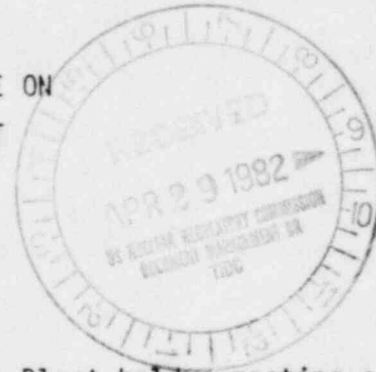


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11/12/81

MINUTES OF THE ACRS SUBCOMMITTEE ON
 SEQUOYAH NUCLEAR POWER PLANT
 OCTOBER 13, 1981
 WASHINGTON, D.C.



The ACRS Subcommittee on the Sequoyah Nuclear Power Plant held a meeting on October 13, 1981, at 1717 H Street, N.W., Washington, D.C. The purpose of this meeting was to discuss the status of the NRC's review of the Sequoyah plant, plant operating experience, actions on previous ACRS recommendations, and the on going work on hydrogen control. The meeting was held in response to ACRS request for a status report on the Sequoyah plant. The Committee heard presentations from NRR, I&E - Region II, and TVA. There were no written or oral statements from members of the public. The notice of the meeting was published in the Federal Register on Monday, September 28, 1981. A copy of this notice is included as Attachment A. A list of attendees is included as Attachment B. A schedule for this meeting is included as Attachment C. Selective portions of the handouts for this meeting are included as Attachment D. A complete set of meeting handouts is in the ACRS file.

The meeting was begun at 9:00 a.m. with a short executive session in which Dr. J. C. Mark, Subcommittee Chairman summarized the objectives of the meeting. The meeting was adjourned at 4:45 p.m. and was conducted in open session. The meeting was attended by Dr. J. C. Mark - Subcommittee Chairman, Mr. W. M. Mathis and Dr. C. P. Siess - Subcommittee Members, R. Savio - ACRS Staff, and the ACRS Consultants G. Schott and Z. Zudans. The Designated Federal Employee for this meeting was Dr. Savio.

There was an additional 1 hour discussion with the NRC Staff in which information on foreign research in the area of Class 9 Accidents was discussed.

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Status of the NRR Review - C. Stahle, NRR

Mr. C. Stahle summarized the status of the NRC Staff's review. Unit 1 and Unit 2 have received full power licenses (Unit 1 in September 1, 1980, and Unit 2 in September 1981). The SER and five Supplements have been issued, with Supplement 5 being issued in June 1981. TVA has been granted relief on the implementation of several Action Plan items (Installation of RCS vent system, installation of instruments for detection of inadequate core cooling, the activation of the Technical Support Center, installation of post-accident sampling equipment, and the installation of some of the REG 1.97 accident monitoring instrumentation) and the permanent hydrogen control system. The extensions range from about 6 months to 1 year.

Actions on ACRS Recommendations - C. Ferrell and J. Rajan, NRC

The status of NRC and TVA action on previous ACRS recommendation was reviewed by Mr. Ferrell and Mr. Rajan of the NRC Staff. The NRC Staff has evaluated the likelihood of a barge colliding with the intake situation and has concluded that the probability is less than 10^{-7} /year and that, on this basis, the consequences of the event need not be considered on this basis. TVA has formulated a plan for responding to the ACRS recommendation that the seismic reevaluation of the Sequoyah plant be extended from a selective audit of critical structures to a reevaluation of all critical structures. Work has presently just begun and completion of the work is expected in March 1982. Action on Mr. Ebersole's request for NRC Staff considerations of reliability requirements on vacuum breaker valves was considered. The vacuum breakers in the Sequoyah plant are on TVA's Q-list, and are tested at three month intervals. The NRR Staff has not yet considered this issue on a more generic basis or evaluated the appropriateness of these criteria.

I&E Report on Plant Operating Experience - D. Quick, I&E

The Sequoyah plant operating experience was discussed by Mr. D. Quick of the Region II I&E Staff. A summary of significant operating experience events is given in Attachment 1. The plant performance was described as average with respect to a plant in its first year of operation. Some problems have been experienced with the administrative control of valves

and TVA was fined by NRC (\$40,000) for the most recent occurrence. The event occurred on Unit 2 when it was in a cold shutdown condition. Valve position surveillance when the plant was in this condition was found to be generally lax. Measures have been taken by TVA to correct this.

