



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

JUN 07 1984

Docket No. 50-445

APPLICANT: Texas Utilities Generating Company  
FACILITY: Comanche Peak Steam Electric Station, Unit 1  
SUBJECT: SUMMARY OF CASELOAD FORECAST MEETING AND  
FACILITY TOUR AT COMANCHE PEAK

Summary

On March 19, 20 and 21, 1984, the Caseload Forecast Team (CFT) met with the applicant and toured the Comanche Peak Steam Electric Station, Unit 1. The purpose of the meeting was to collect sufficient data for the CFT to project the fuel load date for Unit 1. The CFT's review and evaluation was conducted in five parts.

1. A meeting was held in Region IV offices, Arlington, Texas to review the status of Unit 1 with respect to design and engineering, procurement, and construction. The applicant's progress on prerequisite testing and pre-operational testing and the applicants readiness to commence power ascension and operation of Unit 1 was also reviewed. At this meeting, the applicant advised the CFT that its schedule for fuel loading Unit 1 was July 1, 1984. However, the applicant acknowledged that critical path milestones are currently two months behind their schedular completion date.
2. A tour of the station to observe the status of construction was made in the company of the Senior Resident Inspector - Operations. At the end of the tour, the applicant provided additional data in response to a number of questions raised on the preceding day.
3. An exit meeting was held in Region IV offices, Arlington, Texas to advise the applicant of the CFT conclusions. Based on the information provided at the above meeting and site tour, the CFT made a preliminary estimate that fuel loading for Unit 1 would not occur prior to the second quarter of calendar year 1985.
4. The applicant submitted additional data to the CFT by a memorandum dated March 22, 1984. After reviewing all of the data provided during March 1984, the CFT continued to project that the fuel load date for Comanche Peak Unit 1 would not likely occur prior to the second quarter of calendar year 1985.

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5. The NRC staff met with the applicant on May 7, 1984, at the Nuclear Reactor Regulation offices in Bethesda, Maryland. This meeting was transcribed. The applicant provided new information in support of a late September 1984 fuel load date, and updating the earlier data provided in March. The staff concluded that the applicant's projected schedule was makable, but allowed little contingency for delays. The applicant agreed to the staff's request for a biweekly status report on progress in meeting their projected schedule.

In the course of the above meetings, the applicant provided the CFT numerous data sheets, lists, charts and graphs as means of describing the status of the agenda items and its programs for completion of Unit 1 on its target schedule. The transcript and the included slides for the May 7, 1984 meeting and the bar-charts attached to the affidavit of Mr. J. T. Merritt provide a concise yet detailed analysis of the items controlling the fuel load schedule and are a matter of record on the Comanche Peak docket.

#### Meeting and Facility Tour Details

##### Monday, March 19, 1984 at NRC Region IV, Arlington, Texas

On this date, the CFR met with the applicant at the NRC Region IV offices in Arlington, Texas. This meeting was open to interested members of the public to attend as observers as noted on the Meeting Notice issued March 15, 1984. A list of the attendees at this meeting is enclosed.

The meeting opened with a brief statement on the purpose of the meeting by Mr. Burwell. It was explained that the fuel loading date projected by the CFT is used to set priorities in the work schedules of the NRC staff. The agenda for this meeting was enclosed with the Meeting Notice noted above.

The applicant identified the Unit 1 fuel load date as mid-year 1984. This projection was made in December 1983. For purposes of scheduling activities on the site the applicant uses a schedule based upon a July 1, 1984 fuel load date. However, the applicant acknowledged that critical path milestones are currently two months behind their scheduler completion date. The applicant estimates that Unit 1 is 97% complete, Unit 2 is 65% complete, and the project is 84% complete.

The applicant advised that his key priorities are:

1. to finish construction within the buildings and
2. to finish the preoperational testing program.

Since the last Caseload Forecast visit the preoperational testing program has been impacted by construction activities. The rework in the control room and cable spreading room has been a major item, but this is now nearing completion. Currently the painting inside the containment is impacting the preoperational testing program.

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The applicant advised that construction has reached the stage of completion that it no longer uses bulk quantities as a means of measuring completion. The applicant has now changed to a team management approach in managing the completion of the plant. In general, a team is assigned the task of completing a building in the plant. Teams are now operational for the Unit 1 reactor building, the safeguards building, the auxiliary building and the electrical/turbine building. Each of these teams is assigned a specific foreman and associated work forces (engineers, craftsmen, and QC inspectors). The team may also call upon outside specialized persons for assistance. These management teams are also responsible for assuring that all final inspections and walkdowns required by regulatory requirements are conducted.

