1430

RELATED CORRESPONDENCE

TRIAL LAWYERS FOR PUBLIC JUSTICE, P.C.
COUNSELLORS AT LAW
SUITE 611
2000 P STREET, NORTHWEST
WASHINGTON, D.C. 20036
(202) 463-8600

ANTHONY Z. ROISMAN
EXECUTIVE DIRECTOR
ARTHUR BRYANT
STAFF ATTORNEY
BILLIE GARDE
DIRECTOR, ENVIRONMENTAL WHISTLEBLOWER PROJECT
BARBARA PRATT
OFFICE MANAGER
KATHLEEN CUMBERBATCH
SECRETARY

October 30, 1986

Peter B. Bloch, Chairman (by hand)
Atomic Safety & Licensing Board Panel
U.S. Nuclear Regulatory Commission
4350 East-West Highway, 4th floor
Bethesda, MD 20814

Dr. Walter H. Jordan (via Federal Express)
Administrative Judge
881 West Outer Drive
Oak Ridge, TN 37830

Dr. Kenneth A. McCollom (via Federal Express)
Administrative Judge
1107 West Knapp
Stillwater, OK 74075

RE: Texas Utilities Electric Co. (Comanche Peak)
Dkt. Nos. 50-445, 446 — OL

Gentlemen:

Pursuant to the previous request of the Board, this letter brings to your attention documents which have recently come into our possession that are extremely relevant to the matters now pending before this Board. These documents, along with many similar documents that we have not yet had time to review, were provided to us in discovery by Brazos Electric Power Cooperative, Inc., one of the applicants in this case. There are three documents, two of which are minutes of Owners Committee meetings and one of which is a memo, prepared by a consultant for some of the minority owners, of a conversation between that consultant and Mr. Counsil. We have not yet determined whether the failure to provide this information at an earlier date in response to other discovery requests addressed to all Applicants and served on TUEC as lead applicant is excusable neglect or improper conduct warranting imposition of sanctions.

The documents include the following material which we believe is of particular interest to the issues in this proceeding.

D503

1. Minutes of Owners Committee meeting, August 30, 1985.

   a. p. 5: identification of craft's failure to promptly report problems as a possible root cause of licensing problems

   b. p. 5: admission that CPRT will not and does not have a QA/QC program

   c. p. 6: reference to an NRC I&E report, or opinion, that the CPRT effort is inadequate

   d. p. 6-7: concession that CPRT is not totally independent from TUEC

2. Minutes of Owners Committee meeting, October 17, 1985

   a. p. 4: explanation of cause of design problems with cable tray supports

   b. p. 4: acknowledgement of problem with butt splices and its root cause (compare Results Report I.b.3)*

3. April 30, 1986, Memorandum from Jim McGaughy (Vice President, GDS Associates, consultant to some minority owners) to John Butts and Richard McCaskill re: April 25, 1986, meeting with William Counsil

   a. all of this memo reflects perceptions of Mr. Counsil (some of which are different from those expressed on behalf of Applicants in pleadings filed with this Board by Applicants' lawyers)*

   b. p. 3: replacement of G&H with S&W for most design work

   c. pp. 3-4: failure of TUEC to properly respond to an NRC Bulletin, major problems with electrical wiring and decision to rerun electrical penetrations (thus, we believe, avoiding a full investigation into the causes and extent of the serious wiring errors; additional reinspections of environmental qualification data and mechanical qualification data of equipment does not, in our view, deal with the root causes of electrical wiring problems)*

---

* Material in parentheses represents CASE's interpretation of the implication of the information and not a paraphrase of what appears in the documents.

d. p. 4: difficulty in getting CPRT personnel to find and disclose root causes rather than looking for excuses.

e. pp. 4-5: recognition that most CPSES problems lead back to inadequate management and management failure as the basic root cause of the plant failures.

As our review of documents disclosed in discovery continues, we will advise the Board of other significant information.

Sincerely,

Anthony Z. Roisman

AZR/bp
enclosures
cc: Service List (w/enc.)
(by hand to Staff counsel and Mr. Reynolds)

C.P. owners meeting - R

MEMORANDUM

April 30, 1986

TO: John Butts
Richard McCaskill

FROM: Jim McGaughy

RE: April 25th Meeting
With Mr. William Counsil

On Friday, April 25th, I met with Mr. Counsil in his office in Dallas. This meeting had been arranged immediately after the emergency owners meeting on Friday, April 18th, at which problems in pipe hangers and electrical penetrations were discussed along with the announcement of the schedule delay. It had been about ten months since I had previously met with Mr. Counsil and two earlier proposed meeting dates had been changed or cancelled.

I opened the meeting informing Mr. Counsil of Tom Eddy's (REA) letter concerning the tracking of permits. I reminded him that a year ago I had pointed out that we felt it was difficult to track licensing commitments using the systems he had in place at that time. He remembered my observation and made the following comments. I paraphrase:

> "When I came to work there was no adequate tracking system for licensing commitments or other commitments for that matter. I was convinced that nothing was centralized. I found at least four or five programs, and maybe more than that, in different locations throughout our project. I had hired Mr. John Streeter as my assistant and I gave him the lead in organizing an overall system. We used the format and computer program in use at that time in the construction organization. We are imputing all commitments - we found in a thorough review of the FSAR all our NRC licensing letters and in the SSER's. I am also working on our management controls for configuration management. ("Configuration management" is a term used to describe a project's method of assuring that the specifications, drawings, calculations, actual 'as-built' plant, and the inspection records all match and are consistent with the licensing commitments.) We are in the process of putting all specifications and the licensing basis commitments into a computer-controlled

program. This will be the basis for our configuration management. I am also reviewing our records management program. We have too many master records vaults, there should only be one. We now have a vault for operations, one for engineering and one for general office, all of which could be different in any particular aspect. I hope to have this program laid out by the first week in June. Stone & Webster is proposing a program to handle this. I have also developed a hierarchy of procedures for use on Comanche Peak. It begins with a master policy issued by Mike Spence, delegating to me the authority to run the project. Then I will issue a series of policies from which the various managers reporting to me can develop their procedures. I have decided that FSAR Chapter 17.1 and 17.2, which describe our operational quality assurance program, are not practical. I am developing a topical report to describe a revised program which I will file with the NRC soon." (I have attached an index of Mr. Counsil's procedure hierarchy.)

I then asked Mr. Counsil what were his observations in looking back over the year he had been with the project. Mr. Counsil's answer went like this:

"Before I came to work at Texas Utilities, I held extensive discussions with project personnel, architect engineers, the NRC, and others and the general conclusion was that this plant had been well built but that project licensing personnel had not properly handled the interface with the NRC, the intervenors and the public. There were no serious technical problems. However, the 8 K issued on April 18th is now a recognition that there are some rather serious technical problems that must be dealt with. When I first toured the plant I was sure we had some pipe hanger problems. Some of the hangers, the trapeze type hangers, I had never seen in a nuclear power plant that we had built at Northeast Utilities. Also, 60% to 80% of all the allegations had dealt with pipe support problems so I knew if any problems existed they would probably be some in the piping area. For that reason, I hired Stone & Webster who I had worked with extensively in the past to reanalyze all Class 2 and 3 piping and the associated hangers and supports. It has

now become apparent that because of some bad input data from Gibbs & Hill to Westinghouse we will also rerun the Class 1 piping. We cannot duplicate the stiffness values for the supports as supplied by Gibbs & Hill. Stone & Webster will recalculate the stiffness values and Westinghouse will rerun the analysis. I do not expect any major problems to come out of this. There are a few trapeze hangers in Class 1 systems which must be replaced in any case. I believe this number to be six or seven hangers."

In regard to Class 2 and 3 large pipe hangers, Mr. Counsil stated that 3700 hangers would be modified in some way. The breakdown is estimated as follows:

- 1000 snubbers will be deleted as determined by Stone & Webster to be unnecessary;
- 700 box supports will have shims added;
- 700 supports with cinched U-bolts will have the U-bolts replaced with a strap;
- 700 cinched U-bolt supports will be tightened only;
- about 100 specialty hangers will be completely replaced and there will be 150 new supports;
- others to make up the total of 3700 are very minor modifications.

Mr. Counsil stated that the piping allegations had been classified in 33 categories by Stone & Webster and the final report should be out by July. The program is now 70% to 75% complete. Mr. Counsil stated that Gibbs & Hill had been replaced in most design areas in the plant because he felt they had a lack of credibility with NRC and the public and that someone different was needed to provide assurance that the design was correct.

I then asked Mr. Counsil about the containment electrical penetrations. Mr. Counsil stated that the original question concerning Bunker-Ramo penetration was first raised by the NRC in Bulletin 82-04. (The fourth bulletin in 1984.) This bulletin raised a number of questions concerning the Bunker-Ramo penetrations which TU answered without a thorough investigation of the problems. In January 1986, a cable splice was found in the cable tray, which is not allowed by code. Cable tray splices, if they exist, must be justified by analysis and no analysis existed. Inspections revealed many other problems, a

total of 12 different classes of problems, which included splices, improper shrink insulation, unqualified tape, exposed bare wire, and other problems including manufacturing and inspection records. Because of these problems, all the Bunker-Ramo electrical penetrations are being replaced in Unit 1 and Unit 2.