TVA Emergency Response Plan - J. Hufham, TVA

TVA's emergency response organization was described by Mr. Hufham. In the TVA system the Emergency Operations Facility (EOF) is located in Chattanooga in the headquarters for TVA's nuclear plant operations staff and communicates with the Technical Support Centers at all of TVA plants via a variety of communication devices. Support is drawn from the Knoxville headquarters engineering staff and the Muscle Shoals radiological assessment staff. This differs from the NRC's guidelines in that the EOP is located at some distance from individual site rather than close by. The TVA concept has been approved in principle by the Commission. The scheme for implementing this concept is still under discussion with the NRC Staff.

Proposed Final Design for the Sequoyah Hydrogen Control System - D. Renfro, TVA

TVA has submitted plans for a Permanent Hydrogen Mitigation System (PHMS). The system is conceptually similar to the system now installed as a interim hydrogen control system. A 120 volt glow-plug type igniter is to be used instead of the 12 volt GM diesel engine glow plug used in the interim system. The PHMS will be safety grade and seismically and environmentally qualified. The locations used for igniters will be essentially identical to what was used for the interim system. Pairs, rather than single, igniters will also be used.

Hydrogen Research and Development Programs - W. Lau and R. Bryan, TVA

TVA, Duke Power Company and AEP are involved in a joint R&D program which is directed toward developing a hydrogen control system for ice condenser plant. The topics which are addressed and the responsible organization are as follows:

- (a) Effectiveness of halon - Atlantic Research Corporation: This study concluded that halon is not suitable because of potential problems resulting from corrosion byproducts.

- (h) Spark igniters - Keiser: This study concluded spark igniters are not suitable because of electromagnetic interferences problems.
- (c) Glow plug igniters tests - Singleton: This study concluded that the 120 volt and 12 volt glow plug igniters were effective in igniting hydrogen-air-water mixtures.
- (d) Combustion tests - Fenwall: This work has resulted in an improved understanding of the combustion characteristics of hydrogen-air-water mixtures.
- (e) Catalytic combinator - Acures: This work addressed the practicality of using catalytic combinator at locations at which a hydrogen release is likely for certain accident scenarios (for example at high point vents and the PORV tailpipe). The study concluded poisoning of the catalyst by fission products could be expected and that a development program would be required to obtain the design data which would be required for proper sizing of the device.
- (f) Igniter development/combustion - EPRI/Whiteshell - This will involve an extension of the Singleton and Fenwall work into larger scale experiments and more complex combustion chamber geometrics.
- (g) Fog effects - EPRI/Factory Mutual: This work is directed at characterizing the effect of water fogs on hydrogen-air combustion.
- (h) Mixing effects - EPRI/Hanford: This work will be directed at characterizing mixing effects in the containment atmosphere.
- (i) CLASIX code development - OPS: This work is directed at improving the CLASIX code and will include an improved treatment of heat sinks and containment compartmentalization.

In addition, TVA is involved in the IDCOR activities. The reference plant for the IDCOR studies will be the Sequoyah plant. TVA is also developing an improved (beyond what is described in Item (i) above) version of the CLASIX code.

TVA has tested thermocouple and RTD cable in a hydrogen burn environment both in a conduit and in an exposed condition. The materials were able to perform their intended function after these tests. TVA intends to qualify critical containment components by way of analysis. The work performed to date indicates that the component temperatures can be held below the temperature qualification required for large LOCA qualification.

