



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

ACRS #R-1155

September 16, 1985

Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Palladino:

SUBJECT: ACRS REPORT ON FULL POWER OPERATION OF RIVER BEND STATION,
UNIT 1

During its 305th meeting, September 12-14, 1985, the Advisory Committee on Reactor Safeguards reviewed the application of Gulf States Utilities Company (Applicant), acting on behalf of itself and as an agent for the Cajun Electrical Power Cooperative for a license to operate the River Bend Station, Unit 1 at full power. A Subcommittee meeting was held on September 11, 1985 in Washington, D. C. to consider this request. During this review, we had the benefit of discussions with representatives of the Applicant and the NRC Staff. We also had the benefit of the documents referenced, including written comments from a member of the public. The Committee commented on the application to operate the River Bend Station in an interim report dated July 17, 1984 and on the application to construct this Station in its report dated January 14, 1975.

The Committee, in its July 17, 1984 report, stated that it had not yet completed its review and listed a number of matters yet to be considered. Except as indicated below, we conclude that these matters have been dealt with satisfactorily.

The Committee noted in its July 17, 1984 report that the dedicated diesel generator that drives the high pressure core spray (HPCS) pump was dependent on cooling water supplied by pumps powered by the other two emergency diesel generators during loss of off-site power conditions. The Applicant has modified the design to provide a power source for these cooling water pumps which is supplied by the dedicated diesel generator. We find this to be satisfactory.

The Committee also commented on the Applicant's plans for the performance of a limited probabilistic risk analysis and on the advisability of reviewing the seismic design margin for the equipment important to the accomplishment of safe shutdown. The Applicant has performed a limited PRA and has reviewed the seismic capability of some of the plant equipment and found considerable margin. Both of these issues are being addressed generically by the NRC Staff and the ACRS, and their resolution need not delay the issuance of the full power license for this unit.

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The Applicant and the NRC Staff have been working on the development of emergency operating procedures to cover possible containment venting in the event of certain postulated accidents beyond the design basis. We believe that further work is needed to develop an appropriate procedure for venting for River Bend but believe that the review and acceptance of such a procedure need not be completed prior to full power operation.

We recommend that resolution of this matter be accomplished within a year after the issuance of a full power operating license. We wish to have an opportunity to review the proposed resolution.

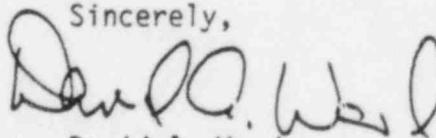
The matter of hydrogen control is still in a developmental stage. The Applicant is working with the Hydrogen Control Owners Group (HCOG) and is depending appreciably on a $\frac{1}{2}$ -scale experimental program by HCOG to develop data on burning conditions and resulting environments. We urge that sufficient diversity in postulated accident scenarios be used in judging matters such as potential hydrogen production rates. In view of the complex heat transfer and fluid mechanics phenomena involved and the associated uncertainties, the details of the experimental program will need careful analysis and proper attention will have to be given to extrapolating the $\frac{1}{2}$ -scale results to full scale.

We agree that it is acceptable for River Bend to proceed to full power while resolution of the hydrogen control matter is pursued. We wish to review the proposed resolution when the necessary information and evaluation are available.

The Applicant does not plan to provide, for the hydrogen ignition system, a backup power source that would function during station black-out. We favor providing such a backup power source. We intend to address this issue in our future generic discussions on hydrogen control.

We believe that, subject to the above comments and satisfactory completion of construction, staffing, and preoperational testing, there is reasonable assurance that the River Bend Station, Unit 1 can be operated at power levels up to 2894 Mwt without undue risk to the health and safety of the public.

Sincerely,



David A. Ward
Chairman

References:

1. Gulf States Utilities Company, "Final Safety Analysis Report, River Bend Station," Volumes 1-20 and Amendments 1-21

2. U. S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of River Bend Station," NUREG-0989, dated May 1984
3. U. S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of River Bend Station," NUREG-0989, Supplement No. 1 dated October 1984; Supplement No. 2 dated August 1985; Supplement No. 3 dated August 1985
4. Memo from Thomas M. Novak, NRC Division of Licensing, to Raymond F. Fraley, ACRS, dated August 23, 1985, Subject: River Bend Station - Draft SSER 4
5. Letter from Jerry N. Brown, member of the public, to Morton W. Libarkin, NRC regarding ACRS Subcommittee review of Gulf States Utilities Company's application for an operating license for River Bend, dated September 5, 1985

Emergency Planning

16. D. W. Moeller requested guidance regarding clarification of requests made by Commissioners Asselstine, Bernthal, and Zech (during the 303rd ACRS meeting) on consideration of extreme environmental phenomena in emergency planning. The Committee suggest that he speak directly to the Commissioners involved.