Because of the questions raised by these penetrations and also the pipe hangers, Mr. Counsil is ordering additional inspections; specifically a 100% review of the environmental qualification data and the mechanical qualification data of plant equipment.

I then asked Mr. Counsil why it was taking so long to get Results Reports out. At the February 6th NRC meeting, Mr. John Beck had stated that the first five Results Reports would be out before the end of February and in reality it was towards the end of April before these reports got out. I asked Mr. Counsil why it was difficult to get these reports out. Mr. Counsil stated the difficulty was in doing the root cause analysis of the problems. He stated that he was having difficulty getting those writing the reports to "call a spade a spade". Mr. Counsil stated that he felt the report writers were trying to find excuses to justify the problems instead of placing responsibility squarely where it should go.

He feels that most of the problems lead back to inadequate management. Because of inadequate management, he has been bringing in experienced people in all the management positions below him. He feels that the organization has good people but an experience base is lacking. His commission by TU management was to make Texas Utilities number one in the nuclear business and to do that he has been replacing the old management with experienced management. The organization he found when he came had no commercial nuclear experience to help the younger talented people develop.

I then reviewed several specific areas with Mr. Counsil and he stated the following:

- the seismic gap cleaning should be completed in the fall;
- the duct work hanger problem is troubling and similar to other problems but should be completed soon;

- the Unit 2 progress reports have been revised and should have already been mailed to all parties, including us;
- the overall root cause assessment could have been completed by now and that the problem was management failure, i.e., bad direction, controls and inexperience, but that he will wait for the program to come up with the results which he will review.

I then asked Mr. Counsil about the new project estimate. He stated as follows: The earliest the estimate will be out will be by August. In this estimate, all the rework will be broken out separately so that Stone & Webster costs and all rework can be identified separately. In terms of schedule, he feels that all rework, the condenser, and other modifications can be completed by the end of this year. Included in that rework will be a new hot functional test program. Because of all the new hangers and hanger modifications the system must be heated up again to check pipe expansion. In terms of Unit 2, Mr. Counsil states that the critical path to completing Unit 2 lies in the successful completion of Unit 1. He is investigating perhaps a separate operating organization for Unit 2 to expedite that work. He expects to greatly reduce construction craft in Unit 2 by fall.

I completed my discussions after the scheduled one and one-half hours by Noon on Friday, April 25th. Mr. Counsil was most open and frank and I feel is making great progress toward turning this project around.

JPMc:esp
Attachment

MEMORANDUM

August 30, 1985

TO: Mr. W. G. Counsil

Nuclear Engineering and Operations (NE&O) Nuclear Policy
for Texas Utilities Generating Company (TUGCo)

Attached to this letter are Policy Statements which identify TUGCo corporate goals and objectives. I have reviewed and approved these statements as our Corporate Nuclear Policy, effective immediately.

You are hereby requested to initiate the NE&O Policies and Procedures that will ensure implementation of these Policy Statements. Please send me copies of the documents.

Michael D. Spence

MDS:msc

Attachment

NUCLEAR ENGINEERING AND OPERATIONS GROUP NUCLEAR POLICY

The principle objective in the design and operation of the Comanche Peak Steam Electric Station (CPSES) is to protect the health and safety of the public and TUGCo employees. The second objective is to provide reliable, economic electric power to our customers.

To meet these objectives, TUGCo recognizes that it must have competent operating and support personnel that are properly trained and have adequate resources to perform their assigned responsibilities.

In order to achieve these objectives, the TUGCo Executive Vice President shall accept the following responsibilities:

1. Assure that CPSES is constructed, tested, operated and maintained safely and in accordance with all applicable corporate, industrial and government requirements, and that activities affecting plant safety are subject to independent review.

2. Assure that sufficient and qualified personnel are provided at CPSES to safely and efficiently operate and maintain the plant. This includes the establishment and approval of the qualification requirements for all CPSES positions and certification of licensed operators and plant personnel in the category of managers. This also includes the establishment and approval of the qualification requirements for all off-site staff management positions that support safety related activities at the plant.

3. Assure that sufficient and qualified technical and engineering support staff are maintained to:

   a. perform timely evaluations of operating events having safety significance, and

   b. perform timely and cost-effective plant modifications as needed to meet applicable industrial standards, regulatory requirements, or to achieve higher plant reliability.

4. Implement a program for the training of operating, technical, managerial and engineering support personnel to assure that each individual is qualified for the function and responsibilities assigned; that individuals maintain their qualification levels, and have further opportunity for personal and professional development. Periodic appraisal of the effectiveness of the program and the performance of individuals will be conducted.

5. Maintain a corporate quality assurance program to minimize deficiencies or unacceptable deviations during the design, construction, pre-operational testing, operating and maintenance of CPSES. Overall effectiveness of the quality assurance program shall be regularly reported to Corporate Management, and direct access will be provided for any quality assurance concerns requiring mitigating action by management, should the normal communication chain prove ineffective.

6. Develop and implement a plant reliability program to assure that the CPSES has achieved and maintains corporate reliability goals.

7. Develop a plant water chemistry program to assure reasonable plant component lifetimes.

8. Provide a comprehensive nuclear fuel management program, including the safe storage and disposal of both low and high level wastes.

9. Maintain a corporate program to ensure occupational radiation exposures are kept as low as reasonably achievable.

10. Maintain an industrial safety program at CPSES to assure adequate personnel health and safety.

11. Provide a comprehensive fire loss prevention/protection program.

12. Provide a comprehensive environmental monitoring program.

13. Implement the capital and expense program to properly monitor and control expenditures.

14. Implement a Corporate Business Review program that establishes and evaluates departmental goals and objectives for fulfilling the organization's purpose and task, and enhances employee performance, productivity and morale.

15. Develop and implement reporting programs for notification of significant items to management, state and federal agencies, such as:

    a. defects and non-compliances pursuant to 10CFR21,

    b. significant deficiencies or deviations pursuant to 10CFR50:55,

    c. facility changes involving unreviewed safety questions pursuant to 10CFR50:59,

    d. significant events or nuclear incidents pursuant to 10CFR50:72,

    e. deficiencies and violations of plant procedures and/or technical specifications, where review concurrence of corrective action to be taken to preclude recurrence is deemed necessary.

16. Obtain and maintain the necessary licenses to load fuel and operate CPSES throughout its design lifetime by providing direction, coordination, and support of licensing activities. Assure that TUGCo licensing positions are reasonable, consistent, and protective of the public health, safety, and the environment. Maintain liaison with government regulatory agencies.

17. Assure the coordination of emergency preparedness for TUGCo personnel and all emergency related offsite organizations. This includes interfacing with federal, state, and local organizations to ensure a satisfactory integrated program for responding to emergencies related to CPSES (radiological or otherwise).

18. Implement a security program at CPSES based on the TUGCo Security Policy dated June 6, 1982 and upon 10CFR73, Section 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Industrial Sabotage."

19. Implement a drug abuse program in conjunction with the TUGCO Employee Assistance Program which meets the objective of eliminating drug abuse or its effects from the work place and complies with the requirements of the NUMARC program.

20. Assure the development and implementation of an integrated procurement program to support CPSES.

21. Implement programs such as the "Safe Team and Hot Line Program" during construction and operation to encourage the reporting of quality concerns and the timely investigation and resolution of those concerns.

22. Specify the requirements, establish the interfaces and assure that adequate support is available from other TUGCO and TUEC organizations when deemed necessary to carry out any of the responsibilities noted above.

Michael D. Spence 8-30-85

M. D. Spence
President
Texas Utilities Generating Company

Date

TEXAS UTILITIES GENERATING COMPANY

NUCLEAR ENGINEERING AND OPERATIONS

POLICY STATEMENTS

Table of Contents

TEXAS UTILITIES GENERATING COMPANY

NUCLEAR ENGINEERING AND OPERATIONS

POLICY STATEMENTS

Table of Contents

NEO POLICY STATEMENT
STARTUP QUALITY ASSURANCE PLAN

The Startup Quality Assurance Plan establishes the quality assurance requirement commensurate with 10CFR50, Appendix B and the Final Safety Analysis Report. The Plan shall assure that Comanche Peak Steam Electric Station's (CPSES) structures, systems and components will be subjected to test, by qualified personnel, to verify that the plant has been properly designed and constructed and that it is ready to operate in a manner that will not endanger the health and safety of the public.

All persons performing work under the guidance of this Plan are required to familiarize themselves with the policies, procedures and guidelines set forth in this Plan and are responsible for executing those requirements that are pertinent to their respective assignments.

The overall responsibility for the establishment of the Startup Quality Assurance Plan rests with the Executive Vice President, Nuclear Engineering and Operations. The authority to implement the requirements of this Plan is delegated to the Manager, CPSES Startup, who has complete support of the company's management. All aspects of this Plan are subject to review and audit by the TUGCO Quality Assurance organization.

This Plan is in effect from the date of issue until the completion of the Startup program for CPSES Unit 2.

Draft revisions, additions to, and audits of this policy statement are the responsibility of the Manager, CPSES Startup. Final approval of all revisions or additions is the responsibility of the Executive Vice President, Nuclear Engineering and Operations.