NRC Equipment Survivability Program - K. Parczewski, NRC

Mr. Parczewski of the NRC Staff described the NRC-sponsored work on survival of safety related equipment in a hydrogen burn environment. The work will be done at Sandia and will have as its goal the development of an analytical methodology via code development which will allow the prediction of thermal and pressure responses of equipment in containment. The work will be composed of three tasks. Task 1 will consist of the development of analytical methods for characterizing the hydrogen burn environment with regard to its capacity for energy transfer to the equipments. Completion is expected by the middle of 1982. Task 2 will consist of the verification of the analytical methods. Some experimental work is anticipated to be needed to complete this task. Completion is expected by the end of 1982. Task 3 will consist of developing procedures for using these tools to qualify safety related equipment. Completion is expected in early 1983. The methods are intended to be sufficient, in that they could be used to qualify equipment without necessitating hydrogen burn tests on individual pieces of equipment. Testing of prototypical equipment is expected to be required to validate the methods. The combined NRR and RES funding for this effort is \$800K in FY 81 and \$550K in FY 82. Essentially all of the FY 81 funding will be carried over into FY 82. There was some discussion on this topic. Dr. Siess and Dr. Zudans did not agree with the approach proposed by the NRC Staff. It was suggested that the analytical code would not be sufficient and that qualification would need to depend to a large extent on actual tests. Dr. Mark suggested that some tests be preformed in an environment produced by a hydrogen detonation to verify that equipment could cope with such an environment. Dr. Zudans and Dr. Siess questioned the need for a large NRC research effort in this area and noted that the work could be preformed by industry. Mr. Lau of TVA noted that TVA was interested in simulating the effects of a hydrogen burn temperature environment by heating a chamber and moving equipment into and out of the environment to simulate the transient exposure. Mr. Lau stated that he did not believe that the proposed NRC research would produce useful results.

NOTE: Additional meeting details can be obtained from a transcript of this meeting available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., or can be purchased from Alderson Reporting Company, Inc., 400 Virginia Avenue, S.W., Washington, D.C. 20024, (202) 554-2345.

Advisory Committee on Reactor Safeguards, Subcommittee on Regulatory Activities; Meeting

The ACRS Subcommittee on Regulatory Activities will hold a meeting on October 14, 1981 in Room 1046, 1717 H Street NW., Washington, DC.

In accordance with the procedures outlined in the Federal Register on October 7, 1980 (45 FR 66535), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance.

The agenda for subject meeting shall be as follows:

Wednesday, October 14, 1981—8:45 a.m. Until 3:00 p.m.

The Subcommittee will hear presentations from the NRC Staff and will hold discussions with this group pertinent to the following:

- (1) Proposed Amendment to 10 CFR Part 50, § 50.55a, "Codes and Standards" (pre comment).
- (2) Regulatory Guide 1.23, Revision 1, "Meteorological Programs in Support of Nuclear Power Plants" (post comment).
- (3) Regulatory Guide 1.13, Revision 2, "Spent Fuel Storage Facility Design Basis" (pre comment).
- (4) Proposed Regulatory Guide (Task IC 121-5), "Response Time Testing of Protection System Instrument Channels" (pre comment).

Other matters which may be of a predecisional nature relevant to reactor operation or licensing activities may be discussed following this session.

Persons wishing to submit written statements regarding Regulatory Guide 1.23, Revision 1, may do so by providing a readily reproducible copy to the Subcommittee at the beginning of the meeting. However, to insure that adequate time is available for full consideration of these comments at the meeting, it is desirable to send a readily reproducible copy of the comments as far in advance of the meeting as practicable to Mr. Sam Duraiswamy, the Designated Federal Employee for the meeting, in care of ACRS, Nuclear Regulatory Commission, Washington, DC 20555 or telecopy them to the

Designated Federal Employee (202/634-3319) as far in advance of the meeting as practicable. Such comments shall be based upon documents on file and available for public inspection at the NRC Public Document Room, 1717 H St. NW., Washington, DC 20555.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the Designated Federal Employee for this meeting, Mr. Sam Duraiswamy (telephone 202/634-3267) between 8:15 a.m. and 5:00 p.m., Eastern Time.

Dated: September 23, 1981.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 81-28079 Filed 9-25-81; 8:45 am]

BILLING CODE 7590-01-M

Advisory Committee on Reactor Safeguards, Subcommittee on Sequoyah Nuclear Plant; Meeting

The ACRS Subcommittee on Sequoyah Nuclear Plant will hold a meeting on October 13, 1981, Room 1046, 1717H Street, NW, Washington DC to review operating experience, response to ACRS requests, and status of hydrogen control measure. Notice of this meeting was published August 21.

In accordance with the procedures outlined in the Federal Register on October 7, 1980, (45 FR 66535), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Cognizant Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance except for those sessions during which the Subcommittee finds it necessary to discuss proprietary and Industrial Security information. One or more closed sessions may be necessary to discuss such information. (SUNSHINE ACT EXEMPTION 4). To the extent practicable, these closed sessions will be held so as to minimize inconvenience to members of the public in attendance.