The applicant presented graphs and tables to show its schedule for completion of the respective rooms and buildings. The bar-chart summary schedule gave completion dates for the buildings and the preoperational startup program as follows:

Reactor Building	April 22, 1984
Auxiliary Building	April 22, 1984
Safeguard Building	May 20, 1984
Turbine Building	May 6, 1984
Electric/Control Building	May 24, 1984
Startup program: Fuel Load	July 1, 1984

At this time, the applicant has identified 158 rooms/compartments, out of a total of 442, on which it has advised the NRC Region IV that these are available for inspection. The graphs and tables for each of the buildings provided data on the status and projected completion dates for construction by major elevations (floor levels), and manpower levels currently working each building by disciplines/activities.

The applicant then reviewed the status of the items specifically identified in the meeting agenda. The important items are discussed below:

1. The applicant has completed the last of the piping analysis problems. Currently there are 71 pipe supports requiring some element of rework. Since there are 23,429 pipe supports (Class 1, 2, 3 and 5) in Unit 1 and common, piping and pipe supports are essentially complete. The N-5 certification is roughly one-third complete, but projected to be completed in June 1984. Pipe whip restraints are all designed and all installed with the possible exception that three restraints (using the same design) may need to be added. Jet shields are in an equivalent state of completion. All damage studies have been completed and less than 15 items (minor) may require relocation or replacement.

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2. All bulk cable pulling is complete. However, applicant is adding about 20 cables between the cable spreading room and control room related to control of feedwater hammer. The applicant may not complete all cable installation between the control room and the Unit 2 cable spreading room on a schedule which is consistent with the Unit 1 fuel load date. Therefore, the applicant may elect to install all Bisco seals in the Unit 2 panels early to satisfy the control room leak-rate requirements, reworking these after Unit 1 fuel load on a case-by-case basis. There is some potential for the need to reroute limited numbers of cable in the safeguard and auxiliary buildings in order to resolve separation deficiencies.
3. In the discussion of fire barriers, the installation of Thermolag wrap around cable trays was identified as being 35 percent complete. The CFT requested additional data on this work item.
4. The steam generator modifications, security system, emergency facilities and 10 CFR 50.55e items are either complete or so near to completion that they are not expected to impact the applicants fuel load date.
5. The applicant noted that the punchlist items are now compiled into a Master Data Base Punchlist of work items. These are retained on a computer which permits the items to be sorted by system, building, elevation etc. The CFT requested more information from this Master Data Base list.
6. The applicant discussed the schedule for disassembly, inspection, reassembly and testing of the Transamerica Delaval Inc. diesel generators. This program was started in late February and is projected to be completed by mid-July 1984.

The testing program was then described. The CFT commented that there has been little progress in the completion of preoperational tests since its visit in September 1983. This was due primarily to the rework on the control cabinets in the control room, which has delayed related testing. There are currently two cabinets which are still in rework, but the bulk of this effort is now complete. The CFT requested additional details on the status of each of the pre-operational tests.

Power ascension testing procedures and normal operating procedures are essentially complete. Station staffing is approaching authorized strength in all categories and is not expected to impact licensing.

Tuesday, March 20, 1984 at Comanche Peak Station

A tour of the station, Unit 1 and common, was made in the company of the Senior Resident Inspector - Operations to observe the status of construction. The CFT toured the Unit 1 and common buildings as follows: the reactor building, the diesel generator building, the safeguards building, the electrical and control

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building, and the service water intake structure. An effort was made to tour all elevations of the buildings to observe the status of construction because the applicant's program for completing the buildings normally follows a pattern of completing the top and bottom floors first, and then progressing to ground level and out of the building. The reactor building and the control room and cable spreading rooms received a more detailed inspection than other buildings and rooms.

After the tour, the CFT met briefly with the applicant to receive responses to questions which remained outstanding from the meeting on the previous day.

Wednesday March 21, 1984 at NRC Region IV, Arlington, Texas

An exit meeting was held at the NRC Region IV offices to advise the applicant of the CFT conclusions. This meeting was open to interested members of the public as noted in the Meeting Notice. A list of attendees at this meeting is enclosed.

The CFT acknowledged that its review was rushed. Some of the key data was not received until yesterday afternoon. The CFT has not had an opportunity to study all of the data thoroughly. Therefore, the CFT conclusions at this exit meeting were preliminary.