W. G. Counsil
Executive Vice President
Nuclear Engineering and
Operations

Policy No.: 35
Rev.: 0
Date: 1/27/86
Page 1 of 1

NEO POLICY STATEMENT

CONDUCT OF OPERATIONS IN THE CONTROL ROOM

It is the policy of Texas Utilities Generating Company (TUGCO) Nuclear Engineering and Operations (NEO) to conduct all operations in the control room of Comanche Peak Steam Electric Station (CPSES) in a manner that will ensure the safe, reliable production of power to the system, and which will not cause any risk to the health and safety of the public. Toward this end, the professional conduct of employees in the CPSES control room and throughout the plant shall have as its basis:

- a detailed knowledge of all aspects of plant status by licensed control room operators;
- maintenance of an orderly and clean working environment;
- aggressive action of the operating staff to prevent operational problems; and
- the correction of observed deficiencies.

Potentially distracting activities are prohibited (for example: radios, television, alcohol use or drug abuse, games, horseplay, hobbies, and non-job related reading).

The overall responsibility for the safe, efficient operation of CPSES rests with the Executive Vice President, Nuclear Engineering and Operations. The Vice President, Nuclear Operations is responsible for the performance of employees (both licensed and non-licensed) at CPSES, and he shall ensure that appropriate procedures addressing the intent of this policy statement are in place.

Draft revisions, additions to, and audits of this policy statement are the responsibility of the Vice President, Nuclear Operations. Final approval of revisions or additions to this policy statement rests with the Executive Vice President, Nuclear Engineering and Operations.

W. G. Counsil
Executive Vice President,
Nuclear Engineering and Operations

10/17/55

TEXAS UTILITIES GENERATING COMPANY

SKYWAY TOWER • 400 NORTH OLIVE STREET, L.B. 81 • DALLAS, TEXAS 75201

JOHN W. BECK
VICE PRESIDENT

September 18, 1985

Mr. R. E. McCaskill
Executive Vice President and General Manager
Brazos Electric Power Cooperative, Inc.
P. O. Box 6296
Waco, Texas 76706

Mr. J. H. Butts
Manager
Tex-La Electric Cooperative of Texas, Inc.
P. O. Box 1623
Nacogdoches, Texas 75961

Mr. E. L. Wagoner
General Manager
Texas Municipal Power Agency
P. O. Box 7000
Bryan, Texas 77805

SUBJECT: Owners Committee
Comanche Peak Steam Electric Station
Minutes of Meeting on August 30, 1985

Gentlemen:

Enclosed are the minutes of the regular meeting of the Owners Committee held August 30, 1985 in the Hilton Inn at Dallas-Ft. Worth International Airport.

As discussed in the last meeting, I have added each of you on the distribution to receive the Unit 1 and Unit 2 status reports on a regular basis.

The next scheduled meeting of the Owners Committee will be held on October 17, 1985 at the Dallas-Ft. Worth International Airport. I will advise you as to the specific location.

Very truly yours,

John W. Beck
Chairman

JWB/kc
Enclosure

cc: M. D. Spence
W. G. Counsil
T. M. Ozymy
T. W. Rose
J. C. Kuykendall
H. C. Schmidt
B. Harp

COMANCHE PEAK STEAM ELECTRIC STATION
REGULAR MEETING OF OWNERS COMMITTEE
AUGUST 30, 1985

A meeting of the representatives of the CPSES Owners Committee was held in the Hilton Inn at DFW International Airport on August 30, 1985 at 10:00 a.m.

The following members were present, constituting a quorum:

J. W. Beck - TUGCO (Chairman & Member)
T. M. Ozymy - TUGCO (Vice Chairman & Alternate)
M. P. Tate - TMPA (Member)
E. L. Wagoner - TMPA (Alternate)
R. E. McCaskill - BEPC (Member)
W. B. Townsend - BEPC (Alternate)
J. H. Butts - Tex-La (Member)
T. W. Rose - TUGCO (Secretary)
J. C. Kuykendall - TUGCO (Alternate Secretary)

The following were present as guests:

J. P. McGaughy - Tex-La/Southern Engineering
J. D. Copeland - BEPC
J. Bailey - TMPA
J. B. George - TUGCO
E. Powell - TUGCO
H. C. Schmidt - TUGCO
F. Shants - TUGCO

The Chairman, J. Beck, opened the meeting and distributed the Agenda (copy attached). The proposed agenda had been sent to all members by letter from Mr. Beck dated August 13, 1985. Several additions were suggested by Tex-La (Southern Engineering) and BEPC prior to the meeting and were incorporated into the final agenda.

The Chairman introduced T. W. Rose, the new secretary elected at the last regular meeting (Mr. Rose was unable to be present at June 28, 1985 meeting).

Agenda Item I. Administrative Matters

A. Mr. Beck requested a motion for approval of the minutes of the last CPSES Owners Committee meeting. Upon motion duly seconded, the minutes of the June 28, 1985, meeting, as distributed by the Chairman on July 31, 1985, were approved. Mr. McCaskill of BEPC commented that these more detailed meeting minutes better met the members' needs.

B. Mr. Beck briefly mentioned the amendments to the Indemnity Agreement between the owners and NRC that had been sent to the members. The original effort to complete signing of the amendments to this agreement will be resolved later. There were no questions.

C. Mr. Beck suggested that, due to the increased flow of more detailed information from TUGCO to the owners, the "Monthly Summary Status Report" be discontinued (this report is a compilation of several CPSES project status reports). Mr. Beck felt that more timely information currently was being sent to the owners. For example, Mr. Beck stated that the Unit 1 & 2 TUGCO CPSES project status reports were being sent directly to Southern Engineering Co. (consultant to Tex-La). Mr. McCaskill suggested that these reports be sent regularly to all members of the CPSES Owners Committee. Mr. Beck agreed that these reports would be added to the list of items being sent to all members. The proposed discontinuance of the monthly status report was agreed to by all members.

Agenda Item II. Review of Construction Activities

Mr. Beck called on J. B. George to discuss this agenda item.

A. Mr. George stated that Unit 2 is scheduled for fuel load in late 1986 and that they are currently running 58 days negative. The current construction critical path item is installation of electrical commodities in the safeguard building. Mr. George stated that approximately 0.7 million feet out of a total of 2.5 million feet of cable remain to be installed. They are working seven days a week, 2 shifts, and are completing approximately 20,000 feet of cable per week. The target schedule is to complete this area by April 1986.

Mr. George stated that the lessons learned from Unit 1 have been or are being incorporated into Unit 2. Most of the piping and piping supports have been installed on Unit 2. Approximately 900 out of 12,000 large bore pipe supports and 800 out of 16,000 small bore pipe supports remain to be installed. The current schedule calls for the completion of all commodities on Unit 2 by early 1986 at which time the startup program would be in full operation.

Mr. George briefly discussed the management approach being utilized in the completion of Unit 2. This management approach, the "Building Management" concept, assigns a work force team to each building (containment, safeguard, auxiliary, turbine generator, etc): each work force team includes TUGCO management personnel, B&R personnel and anyone else needed to complete that building. This approach was very successful in the completion of Unit 1. In addition, a systems expert has been assigned to each specific system to follow it to completion and to insure an effective interface with the startup program.

Mr. George then discussed the recent evaluation of the CPSES project by the Institute of Nuclear Power Operations (INPO). This evaluation was conducted on the engineering and construction management of the project, focusing on Unit 2. Mr. George stated that the reviewers from INPO appeared to be a good, very experienced group. He understands that the INPO report will be generally favorable to the project and that several "good practices" were identified. Mr. Beck added that he understands that the INPO evaluation turned out well and was indicative of good project management. The report is expected to be published by late September 1985.

B. In response to questions from members a discussion of the supervision of Brown & Root was added to the Agenda. Mr. George discussed generally the role of B&R on the CPSES project and some basic differences from the South Texas Project (Houston Lighting & Power). He stated that, in a broad perspective, the most difficult part of any nuclear project is engineering, not construction. CPSES has been managed in recent years by an integrated project management approach, with TUGCO as the general project manager. Mr. George stated that there had been and continues to be much more direct owner involvement in CPSES than most other nuclear projects.

In addition, Mr. George stated that he felt much of the criticism of management of construction was tied to allegations being made about the project. In addition to the SAFETEAM program instituted at CPSES, He stated that there has been a very active management program to train the craft to build a high quality plant that would operate safely and to encourage the craft to report any possible problems as soon as possible. He felt that craft not reporting problems in a timely manner may have been part of the problem in licensing the plant. Mr. Beck added that he believed that one of the INPO "good practices" from the recent evaluation was the craft training program.

Mr. Beck then asked for any questions concerning this Agenda item. Mr. McCaskill asked if there were any problems in documentation relating to construction. Mr. George responded that he believes that the management of the documentation function by the Document Control Center and the "paper flow groups" on the project was going to receive a "good practice" from INPO. The INPO evaluation included making approximately 80 random checks for accurate and up-to-date engineering/construction documentation in the field -- no deficiencies were found. Similar checks at other nuclear projects normally yield at best a 5-7% deficiency rate. Mr. Beck added that the project is giving the documentation system a good test with the on-going CPRT effort in addition to normal Unit 2 construction activities.

