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MINUTES OF THE ACRS SUBCOMMITTEE MEETING ON COMANCHE PEAK  
UNITS 1 & 2  
WASHINGTON, D.C. NOVEMBER 11, 1981

The ACRS Subcommittee on Comanche Peak held a meeting in Room 1046, 1717 H St. NW., Washington, D.C., on November 11, 1981. The Subcommittee met with representatives of the Texas Utilities Generating Company and the NRC Staff. Notice of this meeting was published in the Federal Register on Thursday, October 22, 1981. A copy of this notice is included as Attachment A. A list of attendees is included as Attachment B. The schedule for this meeting is included as Attachment C. A complete set of handouts is attached to the office copy of the minutes as Attachment D.

The meeting began at 1:00 p.m. with an opening statement by Mr. Bender, who introduced ACRS Members J. Ray and D. Moeller, and ACRS Consultants J. Arnold and F. Binford. Mr. Bender stated the purpose of the meeting was to continue the review of the application of the Texas Utilities Generating Company for a license to operate Comanche Peak Units 1 & 2. Mr. J. McKinley was introduced as the Designated Federal Employee and Mr. H. Alderman of the ACRS Staff was also present. The first speaker was Mr. S. Burwell of the NRC Staff.

NRC Staff Presentation, Overview

Mr. Burwell noted the FSAR was docketed on April 25, 1981. The Subcommittee visited the plant June 29, 1981. The Safety Evaluation Report was issued July 14, 1981. The first supplement to the SER was issued on October 16, and a full Committee meeting on Comanche Peak was scheduled for November 13, 1981. He also mentioned that hearings for this plant start on December 2, 1981.

Supplementary Safety Evaluation Report - Open Items

Mr. Burwell remarked that at the time of SSER issuance there were eight non-TMI items and nine TMI items remaining open. The open non-TMI items were listed as:

1. The pipe break damage analysis outside of containment.  
The applicant has not submitted this analysis.
2. Equipment qualification for seismic load.
3. Environmental qualification of electrical equipment, IEEE-1974.  
A site audit is necessary in both these cases and that is delayed until the applicant completes these programs.
4. Pre-service/in-service inspection program.  
The pre-service inspection program has been submitted.
5. The transfer of the containment spray system from the injection mode to the recirculation mode.  
The applicant proposes manual initiation rather than automatic.  
The Staff is concerned that the refueling water storage tank will run dry before the operator transfers suction to the sump.
6. The low temperature over pressure protection system control design. Mr. Burwell noted that this is, for all practical purposes, resolved.
7. Consequences of control system failure from a harsh environment associated with a high-energy live break - has been resolved.
8. Fire protection program - two items remain to be resolved.
  - a. Completion of the remote shutdown system.
  - b. Conformance with Appendix R.

Overview of Plant - Mr. Schmidt, TUGW

Mr. Schmidt noted that Comanche Peak consists of two units, each rated at 3425 megawatts thermal, and they are Westinghouse RESAR-3 design reference plants. The circulating water is provided from a 3200 acre surface lake. There is a seismically designed safe shutdown impoundment dam on one portion of the lake. This is the ultimate heat sink.

The construction status of Unit 1 is about 89% complete. Unit 2 is about 52% complete. The overall project is about 78% complete. The fuel loading date is estimated at June 1983.

Mr. Schmidt stated that one intervenor voluntarily withdrew from the proceedings which leaves two active intervenors. The licensing board has scheduled hearings to begin December 2, in Fort Worth, on three issues. These are quality assurance, financial qualifications and radioactive releases.

Organization and Management Structure - Mr. Clements, TUGCO

Mr. Clements introduced himself as the Vice President and Corporate Officer directly responsible for the operation of Comanche Peak. He mentioned that he has no other assigned duties. Mr. Clements noted that TUGCO is the licensee and will operate Comanche Peak. Texas Utilities Services has been designated by TUGCO to furnish design, engineering, construction, licensing, fuel management and engineering technical support.