Based on its review before this meeting the CFT was of the opinion that the September 1984 projection by the applicant is optimistic. The CFT has made a preliminary estimate that the fuel load date for Unit 1 will be no earlier than the second quarter of calendar year 1985. In making that estimate the CFT did not consider the potential impacts that the inspection and refurbishment of the Transamerica Delaval, Inc. diesel generators or the ongoing inspection of the paint adhesion to the containment liner might cause. The CFT considers the critical path items in achieving an early fuel load date to be: 1) the pre-operational testing program, 2) completion of painting, 3) installation of the Thermolag cable tray wrap, and 4) resolution of the large numbers of outstanding items.

The CFT informed the applicant that it would be receptive to additional data to support a date earlier than our preliminary estimate, provided it is received by close-of-business, Friday, March 23, 1984. The applicant indicated additional data would be submitted.

Friday, March 23, 1984, Metro Center Hotel Fort Worth, Texas

The applicant delivered copies of a document to the NRR Project Manager in support of its estimate for the Unit 1 fuel load date. This document provided additional data on: 1) the preoperational testing program, 2) completion of painting, 3) installation of the Thermolag cable tray wrap, 4) resolution of the large numbers of Master Data Base Punchlist items, and 5) installation of the Bisco seals in cable penetrations.

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On returning to Bethesda, the CFT reviewed all of the data provided by the applicant during March 1984. The CFT concluded that the preoperational testing program was the key item controlling the schedule, and that completion of this item prior to the second quarter of calendar year 1985 was highly unlikely.

With respect to completion of painting inside containment and installation of Thermolag, the CFT concluded the projected workoff rates used are optimistic, but agreed that these two items do not project a fuel loading date later than year-end 1984, assuming that no significant rework is required.

With respect to the large number of Master Data Base items which must be worked off, the CFT noted that approximately 10,000 items remain on the Master Data Base Punchlist at this time. The applicant has stated that many of these require limited effort to resolve and that many are simply paper-work items of little safety significance. With a work list of this size it is difficult to rationalize the safety significance of each outstanding item, a task which will have to be done before an operating license will be issued.

Monday, May 7, 1984, NRC Headquarters 7920 Norfolk Ave., Bethesda, Maryland

On this date, the NRC staff met with the applicant at the NRC Nuclear Reactor Regulation offices in Bethesda, Maryland. The meeting was transcribed and a transcript was provided to all parties in the proceeding by the NRC Board Notification 84-103, dated May 10, 1984 (Accession No. 840511057). The purpose of the meeting was to permit the applicant to provide additional information with regard to the status and schedule for the preoperational testing program and the resolution of the large number of outstanding construction items.

Mr. Spence, President of Texas Utilities Generating Company, advised that following the March 1984 meetings with the CFT, the applicant arranged to have Mr. W. G. Council and Mr. D. Miller of Northeast Utilities come to Comanche Peak and review the plant status and schedule. After this review, Mr. Council agreed with the applicant that fuel load by the end of September was achievable. Mr. Council also suggested that the applicants construction management group place priority on systems completion with the involvement of the startup management in establishing schedules. Mr. Spence stated that the applicant has embraced these suggestions. In the course of the meeting the staff advised it had discussed the Comanche Peak schedule with Mr. Council and had been advised that a September 1984 fuel load date is workable provided certain changes were made. A memorandum documenting this staff discussion with Mr. Council was included in the transcript.

At the close of the meeting the applicant left with the staff a limited number of copies of a detailed data book. The book tracked the agenda attached to the meeting notice issued March 15, 1984, and updated the data sheets, lists, charts and graphs provided in the March meetings.

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The applicant presented a description of the status of the preoperational testing program. The presentation included a number of slides (copies of which were inserted in the transcript) and ten oversized bar-charts which were included in an affidavit by Mr. J. T. Merritt, attached to the "Applicants' Submission of Affidavit Regarding Fuel Loading for Unit 1, and Motions for (1) Revised Hearing Schedule, (2) Adoption of Special Procedures, and (3) Clarification of Issues, dated May 8, 1984 (Accession No. 8405090157). The above bar-charts showed a target fuel load date of late September 1984, and identified detailed tasks tests and milestones to the accomplishment of that date.

The applicant also presented information on the status of construction. Relative to painting, the applicant has added roughly an additional 100 people to the painting effort inside containment, a total of about 300 people at this time. The painting program projects that painting of concrete and steel inside containment will be completed by early September and late July 1984 respectively. The applicant is committed to add to the work force and go into overtime in order to achieve its schedule. Relative to the installation of Thermolag, the production rate in manhours per square foot have improved greatly over the rates given the CFT in March 1984. The installation of all Thermolag is projected for completion in mid-June 1984. At the end of April the Master Data Base Punchlist had been reduced to 9600 items. The applicant believes that the majority of these items are related to record keeping. In June, the applicant will change to a program of focusing on these items that are required to load fuel.