Mr. McGaughy asked if TUGCO was aware of the MAC reports conducted for B&R that were the subject of a notice sent to the ASLB by V. Noonan of the NRC. Mr. Beck responded that we had recently become aware of four reports that MAC had done for B&R relating to their corporate quality assurance program. These reports were not conducted for TUGCO or specifically for CPSES. Mr. Beck indicated that he thought the reports were written in the mid to late 1970s. Further, Mr. Beck stated that he believed that the bulk of the MAC effort was directed toward the South Texas Project -- one report doesn't mention CPSES at all and the other three make only a minimal mention of the CPSES project. Mr. Beck indicated that the reports were being reviewed by legal staff to determine if they are discoverable in the CPSES ASLB licensing hearings.

C. Mr. George discussed the current status and plans for the main condenser tube material replacement. He began by stating that each condenser had undergone hydro testing and all were in good condition, ready to run if needed. The copper-nickel tubes in the condensers, which were standard material at the time they were purchased, would not impair the initial operation of the units.

Mr. George stated that CPSES is a 4-loop Westinghouse PWR nuclear plant that has 4 steam generators. Each is a huge piece of equipment measuring 75 feet tall and weighing approximately 300 tons. The steam generators are used to transfer heat from the reactor coolant water (primary water system), which flows through tubes in the steam generators, to the secondary water/steam system, where steam is produced. This steam is used to spin the turbine-generator, thereby making electricity. As the low pressure, low temperature steam leaves the turbine, it flows into the main condenser, where it is condensed back into a liquid and used again to make steam. The tubes in the steam generators separate the reactor coolant water (radioactive) from the "clean" steam going to the turbine so leaks in these tubes can cause significant plant problems.

Several nuclear plants have had to replace or repair their steam generators due to corrosion related problems that have caused tube leaks. The Turkey Point Nuclear Plant (3-loop) had to completely change out its steam generators at a cost of more than $100 million and a 6 month outage. It has become apparent that costly steam generator problems are being experienced within the industry. TUGCO considers protection of the steam generators and the resultant plant reliability to be a high priority. It is in all the owners' interest to consider practical methods to avoid significant corrosion problems with the CPSES steam generators.

The secondary water/steam system has been designed to operate with an all volatile chemical treatment system and a full flow water polishing (cleaning) system. TUGCO hired Kraftwork Union (KWU), who has extensive experience in Europe, to evaluate our plant and recommend improvements to reduce or eliminate steam generator problems. KWU recommended operating our system with a higher pH (9.7 - 9.8), which would preclude the use of copper-based materials in the secondary system. Dissolved copper has been shown to be a significant contributor to steam generator problems in recent years.

Thus, TUGCO has decided to replace the main condenser tubes with titanium, and make several other less significant modifications. When the initial decision was made to install copper-nickel tubes, titanium had been used in only a few plants in almost exclusively salt water applications. Mr. George stated that TUGCO will be using a "modular" replacement scheme, whereby the whole tube bundle (2 per unit) would be fabricated prior to placement in the condensers. This method significantly reduces the amount of "down time" for the main condensers. Becon (Bechtel-nonunion) has been selected for the necessary excavation and concrete cutting work. The contract on actual tube replacement has not been let. Mr. George stated that TUGCO had initially decided to replace Unit 1 tubes after operation, but with the current delays there will be time to replace the tube modules prior to operation.

Mr. George concluded by indicating that the decision to replace condenser tubes was being reviewed as part of the CPSES retrospective - "prudence" audit currently being conducted.

Mr. McCaskill asked for a status of the Unit 2 budget. Mr. George responded that the 1985-86 budget was under development and would be finalized within the normal TUEC budgeting process.

Agenda Item III. Status of Operating License

A. Mr. Beck opened the discussion by reminding the owners that the 2nd revision of the CPRT plan was filed and delivered just after the last CPSES Owners Committee meeting. Comments have since been received from the NRC. Mr. Beck stated that the NRC Staff's comments were generally favorable. TUGCO is in the process of either incorporating these comments or developing rationale for not including them in CPRT. Further, Mr. Beck stated that the QA program for the CPRT has been a concern expressed by the NRC Staff. He characterized the CPRT effort as a massive QA/QC effort, in that it is double-checking the quality of engineering and construction of CPSES. Thus, TUGCO believed that a QA/QC program for the CPRT effort was not necessary, except for the CPRT consultants who follow their own corporate QA program during the course of their work. Project QA procedures are being applied to the Stone & Webster and Ebasco work.

However, due to the NRC Staff's comments, we have sent a letter to the Staff informing them that TUGCO will set up an independent group to audit the CPRT effort and provide a report to Bill Counsil. This independent audit group will determine which Appendix B criteria are applicable and audit those areas. In summary, Mr. Beck reiterated that the NRC Staff appears to be supportive of our efforts regarding both the CPRT and the Case Management Plan. Mr. Beck stated that the NRC Staff is closely monitoring the CPRT effort. He expressed confidence that following completion of the CPRT effort, even a doubting person will have trouble not accepting the program.

Next, Mr. Beck addressed the NRC Staff's response to the design adequacy portion of the CPRT, more specifically as it relates to Stone & Webster and Ebasco. He indicated that the NRC Staff, S&W and the CPRT third party consultants were reviewing the technical aspects of the plan. He stated that he doesn't know of any major problems with either program and expects the NRC to support them.

At this time, Mr. McGaughy asked a number of questions relating to the CPRT plan -- the questions and answers were as follows:

Q. Will G&H remain the Engineer of Record?
If problems are discovered by S&W, will work have to be duplicated by G&H?

A. Mr. Beck responded: Yes, G&H will remain as the Engineer of Record. G&H will overview the S&W effort to make sure that any changes don't adversely affect any other aspect of design but, duplication of effort will be avoided. Mr. George added that there is a written agreement between S&W and G&H that defines the interface and establishes G&H as engineer of record.

Q. Please explain the NRC Staff's comments relating to the breadth of the CPRT effort being somewhat inadequate.

A. Mr. Beck responded: The basis for these comments was coming from NRC Inspection & Enforcement. TUGCO has discussed these comments with Staff and will be responsive and incorporate them into the plan.

Q. Please explain the NRC Staff's comments relating to the basis for exclusion of Westinghouse design from the design adequacy program.

A. Mr. Beck responded: No significant design problems have been found with Westinghouse NSSS in the nuclear industry -- no reason to investigate. TUGCO will put detailed reasoning in writing and submit to NRC Staff. Westinghouse was involved in the analysis of some piping systems outside of the NSSS and these systems will be part of the design adequacy program.

Q. Please explain the NRC Staff's comments relating to procedural aspects of plan.

A. Mr. Beck responded: the procedures relating to CPRT are available to the NRC Staff but were too voluminous to include in the CPRT plan document.

Q. Please explain D. Eisenhut's comments in newspaper relating to testing programs on cable trays to justify existing design.

A. Mr. Beck responded: The general thrust of these comments focused on the changing of any FSAR commitments to justify existing designs. TUGCO will meet all current FSAR commitments except where impractical or overly burdensome. One example would be our current review of the commitment to early - mid 1970s seismic design criteria. By utilizing more sophisticated computer-based seismic design spectra, an improvement in time and cost might be obtained. TUGCO is currently evaluating the technical aspects of utilizing a more current seismic design spectra, but no decision has been reached at this time. This change would require us to submit a formal notice to the NRC requesting a change in this FSAR commitment. In conclusion, TUGCO would not attempt this type of action unless there is a solid technical basis for the change and it would greatly benefit the project.

Q. Do you need to specify this change prior to doing the current work?

A. Mr. Beck responded: the present work effort is tied to current FSAR commitments. We expect to make a decision on the seismic design spectra in September 1985.

Q. Are there any other new criteria being considered?

A. Mr. Beck responded: I have no knowledge of additional criteria being considered for change at this time, but the above mentioned change would have an extensive impact.

Mr. Beck continued with a discussion on the costs of the CPRT effort. He stated that the costs associated with specific action plans should be available in the near future. The overall cost of CPRT cannot be defined at this time due to uncertainty -- especially changes and additions required as a result of ASLB order received on August 29, 1985. Mr. Beck stated that the current plan is to accrue all costs of CPRT to the project and allocate these costs to all owners per the Joint Ownership Agreement.

B. Mr. Beck moved to a discussion of the status of the TUGCO ASLB Case Management Plan. The ASLB issued an order yesterday (August 29, 1985) relating to the management of the ASLB hearings on CPSES. The ASLB, in general, denied the motion for an expedited hearing process and also denied the intervenor motions. TUGCO is dissecting the order "line by line", but has not reached a decision on the response. Mr. Beck stated that, in addition to rejecting the TUGCO program to have the ASLB review the CPRT plan coincident with its execution, the Board opened the possibility of relitigating previously heard issues. In most cases the CPRT does not resolve past issues, therefore these would have to be addressed individually in the hearing process.

In contrast to the Board's decision, the NRC Staff has supported TUGCO's Case Management Plan. TUGCO will be looking very carefully at the whole program to resolve concerns. Copies of the Board order of August 29, 1985, were passed out to all meeting participants.

Mr. Beck stated that it appears that two big issues need to be resolved within the ASLB process -- Independence & Protocol. The Board stated that the acceptability of testimony on CPRT might be enhanced by a more independent group. However, in a later newspaper article the comments from the Board Chairman were softer and discussed the possibility that the CPRT could be done in such a manner that more independence would be moot. Mr. Beck stated that TUGCO's current position is that the CPRT will not be totally independent. He added that it would be impractical to have a completely independent CPRT. TUGCO feels that the current effort is clearly independent enough to accomplish its goals.