There was some discussion regarding certification of the health physicists. Questions were raised if any of the health physicists were certified or planned to apply for certification. Mr. Clements said they will take another look at certification when he and his staff return to Dallas.

Operator Training - Mr. Seidel, TUGCO

The operator training at Comanche Peak has three aspects; initial licensed operator training program, replacement operator training program, and a requalification training program.

The pretraining program consists of between five to nine weeks of mathematics and science review. The exact length depends upon the class background.

Following the pretraining is the Westinghouse certification program. Involved in this training program is fundamental nuclear training which includes about 12 weeks of classroom lectures in reactor theory, core physics, radiation protection and chemistry. Included are about three weeks of training in reactor operations at the Westinghouse Training reactor.

Following this phase, the operators go into an operating PWR Observation program. This is about a 10 week program during which the operators learn about the systems and design of a 4 loop PWR similar to Comanche Peak.

The next aspect of the training is a simulator training program involving about 100 hours on the simulator. This training involves normal operations, malfunctions and transients.

Following the preceding training programs, the operators go through a certification exam that is designed to simulate the NRC examination.

After the operators have completed the certification training, they spend about 30 full time weeks of indepth studies of the Comanche Peak systems.

Following all this training is the NRC licensing exams.

Training for Serious Accidents - Mr. Siedel, TUGCO

The training programs involve study in heat transfer, fluid flow, thermal dynamics, natural circulation, mitigation of core damage, small breaks, multiple failures, and the actual accident analysis.

The training emphasis is an recognition of critical parameters that are involved in restoration of subcriticality reactor coolant system inventory, the heat sink and the containment conditions that are needed in order to mitigate a serious accident, or an accident even beyond the DBA.

Training for Maintenance Personnel - Mr. Blevins, TUGCO

Mr. Blevins noted that one of the shortfalls he found in the craft areas is that people are generally very good in performing their own particular skill, but they generally aren't able to relate that to its impact on plant operations and how what they do can impact the plant.

In order to alleviate this, TUGCO has developed a three-week systems training course. By sending the maintenance personnel through the training, it should integrate their skills in plant systems. They should have a better understanding of what their work objectives are, and it should give them more of a sense of accomplishment in what they do.



Control Room Design and Human Factors Engineering - Mr. Estes, TUGCO

Mr. Estes described the computer displays for the Emergency Response Facilities (ERF). Mr. Estes noted that Texas Utilities worked with 12 utilities to develop the software for the ERF computer displays. The software will be plant specific and is expected to be delivered in early 1982.

The display will be a color CRT. There will be a total of seven color graphic CRT's in the RRF computer system. Two will be in the control room, three in the technical support center, and two in the Emergency Response Facility.

The CRT's will display in bar graph, in digital, and in target form. On demand, the CRT will display critical safety function tries to aid the operator in making his decisions.

Reliability of Station Electric Power and Loss of All AC Power - Mr. Calder, TUGCO

Mr. Calder noted that there are three 345-KV ties coming into the switchyard and one 138-KV tie into the startup transformer for Unit 1. The 345-KV ties divert very rapidly. For each safety train, there is one 7000 KW diesel for that train.

With loss of AC power, decay heat can be removed by the steam turbine driven auxiliary Feedwater pump that feeds all four steam generators. The flow can be regulated with flow control valves that have air accumulators.

The primary source of feedwater for the auxiliary feedwater system is the condensate storage tank. This tank has a capacity of 500,000 gallons, with 276,000 gallons reserved for auxiliary feedwater flow.

At fuel flow, there is four hours capacity with 276,000 gallons. If the tank is full, there is 7 hours capacity. At reduced flow the condensate tank has from 36 hours to 65 hours capacity.

If additional sources of auxiliary feedwater are needed, the demineralized water storage tank, with a capacity of 400,000 gallons, may be used. In a last ditch effort the diesel fire pump can be hooked up to the lake to keep the core in a cooled condition.