Report of the Reactor Operators Subcommittee

17. During a discussion of new pipe crack indications at the Peach Bottom Atomic Power Station, Unit 3, D. Okrent requested assurance that BWR pipe cracking (major) will not adversely affect the public health and safety. G. A. Reed wondered if the metallurgy of the generic problem of BWR pipe cracking had finally been solved in spite of the continuing adverse nuclear plant experience.**

GESSAR II Electrical Concerns

18. C. J. Wylie expressed concern regarding the instrument and equipment grounding situation as well as plant lightning protection.**

Arbitrary Intermediate Breaks

19. During a discussion of proposed changes to 10 CFR 50, Appendix A - General Design Criterion 4, Environmental and Missile Design Bases, the NRC Staff discussed plant actions regarding an arbitrary designation of intermediate large diameter pipe breaks. Neither the Limited Scope Rule or the Broad Scope Rule applied. Equipment throughout a piping run is to be qualified for non-dynamic effects of a non-mechanistic pipe break with the greatest consequences for the equipment. Members pointed out that there would be no time history available for the pipe break and questioned why dynamic effects such as pressure reduction and cooling at the break should not be considered. D. A. Ward indicated that the Committee will want to hear more on the issue of arbitrary intermediate breaks and suggested a separate subcommittee meeting to examine the issue.**

D. Okrent asked why the United Kingdom is not assuming the leak before break concept in its development of pipe break criteria. He requested that the Staff check into this matter with the British. J. O'Brien, NRC, indicated that he would inquire why the United Kingdom does not accept leak before break.**

Natural Ability Selection of Reactor Operators

20. A proposed report by G. A. Reed was discussed during this meeting. It was deferred for further discussion during the 306th (October) ACRS meeting.

Seismic Margins

21. A proposed letter regarding seismic margins was discussed briefly. No specific action was taken regarding this letter due to a lack of time.

Pressurized Thermal Shock

22. P. G. Shewmon proposed that the ACRS take no action with respect to recent letters by D. Basdekas, NRC Staff, to Carl Johnson, RES, dated May 3, 1985 and to Congressman M. K. Udall, U.S. House of Representatives, dated August 22, 1985. The Committee took no final action regarding this item due to a lack of time (Note: D. Okrent has expressed his opposition to this proposed lack of action so discussion will continue during the 306th ACRS meeting).

APPENDIX A
FUTURE AGENDA

OCTOBER ACRS MEETING

- Consideration of extreme environmental phenomena in emergency planning per requests of Commissioners Asselstine, Bernthal, and Zech during the 303rd ACRS meeting 1
- Report of the ACRS Subcommittee on the State of Nuclear Power Plant Safety -- Discussion of the most significant safety-related issues in need of resolution 1½
- NRC Policy Statement on Advanced Reactors -- Discussion of revised Advanced Reactor Policy Statement dated August 21, 1985 1 hr
- Briefing by DEDROGR regarding the activities of the Committee on Review of Generic Requirements 1 hr
- General Electric Standard Safety Analysis Report (GESSAR II) -- Continue ACRS review of the FDA for this standardized NSSS 4 hrs
- Report of the Subcommittee on Regulatory Activities regarding proposed changes in NRC Regulatory Guides on:
 - Meteorological Measurement Programs, Regulatory Guide 1.23, Revision ½ hr
 - Criteria for Power, Instrumentation, and Control Portions of Safety Systems (Task No. IC 609-5)
 - Instrument Setpoints for Safety-Related Systems 1½ hrs
- Meeting with NRC Commissioners to discuss ACRS comments on EPA Standards for Disposal of High Level Civilian Radwaste and to discuss Commission guidance regarding the ACRS role in the NRC regulation of the DOE radwaste program and the overall schedule regarding NRC/DOE radwaste activities
- Safety Goal Policy -- Subcommittee report regarding containment performance guidelines only 1 hr
- Davis-Besse Restart Plan -- NRC Staff briefing 2 hr
- TVA Nuclear Power Program -- Briefing regarding TVA's reorganization of its nuclear power program both in operation and construction 1 hr

- NRC Staff reassessment and new position on accident source terms 3 hrs
- ACRS meeting dates for FY-1986 -- Discuss proposed dates
- Seismic Design Margins -- H. W. Lewis letter regarding overemphasis on seismic risk
- Report of the Procedures and Administration Subcommittee regarding implementation of the Panel on ACRS Effectiveness recommendations
- Proposed ACRS Report of G. A. Reed on Natural Aptitude Selection Testing
- Report of ACRS Subcommittee regarding proposed response to Commissioner Asselstine's inquiry on requalification of nuclear power plant operators defer to Nov.
- Emergency Core Cooling -- Proposed changes in 10 CFR 50.46 Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Plants and Appendix K, ECCS Evaluation Models defer
- 10 Verde Nuclear Plant -- Review of the startup experience of Unit 1 defer to Nov.