Mr. Beck stated that the NRC Staff has expressed some concerns that the CPRT effort needs a rigorous protocol. TUGCO's current approach is to have a full, open discovery process for CPRT where anyone can review any information. Another possibility would be the development of a notification process to alert the NRC Staff of any substantative meetings on CPRT. TUGCO has not made the final decision on how to respond to this, but will likely develop a notification mechanism for the NRC Staff.

C. See August 29, 1985 ASLB Order.

D. Mr. Beck then briefly discussed the projected schedule and budget for Unit 1. TUGCO recently has established an internal project schedule for budgeting purposes. This schedule will be updated on a bi-weekly basis and any changes will be identified in the CPSES Unit 1 Status report (Southern Engineering is currently on distribution for this report; all Owners Committee members will be provided copies of these reports when they are available). The current target date for Unit 1 fuel load is June 2, 1986, but is based on numerous assumptions. The current negativity (87 days) is tied closely to the earlier discussion of seismic design spectra -- the schedule indicated in the report is "worst case" and is based on no change in this FSAR commitment.

E. The Squaw Creek Park situation has been discussed in several newspapers. TUEC is looking into allegations very closely and is conducting an internal audit of all activities. Mr. Kuykendall was available to respond to any questions. No questions were asked.

F. Mr. Beck briefly discussed the June 3, 1985, audit report (DH&S) of CPSES expenditures. Mr. McCaskill stated that he believed the audit report is less detailed than that called for by the joint ownership agreement -- as owners in the project he felt like they needed to see more detail as to project costs. Mr. McCaskill concluded his comments by stating that he is not ready to call for an independent audit yet. Mr. Beck responded that he will look into these comments and respond at a later time.

G. In reference to ongoing negotiations, Mr. Beck reiterated that discussions with minor owners is taking place on an individual basis and would not be discussed at this meeting.

H. Mr. Beck asked for any other items that needed to be discussed at the meeting. Mr. McGaughy asked the following questions:

Q. In relation to the CPRT plan, are you aware of any uncertainties that might impact the conduct of the plan?

A. TUGCO is currently working toward publishing another revision to the CPRT plan by the end of September 1985. The speed of the inspections are somewhat slower than anticipated. However, out of 120 physical inspections, no significant safety problem has been found. There are some deviations, but none that would present a serious problem.

Q. What impact would not being able to change the FSAR commitment for seismic design spectra have on Unit 2 schedule?

A. Mr. Beck responded that the "worst case" schedule mentioned earlier assumes no FSAR commitment changes.

Agenda Item IV. Nuclear Fuel

Mr. Beck stated that TUGCO is looking at various opportunities to reduce expenditures for fuel due to changes in the nuclear fuel market and a buildup in fuel inventory levels which has resulted from schedule slippages. The option with the most possibility at this time is the sale of enrichment services (Separative Work Units - SWUs) on the secondary market. In addition to deferring expenditures for enrichment services it would also defer the need for purchases of feed materials (U_3O_8 and conversion services) for the enrichment process.

Mr. Beck discussed some of the steps TUGCO is taking at this time.

- Sale of enrichment services: this summer TUGCO sold some near-term (late 1985) SWUs; exploring sale of future near-term SWUs.

- TUGCO is working with DOE (enrichment) to alter contract commitments for future requirements - DOE Feedback is encouraging.

- TUGCO is working with Exxon to improve flexibility of contract. Mr. Beck stated that it is TUGCO's policy to have the longer-term "security" type contract for U_3O_8 so there is an assured supply. But, he stated that TUGCO will seek changes to the contract to add the flexibility of open market purchases. Mr. Beck also stated that TUGCO will try to shorten the contract for fabrication and increase competition for new and better technologies for fabrication.

Mr. Beck concluded this discussion by asking the owners if they had any questions or would like to sit down with TUGCO in the future and discuss these activities in more detail. There were no questions and Mr. Beck assured the group that they would be directly involved if any of these activities led to contract changes and asked them to call or write him anytime they wished to discuss this subject further.

Agenda Item V. Retrospective "Prudence" Audit Status

Mr. Beck then introduced Homer Schmidt to discuss the status of the "Prudence" Audit being conducted of CPSES (H. Schmidt is the Director of this Audit). Mr. Schmidt discussed the general aspects of the audit for those members who are not familiar with it.

TUEC decided last fall to conduct a retrospective "prudence" audit of CPSES due to events throughout the industry and changes in the Texas laws that govern the regulation of utilities. The Texas PUC did not mandate this audit, but has concurred with the selection of the auditor and scope of work. Late last year TUEC selected Cresap, McCormick & Paget (CMP) to conduct the audit of CPSES on the entire project from the initial decisions in 1971-72 all the way up to fuel load in Unit 1. CMP assigned approximately 20 auditors to this project and began the audit in early 1985.

CMP has completed the reconnaissance phase of the audit in which they conducted a broad review of the project, including interviews with key personnel and collection of documentation. They currently are in the fact-finding phase in which they collect all the facts they need to evaluate the project. TUGCO has received in excess of 1000 requests for information from CMP. They rely heavily on having written documentation upon which to support their evaluations. TUGCO has responded to approximately 90% of the requests at this time.

CMP will continue their fact-finding phase up to fuel load. CMP will not publish a draft report until we get close to fuel load. In the audit, they have covered numerous areas of investigation, including project management, decision to build and continue building, internal audit, etc. They recently have added a review of the condenser tube change-out modification that was discussed earlier in this meeting. CMP has met periodically with the Texas PUC staff and would like to meet with the minor owners at some point. Mr. Schmidt stated that he would call and set up these meetings prior to fuel load.

Agenda Item VI. Comments From Owners Committee Members

Mr. Beck then asked if any of the members had any further questions or comments. Mr. Butts asked what kind of reaction we are getting from the NRC regarding the TUGCO management changes. Mr. Beck stated that TUGCO has received good feedback from the NRC Staff. One open slot remaining is the Vice President of Nuclear Operations -- TUGCO is looking to fill this slot. Mr. Beck concluded that TUGCO has received good feedback from the NRC Staff in this area and that he felt TUGCO has a good relationship with the Staff at this time.

Mr. McCaskill asked if TUGCO was negotiating with Exxon to improve the terms of the settlement reached with them in the past. Mr. Beck indicated that this settlement was with Westinghouse and not Exxon.

Agenda Item VII. Schedule & Place for next Meeting

Mr. Beck offered several dates in mid-late October with general agreement from the group that October 17, 1985 is the date for the next CPSES Owners Committee meeting. The meeting is scheduled to begin at 10:00 a.m. and will be held at DFW International Airport. A memo with the specific location and proposed Agenda will be sent out to all owners prior to the next meeting.

T.W. Rose
Secretary

Attachment to minutes
August 30, 1985

Comanche Peak Steam Electric Station
Owners Committee
Hilton Inn D/FW Airport
Friday, August 30, 1985, 10:00 a.m.

AGENDA

I. Administrative Matters — J. W. Beck

A. Approval of June 28, 1985 Meeting Minutes
B. Amendments to Indemnity Agreement
C. Monthly Progress Reports

II. Review of Construction Activities — J. B. George

A. Unit 2 Critical Path Items
B. Supervision of Brown & Root
C. Condenser Tube Change Out
   1. Status & Schedule
   2. Contractor

III. Status of Operating License — J. W. Beck

A. CPRT Plan
   1. Status
   2. Feedback from NRC on CPRT Program
   3. Feedback from NRC on Stone & Webster Analysis
   4. Feedback from NRC on Ebasco Analysis
   5. Estimated Cost for CPRT Program
   6. Allocation of Costs for CPRT Program
B. TUEC Case Management Plan (ASLB)
   1. Staff Comments
   2. Intervenor Comments
   3. Board Order
C. Docket 2 (HITs)
   1. Results of June 28, 1985 Pleadings
   2. Current Status
D. Project Budget and Schedule
E. Squaw Creek Park Situation
F. June 3, 1985 Audit Report
G. Negotiations with Minority Owners
H. Other Significant Items Since Last Owners Committee Meeting

IV. Nuclear Fuel — J. W. Beck

A. Recent Policy Changes
B. Contract Renegotiations

V. Retrospective "Prudence" Audit Status — H. C. Schmidt

VI. Comments from Owners Committee Members

VII. Schedule and Place for Next Meeting

TEXAS UTILITIES GENERATING COMPANY
SKYWAY TOWER · 400 NORTH OLIVE STREET, L.B. 81 · DALLAS, TEXAS 75201

JOHN W. BECK
VICE PRESIDENT

November 11, 1985

Mr. R. E. McCaskill
Executive Vice President and General Manager
Brazos Electric Power Cooperative, Inc.
P. O. Box 6296
Waco, Texas 76706

Mr. J. H. Butts
Manager
Tex-La Electric Cooperative of Texas, Inc.
P. O. Box 1623
Nacogdoches, TX 75961

Mr. E. L. Wagoner
General Manager
Texas Municipal Power Agency
P. O. Box 7000
Bryan, TX 77805

SUBJECT: October 17, 1985 CPSES Owners Committee Meeting Minutes

Gentlemen:

Enclosed is a copy of the minutes from the October 17, 1985 CPSES Owners Committee Meeting.