The steam generators have spring-operated code safety relief valves, so they can remain at hot standby. The plant can be orderly cooled down using pneumatic PORV's.

In response to a question by Mr. Ray regarding "black start" capability, i.e. the capability to start out without any power being brought in, Mr. Calder estimated about 8 hours for Comanche Peak.

In summary, Mr. Calder remarked that in the case of loss of offsite power, procedures will be in place, the operator will be trained to mitigate the effects and to restore power with the end result of keeping Comanche Peak safe.

Hydrogen Control - Mr. Madden, TUGCO

Mr. Bender inquired what was involved if TUGCO planned to inert, and if not, why not? Mr. Madden replied that they were not planning to inert.

Mr. Madden reported the results of their analysis to demonstrate containment integrity. Based upon a 75% metal-water reaction, about 1800 pounds of hydrogen is generated. The Comanche Peak containment has a free volume of about 3 million cubic feet. Distribution of the hydrogen that was generated uniformly throughout the containment results in a concentration of about 11 volume percent. Based upon a parametric study including a complete 100 percent burn of the 1800 pounds of hydrogen, the worst case was where the resulting pressure was 66 psig. The rough cut estimate of ultimate containment strength is 83 psig calculated at yield. Thus TUGCO feels the highest pressure is well below yield.

Emergency Planning - Mr. Braswell, TUGCO

Mr. Braswell noted that the emergency plan met the criteria outlined in NUREG 0654 and 10 CFR Appendix E. The emergency plan involves the resources and efforts of Comanche Peak. The state of Texas and Hood and Somervill Counties. Responsibility for radiological emergency response in the state of Texas is in the Bureau of Radiation Control of the Department of Health. The local governments are responsible for providing security assistance, ambulance service, medical facilities and fire-fighting assistance as needed.

There are four classes of emergencies, each requiring respective actions. The four classes are notification of an unusual event, alert, site area



emergency and general emergency. When the shift supervisor in his assessment and evaluation of plant conditons indicates a potential for a real hazard, he then declares the appropriate emergency classification and activates the applicable emergency organization.

Instrumentation to Follow the Course of a Serious Accident, Reg. Guide 1.97,  
- Mr. Estes, TUGCO

Mr. Estes mentioned that the utility is working in conjunction with Westinghouse and Gibbs and Hill to develop an overall approach to meeting the requirements of Reg. Guide 1.97, Rev. 2. TUGCO is developing a design basis document which will list the types, categories, ranges and accuracies of the instruments required in Reg. Guide 1.97, Rev. 2.

Decay Heat Removal - Mr. Feist, TUGCO

Mr. Feist noted that there were two functional requirements which must be achieved for adequate decay heat removal. The first is to provide a means for transferring heat through the reactor coolant system to a heat sink. The second is to maintain a sufficient water inventory in the reactor coolant system to ensure adequate cooling.

Safety grade shutdown decay heat removal is provided by the auxiliary feedwater system, the steam generators and the steam generator safety and PORV's. Heat from the reactor coolant system is transferred via the steam generators to the atmosphere via the safety and PORV's. Hot standby can be maintained by the steam generator steam relief via the steam generator safety valves.

In the event of the loss of all feedwater or the loss of the RHR system, the feed and bleed mode can be used to cool the reactor system by use of the centrifigal charging pump.

Systems Interaction - Mr. Marshall, TUGCO

Mr. Marshall identified system interaction as the system failure combination that can reduce the effectiveness of any one of a number of basic functions.

Mr. Marshall mentioned fire protection, structural types of components that could fall on Seismic Category I equipment and heavy load analysis as examples where systems interaction studies have been used.

At 6:50 p.m. the meeting was recessed to reconvene in closed session.

Plant Security

The plant security force will be contract guards supplied by Bruns International. TUGCO can refuse any candidate. Credentials are checked.

There will be three check points and three fences to pass to the protected area. Any material going into the plant will be placed in a holding warehouse and inspected before entering the plant.

The meeting adjourned at 7:20 p.m.