The applicant closed with a short presentation to show the readiness of the station staff to load fuel and commence testing.

After a brief caucus, the staff stated that the favorable improvements in the earlier data led us to believe that the applicant's present schedule is makable. On the negative side, recognizing the status of this preoperational testing program, we consider the schedule to be very tight. While there is some flexibility on the back shift, there is otherwise no contingency for delays. It was further stated that the basic reason the NRC staff evaluates the applicant's schedule was to plan and direct where the NRC will expend its available resources.

One cannot predict the importance or impact on schedules from unforeseeable delays. By and large, the ability of the applicant to react, to plan, and to change or modify resources for the resolution of these problems will determine whether the projected fuel load date can be achieved. The applicant committed to send a summary report on the status of key schedule factors to Mr. Collins (Region IV) and Mr. Eisenhut (NRC) every two weeks.

As a result of the above information indicating that the applicant's fuel load date of late September 1984 was makable, the staff accepted this as the fuel load date for resource management planning purposes.

S. B. Burwell, Project Manager  
Licensing Branch No. 1  
Division of Licensing

Enclosure:  
List of Attendees

DISTRIBUTION:  
See attached page

\*SEE PREVIOUS PAGE FOR CONCURRENCES  
RETYPE 6/5/84 (kab)

DL  
\*Tippolite  
05/30/84

*S.B. Burwell*

LB#1:DL  
\*SBurwell:kab  
05/22/84

RM  
\*WHLovelace  
05/22/84

LB#1:DL  
\*BJYoungblood  
05/23/84

AD:DL  
\*TMNovak  
06/04/84

D:DL  
DGE:shut  
06/5/84



ENCLOSURECASELOAD FORECAST MEETING ATTENDANCECOMANCHE PEAK STEAM ELECTRIC STATION, UNIT 1Monday, March 19, 1984; NRC Region IV Offices

<u>NRC Staff</u>	<u>Applicants</u>	<u>Observers</u>
S. B. Burwell	J. B. George	R. W. Epp, Paine Webber
W. H. Lovelace	J. T. Merritt	
A. L. Vietti	R. E. Camp	
D. L. Kelley	R. A. Jones	
	D. R. Woodlan	
	T. W. Rose	
	G. H. Hedrick	

Wednesday, March 21, 1984; NRC Region IV Offices

<u>NRC Staff</u>	<u>Applicants</u>	<u>Observers</u>
T. A. Ippolito	J. B. George	None
S. B. Burwell	G. R. Clements	
W. H. Lovelace	D. R. Woodlan	
A. L. Vietti	T. W. Rose	
P. W. O'Connor		
W. C. Seidle		
C. E. Wisner		

Monday, May 7, 1984; NRC Nuclear Reactor Regulation Offices

<u>NRC Staff</u>	<u>Applicants</u>	<u>Observers</u>
W. J. Dircks	M. D. Spence	R. Fly, Dallas Times Herald
V. Stello	L. F. Fikar	
J. T. Collins	J. B. George	
D. G. Eisenhut	B. R. Clements	
R. A. Purple	H. C. Schmidt	
T. A. Ippolito	J. T. Merritt	
R. A. Hartfield	R. E. Camp	
P. R. Bemis	J. B. Zimmerman	
D. W. Hayes	J. W. Beck	
B. J. Youngblood	N. S. Reynolds	
S. B. Burwell		
A. L. Vietti		
R. H. Wessman		
R. C. Tang		

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Meeting Summary Distribution

Docket File

NRC PDR  
Local PDR  
PRC System  
NSIC  
LB #1 Reading File  
OELD  
Project Manager S. Burwell  
M. Rushbrook  
W. Lovelace\*  
OFA\*

OTHERS

NRC PARTICIPANTS:

S. B. Burwell  
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A. L. Vietti  
D. L. Kelley  
T. A. Ippolito  
P. O'Connor  
W. C. Seidle  
C. E. Wisner  
W. Dircks  
V. Steilo  
J. Collins  
D. Eisenhut  
R. Purple  
R. Hartfield  
P. Bemis  
D. Haynes  
B. J. Youngblood  
R. Wessman  
R. Tang

\*Caseload Forecast Panel Visits