The next regular meeting of the CPSES Owners Committee is scheduled for December 11, 1985 at 10:00 a.m. at DFW Airport. A proposed agenda will be sent to you prior to the meeting.

Very truly yours,

John W. Beck
Chairman

JWB:kp

Enclosure

c - M. D. Spence
W. G. Counsil
R. A. Wooldridge
T. M. Ozmun
T. W. Rose
J. C. Kuykendall
J. P. McGaughy (Southern Engineering)

COMANCHE PEAK STEAM ELECTRIC STATION
REGULAR MEETING OF OWNERS COMMITTEE
OCTOBER 17, 1985

A meeting of the representatives of the CPSES Owners Committee was held in the Hilton Inn at DFW International Airport on October 17, 1985 from 10:00 a.m. to 12:00 noon.

The following members were present, constituting a quorum:

J. W. Beck - TUGCO (Chairman & Member)
T. M. Ozymy - TUGCO (Vice Chairman & Alternate)
M. P. Tate - TMPA (Member)
E. L. Wagoner - TMPA (Alternate)
R. E. McCaskill - BEPC (Member)
J. H. Butts - Tex-La (Member)
T. W. Rose - TUGCO (Secretary)

The following were present as guests:

J. Nichols - Tex-La
J. D. Copeland - BEPC
J. Bailey - TMPA
J. P. McGaughy - Tex-La/Southern Engineering
J. T. Merritt - TUGCO
R. E. Camp - TUGCO
R. C. Janne - TUGCO
H. C. Schmidt - TUGCO
L. E. Powell - TUGCO

The Chairman, John Beck, opened the meeting and distributed the agenda (Attachment A). The proposed agenda had been sent to all members by letter from Mr. Beck dated October 3, 1985. Two additions to the agenda were requested by Brazos Electric Power Cooperative, Inc. (letter from McCaskill dated October 8, 1985) and were incorporated into the final agenda.

Agenda Item I. Administrative Matters

A. Mr. Beck was informed prior to the meeting that the members had not received the minutes from the August 30, 1985 meeting. Therefore, Mr. Beck did not request that the minutes of the previous meeting be approved at this time. Mr. Beck stated that he would investigate the cause of the problem and resolve it. Copies of the minutes were handed to some parties just prior to the meeting, however a copy will be formally mailed to all members as soon as possible.

Agenda Item II. Review of Construction Activities

Mr. Beck called on R. E. Camp (Assistant Project General Manager - Unit 1) to discuss the status of Unit 1 activities.

A. Mr. Camp began by stating that the CPRT effort on Unit 1 is segregated into three basic areas of work, as described in the CPRT Program Plan (Rev. 2). These three areas are, the Issue Specific Action Plans, the Design Adequacy Program and Construction Adequacy Program. In the area of the Issue Specific Action Plans (ISAP), the CPRT is in the final phases of closing out the work in the electrical, mechanical and testing portions. Most of the major remaining work items are in the Civil/Structural area preparing and reviewing the results reports and obtaining approval by the Senior Review Team.

- Control Room Ceiling: the old ceiling has been removed and design for the new ceiling is essentially complete. Construction has begun recently on the new ceiling.

- Steam Generator Upper Lateral Restraints: Analysis of the existing design is in progress with completion expected by late October. Minor modifications for the beam to structure connections are expected.

- Structural Gap Between Buildings: Some "hard" debris has been found in the gap between some concrete building walls. This debris (concrete, bolts, etc.) must be removed. TUGCO is bringing in a contractor to remove this miscellaneous debris. TUGCO expects the gap cleaning operation to take approximately 16 weeks.

At this time, Mr. McGaughy asked who was going to perform the gap cleaning work. Mr. Camp replied that TUGCO was going to use a division of Bisco that specialized in this type of work. Mr. McGaughy asked for a brief explanation of the type of work involved. Mr. Camp responded that the work mainly involved cutting the debris with special tools and vacuuming the remains from between the walls. Mr. Camp explained that the gap varied from two to six inches, thus making the job difficult and time consuming.

Mr. Camp continued with a discussion of the Design Adequacy Program. He stated that in all areas except civil/structural, TUGCO expects to be complete with the Design Adequacy Program by January 1986. The major work effort remaining in the civil/structural area is the as-built design verification program for cable tray supports. In addition, TUGCO expects some rework in this area due to extensive inspections and to correct some design errors.

Mr. Camp also said that the project has completed approximately 500 as-built drawings of the approximately 4,500 cable tray supports and has sent them to Ebasco for design verification. The production of as-built drawings for cable tray hangers has been on-going for six to seven weeks. Ebasco is now beginning to perform the design verification of these cable tray supports.

Mr. Tate asked for a more detailed explanation of the seismic gap situation discussed earlier. Mr. Beck responded by stating that the effort to clean the hard debris from between the walls is very difficult due to the small gap and the height of the walls (90 feet in some places). This effort will require special tools to reach, cut and vacuum the debris. This is being required because of uncertainties relating to the transfer of seismic related loads from one wall, through the debris, to the other wall. The buildings are not designed for significant seismic load transfer between these walls. Other plants around the country are also removing debris to resolve similar concerns.

Mr. McGaughy asked what confidence TUGCO has in being able to complete the as-built design verification on the cable tray supports in 12 weeks. He pointed out that it took six weeks to do 10 percent of the as built drawings and Ebasco is just now beginning the design verification of the as-built drawings. Mr. Camp responded that TUGCO originally planned to complete all of the as-built walk-down drawing effort by mid-December. TUGCO has 25 qualified walk-down teams that can produce as-built drawings at a rate required to support completion of the as-built effort in late December 1985 or early January 1986 and complete the design verification by March 1986. Mr. Camp stated that TUGCO is running about one month behind in this effort.

Mr. McGaughy asked if this schedule reflected possible rework of cable tray supports due to design verification analysis. Mr. Camp responded that any needed rework will be performed upon completion of each part of the design verification process and TUGCO would not wait until the completion of the total design verification process to perform any rework. TUGCO expects to complete all aspects of cable tray support as-built design verification, including any rework, by May 1986.

Mr. McGaughy then asked if TUGCO was performing a similar as-built analysis for pipe supports and if any such analysis would require rework. Mr. Camp responded that the as-built program for pipe supports for Unit 1 & Common was complete. However, Stone & Webster has performed a walk-down on a sample of supports to determine the adequacy of existing as-built data for use in the reanalysis to be performed. Twenty four out of a total of 300 stress problems have been analyzed by Stone & Webster, but no final drawings have been issued to the site. To be conservative, rework is being anticipated on a relatively high number of pipe supports (1000 - 1500).

However, this number is hypothetical since the design review is incomplete. Mr. Beck added that he knows of two areas of possible rework of pipe supports. One area involves about 16-18 large pipe supports on the main steam line that will require some rework. The other general area involves U-bolt type pipe supports that will be modified (most of potential 1000-1500 modifications are in this area). However, Mr. Beck stated that TUGCO will not know any of this for sure until the analysis is complete.

Mr. McCaskill then asked if the as-built analysis programs are the critical path on completing the CPRT program. Mr. Beck responded that the as-built program (79-14) effort for pipe supports was complete and that S&W has reviewed this program and has found no major problems. In the area of cable tray supports , however, there are questions about design adequacy. These questions result from the practice of using a generic "cook book" design that allowed decisions to be made in the field. This has caused concern about the QC effort relating to the cable tray supports. In order to resolve these concerns, TUGCO has decided to perform an as-built design verification and reinspection of cable tray supports.

Mr. McGaughy asked if TUGCO had expanded the 79-14 program for pipe supports (as-built) as a result of S&W analysis. Mr. Camp stated that there was some concern about the angularity of certain snubbers and valves and that the attributes would be reverified on a stress problem by stress problem basis prior to reanalysis. Mr. Beck added that while the S&W analysis caused TUGCO to look closer at several things, it did not expand the as-built 79-14 program.

Mr. McGaughy went on to say that in reviewing the correspondence between TUGCO and the NRC, he noticed an increase in the number of 50.55(e) reports, especially in the area of butt-splices. Mr. McGaughy asked if TUGCO could explain this occurrence. Mr. Camp responded that one of the TRT issues was related to butt-splices of electrical cables. Through various inspections, tests and document reviews, there were concerns about an inspector that was involved in a large number of the document and hardware deficiencies identified during the reinspection and evaluation of the butt-splice issue. Since the TRT review, TUGCO has reviewed each of the areas of concern thoroughly and has sent 50.55(e) notices to the NRC on those issues required to be reported. Mr. Beck added that through a computer analysis, TUGCO discovered that the problems identified with butt splices were directly related to a specific inspector, who has been terminated. Mr. Beck stated that TUGCO will reinspect everything this inspector inspected that has not already been reinspected by someone else.

Mr. McGaughy then asked if TUGCO had a projected schedule for completion of the civil/structural aspects of the design adequacy program. Mr. Camp stated that he expected to be complete with half of the effort by the end of the year and to complete the remainder in January-February 1986, except for cable tray supports as previously discussed.

Mr. McGaughy then stated that in relation to 50.55(e) reports, he read one that discussed some concerns about plant temperatures during normal operating conditions. He asked if this was the same problem that related to non-seismic HVAC systems. Mr. Camp stated that this 50.55(e) was related to the HVAC systems being supplied power by the non-class IE power supplies. The problem has not been resolved at present.

