Caucus (Closed)
- 5:00 PM Summation (Open)
- 5:30 PM Adjourn

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January 12, 1974

Topics to be discussed include:

1. Seismic design bases (Thursday morning)
2. Hydrogen generation and control
3. Uncertainties in reactor power and power distribution
4. Loss of coolant accident and ECCS performance
5. Potential turbine generated missiles
6. Reliability of control rod design
7. Pressure suppression system performance
8. Resolution of BWR generic items
9. Matters identified in Regulatory Staff Safety Evaluation Report
10. Seismic design considerations
11. Environmental considerations

Topics may be added to or deleted from the above list at the discretion of the Subcommittee Chairman. Closed sessions may be held when proprietary information must be considered. Attendance by the following ACRS members and consultants is anticipated and hotel reservations have been made at the Hyatt House Hotel, 1740 N. First Street, San Jose, California for the nights indicated.

D. Okrent	(Jan. 16, 17, & 18)	C. W. Solbrig	(Jan. 16, 17 & 18)
S. H. Bush	(Jan. 16 & 17)	T. G. Theofarous	(Jan. 16, 17 & 18)
L. W. Fox	(Jan. 16, 17 & 18)	G. A. Thompson	(None)
H. D. Curet	(None)	M. Trifunac	(Jan. 16)
D. R. Evans	(None)	J. T. Wilson	(None)
B. M. Page	(None)	Z. Zudans	(None)


 John C. McKinley
 Senior Staff Assistant

cc: Listed on Page 3

cc: ACRS Members
H. D. Curet
D. R. Evans
B. M. Page
S. S. Philbrick
R. W. Shuttway
C. W. Solbrig
T. G. Theofanis
G. A. Thompson
M. Trifunec
J. T. Wilson
F. Zaloudek
Z. Zudans
V. Moore, L
R. DeYoung, L
W. Butler, L
→ G. Owsley, L
J. Hendrie, L
P. Morris, RO
H. Kouts, L
R. Tedesco, L

GRAND GULF SUBCOMMITTEE MEETING, JANUARY 17-18, 1974, SAN JOSE, CALIFORNIA

Listed below are specific aspects of the topics to be considered at the Grand Gulf Subcommittee meeting, January 17 and 18. Other aspects or topics may be brought up by the Subcommittee or its consultants.

1. Seismic design bases
 - a. Description of the safe shutdown earthquakes
 - b. Extent of the New Madrid earthquake zone
2. Hydrogen generation and control
 - a. Bases for hydrogen evolution rate (Regulatory Staff)
 - b. Possible mechanisms which could lead to hydrogen generation beyond that calculated by the applicant for a double-ended pipe break (Regulatory Staff and applicant)
 - c. Reliability of the system proposed for coping with hydrogen (Regulatory Staff)
 - d. Automatic or manual activation of hydrogen control system (Regulatory Staff and applicant)
 - e. Capability of drywell, etc., to withstand various hydrogen burning events (Regulatory Staff)
3. Uncertainties in power and power distribution (nuclear uncertainty factor)
4. Loss of coolant accident and ECCS performance
 - a. Evaluation of LPCI capability (without any consideration for core spray) (Regulatory Staff)
 - b. Means to ascertain potential blockage of core spray nozzles over the reactor's lifetime (Regulatory Staff and applicant)
 - c. Degree to which blockage of core spray nozzles is tolerable (applicant and Regulatory Staff)
 - d. Blowdown forces resulting from a LOCA -- any unknowns (Regulatory Staff)
 - e. Independent confirmation of the analyses by the Regulatory Staff
 - f. Possible future improvements in ECCS (include flow rate comparisons of the several systems for BWR/4, 5 & 6, and reliability considerations (Regulatory Staff and applicant)
5. Turbine missiles (turbine orientation and possible missile trajectories)
6. Reliability of new control rod design

7. Pressure Suppression System

- a. Forces on structures above the pool (Regulatory Staff)
 - b. Extent to which experimental corroboration is required
 - (1) Prior to issuance of a construction permit (Regulatory Staff)
 - (2) Prior to some later milestone (Regulatory Staff)
 - c. Possible dynamic effects in the suppression pool resulting from relief valve discharge (Regulatory Staff and applicant)
 - d. Role of non-condensables and other phenomena in relief valve discharge to the suppression pool (Regulatory Staff and applicant)
 - e. Possible dynamic loads on containment or drywell wall, etc., from relief valve operation (Regulatory Staff and applicant)
 - f. Detailed description of the dynamic phenomena important to the action of the suppression system in a LOCA (Regulatory Staff and applicant)
 - g. Role of non-condensables in item f above (Regulatory Staff and applicant)
 - h. Effects of solid walls on the results of tests performed in the segment of a full-scale experimental facility (Regulatory Staff and applicant)
 - i. Possibility of pool oscillations permitting an intermittent bypass path for steam from the drywell escaping into the containment. Are the experiments adequate to study this phenomena or circumferential wave effects? (Regulatory Staff and applicant)
 - j. Role of non-condensables in the Moss Landing and Quad Cities test results
 - k. Drywell bypassing considerations.
8. Resolution of generic items (refer to the December 18, 1972 ACRS report and subsequent ACRS reports)
9. Matters identified in the Regulatory Staff Safety Evaluation Report
- a. Seismic classification of various systems and structures
 - b. Quality group classifications
 - c. Stress limits and design loading combination
 - d. HPCS diesel generator reliability
 - e. Radionuclide concentrations in the refueling water storage tank
 - f. Freon decomposition potential
 - g. Main steamline isolation
 - h. Malpositioning of control rod(s)
 - i. Reactivity reduction following a reactor trip

10. Seismic design considerations

- a. How is a representative set of stresses obtained for a given direction when more than one mode shape is considered?
- b. How is relative motion treated for "rigid" members (base slab and walls)?
- c. Is the use of "beam type" mode treatment completely acceptable?

11. Environmental considerations:

- a. Potential doses to water drinkers downstream from Grand Gulf from all nuclear plants upstream of the user (applicant)
- b. Effects of failure in the radwaste storage system (Regulatory Staff)
- c. Consideration of the effects of mining, preparation, and processing of fuel and radioactive waste storage (Regulatory Staff)