NOTE: A complete transcript of the meeting is on file at the NRC Public Document Room at 1717 H Street, N.W., Washington, D.C. or can be obtained from Alderson Reporters, 300 7th St., SW, Washington, D.C. 202-554-2345.

will publish within 90 days an airworthiness directive to make compliance with CEB-1144 mandatory. (46 FR 40654, 8-13-81)

*From the U.S. Coast Guard: M-81-11 through -17 and M-80-78 (Sept. 22).*—Pending completion this year of a study of navigation safety in Tampa Bay, USCG has made temporary changes in navigational aids for vessels passing under the Sunshine Skyway Bridge. Prohibition of vessels from meeting near this Bridge is being assessed. USCG is unable to determine the feasibility of installing nonstructural bridge protection devices and lacks authority to require such systems or to set standards. USCG seeks legislation to act against a pilot's Federal license for acts committed while serving under authority of his State license; an amendment under R.S. 4450, allowing USCG to act against a pilot's Federal license for acts committed while serving under authority of his State license, is under consideration in USCG's Proposed Legislative Program for the Second Session, 97th Congress. USCG has no authority to develop standards for the design, performance, and location of structural bridge pier protection systems; a study, "The State of the Art Bridge Protective Systems and Devices," is available (NTIS Accession No. AD A 085760). USCG expects to finish a study of Tampa Bay's traffic management needs by the end of 1981. (46 FR 28772, 5-28-81)

*From Illinois Central Gulf: R-81-84 and -85 (Sept. 29).*—Revised hotbox detector instructions, requiring more specific action by railroad personnel, have been distributed to mechanical/operating crafts and personnel at the central readout location; if a car or diesel unit is stopped a second time for suspected hot journal, the car must be set out regardless of lack of evidence. A training audio visual film has been developed in connection with hotbox detection and followup procedures. (46 FR 46238, 9-17-81)

*Note.*—Single copies of Board reports are available without charge as long as limited supplies last. (Multiple copies may be purchased from the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161) Copies of recommendation letters, responses and related correspondence are also free of charge. Address written requests, identified by recommendation or report number, to: Public Inquiries Section, National Transportation Safety Board, Washington, D.C. 20594.

(49 U.S.C. 1903(a)(2), 1906)

Margaret L. Fisher,  
Federal Register Liaison Officer.  
October 16, 1981.

(FR Doc. 81-30434 Filed 10-21-81; 8:45 am)

BILLING CODE 4910-58-01

## NUCLEAR REGULATORY COMMISSION

### Advisory Committee On Reactor Safeguards; Subcommittee On Comanche Peak Units 1 and 2; Meeting

The ACRS Subcommittee on  
Comanche Peak Units 1 and 2 will hold

a meeting on November 11, 1981, Room 1046, 1717 H Street, NW, Washington, DC to continue the review of the application of the Texas Utilities Generating Company for a license to operate the Comanche Peak Units 1 and 2. Notice of this meeting was published September 23.

In accordance with the procedures outlined in the Federal Register on September 30, 1981, (46 FR 47903), 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 except for those sessions which will be closed to protect proprietary and Industrial Security information (SUNSHINE ACT EXEMPTION 4). One or more closed sessions may be necessary to discuss such information. 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:

Wednesday, November 11, 1981, 1:00 p.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 Texas Utilities Generating Company, 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, Mr. John C. McKinley (telephone 202/634-1414) or the Staff Engineer, Mr. Herman Alderman (telephone 202/634-1413) between 8:15 a.m. and 5:00 p.m., EDT.

I have determined, in accordance with Subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close portions of this

meeting to public attendance 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: October 19, 1981

John C. Hoyle,  
Advisory Committee Management Officer.

(FR Doc. 81-30633 Filed 10-21-81; 8:45 am)

BILLING CODE 7590-01-01

### Advisory Committee On Reactor Safeguards Subcommittee On St. Lucie Plant Unit No. 2; Time Change

The ACRS Subcommittee on St. Lucie Plant Unit No. 2 meeting scheduled to be held on October 30th has been changed to 1:00 p.m. instead of 1:30 p.m. and October 31st at 8:00 a.m. instead of 8:30 a.m. at the Holiday Inn, Century Village, 6255 Okeechobee Road, West Palm Beach, FL.