Mr. McCaskill asked if the number of employees had gone up or down recently. Mr. John Merritt responded by stating that the work force on site had slowly increased the last few months and had recently peaked at about 5200 total people. This figure separated into various types of personnel are as follows:

Craft	-	2931	
Engineering	-	1031	
Support	-	1260	(subcontracts, CPRT, ACCT, etc.)
		5222	

Mr. Merritt stated that about 500 craft personnel were assigned to Unit 1 with the ability to pull additional resources from Unit 2 as needed.

Mr. McCaskill asked if anyone knew the number of employees one year ago. Mr. Merritt stated that about 12 months ago, the work force was approximately 4300-4500*. Mr. Merritt added that several years ago the project had peaked at slighly more than 5000 employees.

Mr. McCaskill then asked if the morale of the employees was high or low. Mr. Beck responded that, in general, the employee attitude was good. Mr. Camp added that while many employees had been on the project for a long time and were unhappy and frustrated about the plant not yet receiving a license, the overall attitude was good.

Mr. McCaskill asked if the program to "farm-out" certain operations personnel to other projects was working. Mr. Beck responded that this was a very good program and was helping to keep operations morale high. He added that the plant has good training facilities and that they were being utilized. Operations has not been experiencing any excessive turnover, which is an indicator of good morale and attitude.

Mr. Beck asked if there were any additional questions on Unit 1. There being none, Mr. Beck called upon John Merritt (Assistant Project General Manager - Unit 2) to discuss the status of Unit 2.

B. Mr. Merritt began by stating that Unit 2 was approximately 76 percent complete with a target fuel load date in December 1986. He stated that TUGCO was running 85 days negative to this date at the present time.

Mr. Merritt stated that TUGCO was incorporating the lessons learned from the CPRT program as necessary.

*In checking back into the records, Mr. Merritt discovered that this number was approximately 3500 at that time.

In relation to the installation of pipe supports in Unit 2, there are approximately 9000 large bore supports with 662 remaining to be installed. Last week, 58 large bore supports were installed. There are approximately 15,900 small bore supports with 334 remaining to be installed. Last week, 66 small bore supports were installed. Mr. Merritt stated that the design of Unit 2 pipe supports is complete. The responsibility for ASME code design had recently been transferred from G&H to Stone & Webster.

Mr. Merritt then discussed Ebasco's design effort relating to Unit 2 cable tray supports. In January 1985, approximately 85-90 percent of cable trays and supports were installed. As a result of lessons learned from Unit 1, TUGCO made the decision to conduct an as-built program for Unit 2 cable tray supports. At the present time, about 75 percent of the as-builts are through the engineering cycle with a projected completion by the end of the year. Mr. Merritt stated that he expects to complete the design, installation and final inspections of cable tray supports by April-May 1986.

As of last week, TUGCO estimated that out of a total of 3.5 million feet of cable, approximately 690,000 feet remained to be installed. About 38,000 feet were pulled last week.

Mr. Merritt then reviewed the status of the startup program for Unit 2. Out of a total of 223 sub-systems, 49 have been turned over from construction to startup (22 percent). Five sub-systems were turned over last week. The startup program is currently focused on the 6.9 kv and 480 volt motor control centers. Mr. Merritt expects that the first major mechanical system on Unit 2 will be turned over to startup in early November 1985 (Chemical Volume & Control System - CVCS). The Unit 2 instrument air system cleaning effort is complete and ready to start testing. One hundred and seventeen startup procedures out of a total of 146 have been drafted and are out for review and comment.

Mr. Merritt then briefly discussed the status of the condenser change out. Unit 1 condenser excavation was completed last week and form work for the pit floor had begun. Unit 2 excavation is within five feet of completion depth.

Mr. McCaskill asked which contracts for the condenser changeout had been let. Mr. Merritt responded that out of the three contracts, (pit excavation, turbine wall removal, erection and installation of condenser tube modules) for condenser replacement, only the contract for pit excavation had been let.

Mr. Merritt then stated that it was his understanding that the INPO Evaluation Report would be issued within about ten days or so. Mr. Beck indicated that copies of this report would be sent to the members when it is available.

Mr. McGaughy asked about the amount of cable installed in Unit 2. Mr. Merritt repeated the numbers mentioned previously. Mr. McGaughy indicated that these were significantly different from the numbers quoted in the August 30, 1985 meeting. Mr. Beck indicated that he would look into the matter and get back to the members.

Mr. McGaughy then asked if Mr. Merritt could discuss again the Unit 2 manpower numbers. Mr. Merritt stated that there is total craft manpower on site of 2931 as of last week. Roughly 500 of these are assigned to Unit 1 with the remainder on Unit 2. In addition, Unit 2 support crews are available for use on Unit 1 as needed (mainly scaffold builders, etc.).

Mr. Beck asked if there were any more questions related to construction activities. There being none, Mr. Beck proceeded to the next agenda item.

Agenda Item III. Status of Operating License

A. Mr. Beck began by stating that the NRC held a public meeting in Granbury in early October to discuss the S&W piping and pipe support reanalysis program and the construction adequacy program specifically relating to the homogeneous sampling methods being used.

Mr. Beck stated that the NRC Staff is supportive of the S&W approach to pipe support design adequacy. In reference to the construction adequacy program, the intervenor has pushed for a 100 percent reinspection of the plant. TUGCO took the approach to establish a sampling effort that attained a 95 percent confidence level. Mr. Beck stated that he feels that TUGCO can obtain staff approval of this approach. The main question that arose in the public meeting was how many populations are necessary to ensure the statistical validity of the homogeneous sampling approach. While this question was not completely resolved in the meeting, Mr. Beck stated that he believes the staff generally agrees with TUGCO's position.

Mr. Beck stated that he would know by the end of the week if TUGCO would be able to publish Revision 3 of the CPRT program plan in early November. A copy will be sent to members as soon as it is available.

Mr. Beck added that the next public meeting with the NRC is tentatively scheduled for November 5-7, 1985, in Granbury. He stated that TUGCO plans to provide written answers to questions in the September 30, 1985, letter sent by the NRC Staff before this meeting. It is TUGCO's goal to close out all of these questions in the meeting.

Mr. Beck asked if there were any questions related to the CPRT effort. No questions were asked.

B. Mr. Beck then discussed the status of the ASLB case. Since the last Owners Committee Meeting, TUGCO received the response to the motion for reconsideration of TUGCO's Case management plan from the Board on October 2, 1985. The Board accepted one aspect of TUGCO's motion for reconsideration and rejected all the others. TUGCO's management is reviewing the Board Order carefully and is considering possible options at this point. TUGCO may appeal this order but no decision has been made. (Note: An appeal was filed on October 21, 1985.)

In addition, Mr. Beck stated that TUGCO is formulating a package of CPRT Results Reports to send to the ASLB. ASLB hearings on these reports are anticipated in January 1986. Mr. Beck stated that TUGCO also believes that hearings for Docket 2 could commence early next year.

C. Mr. Beck then moved on to the next item, Project Budget and Schedule. He stated that the discussion in this meeting and the Unit 1 & 2 status reports should have brought the members up to date on the schedules for completion. The only factor not included in the schedules are the ASLB Hearings--TUGCO does not know what schedule the Board will adopt. As far as a budget is concerned, Mr. Beck predicted TUGCO will have an updated budget before the next Owners Committee meeting.

Mr. McGaughy asked if the budget will be based on the June 2, 1986, date or best guess. Mr. Beck stated that the budget will be based on the best estimate available at the time.

Mr. Butts asked when the new budget will be available. Mr. Beck stated that he expects it to be announced before the end of the year.

Mr. Beck then asked if the members had any more questions. Mr. McCaskill asked if the employee settlement with Dobie Hatley would have any impact on the project cost. He also wanted to know if TUGCO or Brown & Root is paying for the settlement. Mr. Beck stated that he didn't believe it would have any significant impact but will find out who is paying for the settlement and inform the members later.

Hearing no more questions, Mr. Beck introduced Dr. Randy Janne (TUGCO Manager, Nuclear Fuels) to discuss the status of nuclear fuel for CPSES.

Agenda Item IV. Nuclear Fuel Status

Dr. Janne began by distributing a letter from Mr. Beck to the members with the 1986 Nuclear Fuel Plan attached. The letter requests the members to review the 1986 Fuel Plan and budget and provide to TUGCO written approval of the 1986 nuclear fuel budget, per the Owners Agreement. A copy of the 1986 Nuclear Fuel Plan is attached (Attachment B) to these minutes.

Dr. Janne reviewed the plan in detail. In addition, he discussed the recent litigation between the Department of Energy and uranium producers. While a recent court order ruled the current enrichment contracts between the DOE and utilities (including TUGCO) were null and void, Dr. Janne does not feel that this action will impact CPSES in the near future. TUGCO is not scheduled to take any enrichment services in 1986 and the initial core fuel for both CPSES units have already been enriched.

Mr. McCaskill asked for an explanation of the TUGCO policy goal of trying to maintain only one reload per unit in inventory. Mr. Beck stated that due to changes in schedule and other factors, the nuclear fuel inventory levels for CPSES are undesirably high at present. TUGCO is trying to do what it can to reduce commitments and lower inventory within reason. Mr. Beck stated he is cautiously optimistic about working out a reduced commitment for enrichment services with DOE.