The agenda for subject meeting shall be as follows:

Tuesday, October 13, 1981

8:30 a.m. Until the Conclusion of Business

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, will exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the Tennessee Valley Authority, NRC Staff, their consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Dr. Richard Savio (telephone 202/634-3267) between 8:15 a.m. and 5:00 p.m., EST.

I have determined, in accordance with Subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close some portions of this meeting to protect proprietary and Industrial Security information. The authority for such closure is Exemption (4) to the Sunshine Act, 5 U.S.C. 552b(c)(4).

Dated: September 23, 1981.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 81-28080 Filed 9-25-81; 8:45 am]

BILLING CODE 7590-01-M

[Docket No. 50-466-CP]

Houston Lighting and Power Co. (Allens Creek Nuclear Generating Station, Unit 1); Order Scheduling Resumed Hearings

September 22, 1981.

The evidentiary hearings will be resumed on October 5 and continue through October 9, 1981. (Because of a scheduling conflict, the Board has cancelled the October 12-16, 1981 hearing which had been noticed in our Order of September 1, 1981). Thereafter, the hearings will be resumed:

- (a) On October 26 and continue through October 30, 1981;
- (b) On November 16 and continue through November 20, 1981; and
- (c) On December 7 and continue through December 11, 1981.

Testimony will be presented upon certain contentions carried over from the September 1981 hearing and upon

TIME 9:00 amMEETING ROOM 1046DATE October 13, 1981ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETINGSequoiah

ATTENDEES PLEASE SIGN BELOW

(PLEASE PRINT)
NAME

BADGE NO.

AFFILIATION

1	Leyse	E0106	EPRI
2	Zudaus	E0169	ACRS CONSULTANT
3	F. D. MASON	E-0111	AEC
4	D. W. Wilson	E0170	TVA
5	L. M. MILLS	E0171	TVA
6	J. E. VILUS	E0154	TVA
7	D. L. Williams	E-0172	TVA
8	Wang Lan	E0186	TVA
9	F. K. McPhail	E0173	TVA
10	E. K. Sliger	E0174	TVA
11	J. W. Huffman	E0008	TVA
12	W. T. CITAL	E-0175	TVA
13	G. L. SCHOTT	E-0151	Los Alamos NTH LAB
14	J. D. KAMMERER	E-0176	DOE TL
15	W. Brown	E-0112	Thermonuclear Corp.
16	G. A. COPP	E-0175	Duke Power
17	G. RENFRO	E-0179	TVA
18	P. H. L. ...	E-0172	TVA
19	J. K. ...	E-0111	TVA
20	KEN PERRY	E-0174	OPS

TIME 9:00 amMEETING ROOM 1046DATE October 13, 1981ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETINGSequoiah

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(PLEASE PRINT)

NAME

BADGE NO.

AFFILIATION

1	MELLS	0173	UPS
2	SRINIVAS	0002	WESTINGHOUSE
3	...	0185	UPS
4	Cooney	0178	UPS
5	...	0187	...
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- PROPOSED AGENDA -

SEQUOYAH SUBCOMMITTEE MEETING
WASHINGTON, D.C.
OCTOBER 13, 1981

- | | |
|---|------------------|
| I. EXECUTIVE SESSION (ACRS) | 9:00 - 9:15 am |
| II. STATUS OF THE NRR REVIEW (NRR) | 9:15 - 9:45 am |
| III. ACTIONS ON ACRS RECOMMENDATIONS (NRR/TVA) | 9:45 - 10:15 am |
| - BREAK - | 10:15 - 10:30 am |
| IV. I&E REPORT ON PLANT OPERATING EXPERIENCE (I&E) | 10:30 - 11:30 am |
| V. TVA EMERGENCY RESPONSE PLAN | 11:30 - 12:00 pm |
| - LUNCH - | 12:00 - 1:00 pm |
| VI. PROPOSED FINAL DESIGN FOR THE SEQUOYAH
HYDROGEN CONTROL SYSTEM (TVA) | 1:00 - 1:30 pm |
| VII. STATUS OF HYDROGEN RESEARCH AND DEVELOPMENT
PROGRAMS (TVA/NRC) | 1:30 - 4:00 pm |
| A. Equipment Survivability | |
| B. Containment Response | |
| C. Hydrogen Combustion | |
| VIII. CONCLUDING DISCUSSIONS AND FUTURE AGENDA (ACRS) | 4:00 - 5:00 pm |