Notice of this meeting was published in the Federal Register on October 8, 1981 (46 FR 50178) and all other items remain the same except for the change of time on October 30th as indicated above.

Dated: October 19, 1981.

John C. Hoyle,  
Management Officer.

(FR Doc. 81-30634 Filed 10-21-81; 8:45 am)

BILLING CODE 7590-01-01

(Docket No. 50-360)

### Battelle Memorial Institute; Order Terminating Facility License

By application dated April 20, 1981, Battelle Memorial Institute requested termination of Facility License CX-26 for the Plutonium Recycle Facility (PRCF) now Richland, Washington. The terms and conditions of Facility License CX-26 specify that the facility license will expire automatically upon termination of the licensee's authority under Contract AT(45-1)-1831 (use permit) between the Commission (now DOE) and the licensee. In accordance with the terms and conditions of Facility License CX-26, this license has expired.

Since the PRCF is a government-owned facility in the custody of Battelle under its operating contract with the Department of Energy, all responsibility for health, safety and radiation protection is now under the control of the Department of Energy.

Therefore, pursuant to the application by Battelle Memorial Institute, Facility License No. CX-26, is hereby terminated as of the date of this Order.

For further details with respect to this action, see (1) application for

ATTACHMENT A

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS MEETING  
ON  
COMANCHE PEAK UNITS 1 AND 2

NOVEMBER 11, 1981

ATTENDEES PLEASE SIGN BELOW

PLEASE  
PRINT

NAME	BADGE NO.	AFFILIATION
1. Fred W. Macgill	E-0101	TEXAS UTILITIES
2. Perry Pop	E-0008	Westinghouse
3. J. C. T. H.	E0110	Consolidated
4. H. C. Schmitt	E0101	TEXAS UTILITY
5. B. P. Clement	E0162	TEXAS UTILITY
6. K. C. S.	E0130	TEXAS UTILITY
7. M. C. R.	E0107	TEXAS UTILITY
8. D. C. S.	E0113	TEXAS UTILITY
9. T. C. S.	E0117	TEXAS UTILITY
10. C. C. S.	E0111	TEXAS UTILITY
11. J. C. S.	E0115	TEXAS UTILITY
12. A. V. C.	E0164	TEXAS UTILITY
13. R. C. S.	E0138	TEXAS UTILITY
14. D. C. S.	E0102	TEXAS UTILITY
15. D. C. S.	E0176	WESTINGHOUSE
16. L. BUTENWORTH	E0147	WESTINGHOUSE
17. J. C. MESINGER	E0101	WESTINGHOUSE
18. J. C. S.	E0111	WESTINGHOUSE
19. J. C. S.	E0111	WESTINGHOUSE
20. J. D. Edwards	E0171	TUCO
21. C. L. BORN	E0121	TEXAS WESTINGHOUSE
22. J. C. S.	E0111	TUCO



TIME ~~8:30~~MEETING ROOM 1046DATE 11/11/81ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
MEETING~~Regulatory Activities~~

ATTENDEES PLEASE SIGN BELOW

COMANCHE PEAK UNIT 1 &amp; 2

(PLEASE PRINT)

NAME

BADGE NO.

AFFILIATION

1	John S.	E-0143	WE TI 100
2	ELMER L. KESTER	E-0144	KANSAS GAS & ELECT. CO.
3	Gene Rathbun	E-0143	KG&E
4	Richard T. R. 11	E-0140	Kansas Gas & Elec. Co.
5		E-0140	KG&E
6	W. L. ...		
7			
8	Frank ...	E-0129	TEXAS UTILITIES
9			
10			
11			
12			
13			
14	W. L. ...		
15	Robert ...		
16	Frank Riley		W. L. ...
17	John Brown		W. L. ...
18			
19			
20			

ATTACHMENT B



TIME

MEETING ROOM

1046

DATE

11/11/81

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
MEETING

~~Regulatory Activities~~

ATTENDEES PLEASE SIGN BELOW

Comments: 1st unit 1 + 2

(PLEASE PRINT)

NAME

BADGE NO.

AFFILIATION

1		085	TUFI
2	JOHN S MARSHALL	0175	TUSI
3	M. C. C. S.	0165	TUFI
4	DOUG CASTRO	0148	GIBBS & HILL
5	TIM VARDARO	0117	GIBBS & HILL
6	ELI HOROVITZ	0179	GIBBS & HILL
7	ED BON	0125	GIBBS & HILL
8	GARY GISONIA	0132	GIBBS & HILL
9	Richard Werner	0161	TUSI
10	SIVA KUMAR	0187	GIBBS & HILL
11	JOE GEORGE	E0101	TUSI
12	Richard Calder	E-0135	TUSI
13	Chuck Feist	E-0112	TUSI
14	David H Wade	E 0156	TUSI
15	David Green	E-0106	KEE
16	FRANKLIN T BINFORD	E-0113	ORNL
17	MICHAEL A. TERPASE	E-0172	Westinghouse
18	WED STANSELY	E-0118	TUSI
19	NICK Liparulo	E-0231	WESTINGHOUSE
20	T. T. Thompson	E-0130	Westinghouse

TENTATIVE AGENDA FOR ACRS COMMANCHE PEAK  
SUBCOMMITTEE MEETING  
NOVEMBER 11, 1981  
1717 H. St., NW, Washington, D.C.

Approximate Time

- |           |  |   |
|-----------|--|---|
| 1:00      |  | Introduction by Subcommittee Chairman   |
| 1:05 p.m. |  | <u>NRC Staff Presentation - S. Burwell</u>  |
|           |  | A. Overview of DL Review  |
|           |  | B. SSER Open Items  |
| 1:30 p.m. |  | <u>Texas Utilities Generating Company Presentation</u>  |
|           | <u>Homer Schmidt</u>   | A. Overview of plant and site, construction schedule, including estimated date of fuel loading, commercial operation                      |
|           | <u>John Marshall</u>   | B. Response to SSER open items  |
| 2:00 p.m. | <u>Bill Clements</u><br><u>Jim Kuykendall</u><br><u>Dick Jones</u><br><u>Tony Vega</u> | C. Organizational and management structure including QA&QC speciality skills and advisory services<br>Staff buildup (percentage complete) |
| 2:30 p.m. | <u>Ron Seidel</u><br><u>C.L. Turner</u><br><u>Mike Blevins</u>                         | D. <u>Operator Training</u>   |
|           |  | 1. Use of simulators in training programs   |
|           |  | 2. Training for serious accidents including accidents beyond DBA's  |
|           |  | 3. Training of maintenance personnel  |
| 3:30 p.m. | <u>Ron Estes</u>   | E. Control Room Design & Human Factors Engineering  |
| 4:00 p.m. | *****  | BREAK *****   |
| 4:15 p.m. | <u>Richard Calder</u>  | F. Reliability of station electric power and DC power system<br>Survival time for loss of <u>all</u> AC power                             |

COMMANCHE PEAK AGENDA

- 2 -

4:45 p.m.	<u>Fred Madden</u>	G. Hydrogen control and/or inerting
5:00 p.m.	<u>Dwight Braswell</u>	H. Emergency planning
5:15 p.m.	<u>Ron Estes</u>	I. Instrumentation to follow the course of a serious accident
5:30 p.m.	<u>Chuck Feist</u>	J. Decay heat removal
5:45 p.m.	<u>John Marshall</u>	K. Systems interaction review
6:00 p.m.	<u>John Rumsey</u>	L. Plant security
6:30 p.m.		<u>ACRS Subcommittee Discussion</u>
6:45 p.m.		ADJOURN