Mr. McCaskill asked if the figures in the 1987-89 budget projection reflected this optimism. Mr. Beck stated that this projection assumed that the DOE negotiations were unsuccessful.

Mr. Beck concluded discussing this item by suggesting that the Owners contact Dr. Janne (979-8240) if they have any questions during their review of the 1986 Nuclear Fuel Plan, and reiterated the importance of receiving written approval of the plan from each of the members.

Agenda Item V. Comments From Members

Mr. Beck asked if there were any more questions or comments from the members.

Mr. McGaughy asked if Gibbs & Hill had been essentially "kicked off the job". He wanted to know if G&H is the problem in not getting a license and if so, what recourse do the Owners have?

Mr. Beck responded that the transfer of certain work from G&H to S&W was purely for purposes of expediency. S&W was already doing Unit 1 CPRT design adequacy work and it was natural for TUGCO to turn to them when additional resources were needed for Unit 2. As far as the future is concerned, TUGCO won't know what will come out of CPRT effort until it is nearing completion next year. Mr. Merritt indicated that the move wasn't "kicking" G&H off of the job, but was due to the need to have available additional engineering resources that S&W and Ebasco could provide.

Mr. McGaughy then asked if the public statement made by Vince Noonan of the NRC concerning the ASLB has any special significance.

Mr. Beck explained that the issue in question relates to the safety classification of protective coatings in the plant. TUGCO presented a study to the NRC Staff in mid-1984 supportive of a change in the classification of protective coatings from safety to non-safety related. The Staff studied the proposed change for many months, agreed with TUGCO's position and issued an SSER changing the classification as requested by TUGCO. The ASLB Judge reviewed all of this information and had numerous questions about the basis of the Staff's conclusions. Following Mr. Noonan's comments, the Judge was mild in his response, stating that the Board does not have resources and must resolve issues by asking questions. TUGCO is cooperating with the Staff in answering questions--the Staff feels it has a strong position in this matter. Subsequent to Mr. Noonan's comments, the Staff has filed an additional explanation with the ASLB that supports the Staff's position.

Mr. McGaughy then asked if the new budget would have a separate line item for CPRT. Mr. Beck responded that he did not know at this time.

Mr. McGaughy then made a brief statement. He stated that TUGCO wrote a letter to the NRC in 1984 that Unit 1 was essentially complete and ready to load fuel. A significant amount of work has gone on since then and Tex-La does not agree that all of the costs of CPRT should be included in its 2 1/6% share.

Mr. Butts then announced that Tex-La has secured additional funds to pay its share of the project and its plans to bring its payments up to date. He further stated that his projections show that Tex-La will be out of money before the end of the project based on Mr. McGaughy's schedule estimate. He added that it bothers him that TUGCO's schedule estimates were getting closer to Mr. McGaughy's. Mr. McGaughy commented that he estimates that Tex-La will run out of money in March 1987, one month before Unit 1 goes into commercial operation, based on his projections.

Mr. McCaskill asked if there was a proper forum in which the lawyers from all members could meet and discuss legal matters. Mr. Beck responded that perhaps an executive session could be held following an Owners Committee meeting where this type of discussion could take place. Mr. McCaskill suggested that further discussions about this topic take place in future meetings.

Mr. McCaskill then requested that the new budget "spell-out" the basic assumptions and that it contain a best-case and worst-case estimate. Mr. Beck responded that the assumptions for the new budget will be "spelled-out."

Mr. Wagoner commented that the members need the new budget information before it is made public. Mr. Beck assured the members that they will receive more detailed information before it is made public. Mr. Wagoner asked for a brief status of the retrospective "prudence" audit of CPSES. Mr. Schmidt responded that the status had remained essentially unchanged since the last meeting and that a report would not be issued until closer to fuel load for Unit 1.

Agenda Item VI. Schedule & Place for Next Meeting

After a brief discussion, it was agreed to hold the next Owners Committee Meeting at the same location on December 11, 1985, at 10:00 a.m.

Mr. Beck adjourned the meeting.

Tom Rose
Secretary

TWR:kp

COMANCHE PEAK STEAM ELECTRIC STATION
OWNERS COMMITTEE
HILTON INN D/FW AIRPORT
THURSDAY, OCTOBER 17, 1985, 10:00 A.M.

AGENDA

I. ADMINISTRATIVE MATTERS — J. W. Beck

A. Approval of August 30, 1985 meeting minutes

II. REVIEW OF CONSTRUCTION ACTIVITIES

A. Unit 1 — R. E. Camp
B. Unit 2 — J. T. Merritt

III. STATUS OF OPERATING LICENSE — J. W. Beck

A. CPRT Program Plan
   1. Status
   2. Feedback from NRC
   3. Stone & Webster Status

B. ASLB

C. Project Budget and Schedule

IV. NUCLEAR FUEL STATUS — R. L. Janne

A. Report on 1985 Activities

B. Projected Expenditures for 1986

C. Approval of 1986 Budget

V. COMMENTS FROM OWNERS COMMITTEE MEMBERS

VI. SCHEDULE AND PLACE FOR NEXT MEETING

1986 NUCLEAR FUEL PLAN

Comanche Peak Steam Electric Station

1. Review of 1985 Activities

Cash expenditures for nuclear fuel for 1985 were budgeted at $66,230,000. Credits to nuclear fuel resulting from the 1977 settlement of the Westinghouse litigation were estimated to be $264,000, resulting in a net cash requirements budget of $65,966,000 for 1985. As of September 30, the actual 1985 cash expenditures for nuclear fuel are projected to be $60,815,000, with actual Westinghouse credits of $123,000, resulting in actual net cash requirements of approximately $60,692,000. This reduction of $5,274,000 is primarily the result of a sale of some of our 1985 enriching services.

As of September 30, 1985 our nuclear fuel inventory consisted of the following:

88,608 KgU of fabricated fuel, representing the Initial Core of Unit 1, in storage at CPSES.

81,639 KgU of fuel in process of fabrication, representing the Initial Core of Unit 2.

138,322 KgU of enriched UF_6, representing approximately three reloads for Unit 1 and two reloads for Unit 2, in storage at DOE and Exxon Nuclear Co.

80,361 KgU of natural UF_6, representing approximately 40% of a reload, in storage at DOE and Sequoyah Fuels Corp.

2. Budget and Forecast for 1986 - 1990

Cash expenditures for nuclear fuel for 1986 are budgeted at $2,639,000, most of which represents the remaining fabrication progress payments for the Unit 2 initial core. The rest is for inventory storage costs and deferral charges on the conversion services contract. We have no uranium supply or enrichment services requirements or commitments in 1986. The monthly cash flow projected for 1986 is provided in Attachment 1. The forecast of annual cash requirements for nuclear fuel for 1987-1990 is provided in Attachment 2.

3. Nuclear Fuel Inventory Management

In May of this year, TUGCO issued a policy statement regarding nuclear fuel for Comanche Peak. A copy of this policy is provided in Attachemnt 3. While reaffirming that maximum assurance of supply is provided by long-term contractual commitments, it recognized that spot market transactions can be useful in providing near-term flexibility. In addition, a target inventory level was established as an amount sufficient for one refueling for each unit. The policy recognized that, while this target inventory level is a desirable goal, "... inventory must be managed in consonance with the objective to minimize total nuclear fuel costs. Inventory levels will not be reduced if such action will result in economic detriment to the Company and its customers." TUGCO is engaged in activities implementing this policy on several fronts.

In February of this year TUGCO and Exxon Nuclear Company agreed to a letter of intent which provided a more flexible uranium delivery schedule to meet the actual requirements for Comanche Peak at a lower base price. Additional negotiations are in progress to provide even greater flexibility in uranium and fabrication supply.

Negotiations are nearing completion with Sequoyah Fuels Corporation to similarly modify our conversion services contract. The current contract, which runs through 1988, is a fixed commitment take-or-pay agreement which is out-of-step with our current schedule. The new agreement, which will run through 1998, will provide greater flexibility while allowing us to take advantage of spot market prices when they are favorable.

In an effort to reduce our expenditures for enrichment services this year, approximately 51,700 separative work units (SWU) from our FY85 commitments were sold for $4,995,682. While this represented a significant discount from our contract price, analysis showed it to be more than offset by the savings in reduced carrying costs though 1990 when the enrichment services will actually be needed.

Negotiations are continuing with the U.S. Department of Energy to eliminate or postpone commitments for enrichment services currently scheduled for fiscal years 1987 and 1988. With our existing inventory of enriched UF_6 these services would not be needed until 1991. These commitments account for $20.6 million in 1987 and $19.5 million in 1988 in enrichment payments alone. Associated feed costs represent an additional $9.3 million and $15.6 million, respectively. Successful negotiations could significantly reduce the annual cash requirements for 1987 and 1988 shown in the forecast in Attachment 2.

ATTACHMENT 1

1986 PROJECTED MONTHLY CASH REQUIREMENTS FOR NUCLEAR FUEL

	CPSES UNIT 1 ($000's)	CPSES UNIT 2 ($000's)	TOTAL ($000's)
January	2	1,519	1,521
February	2	28	30
March	2	3,072	3,074
April	3	(3,020)	(3,017)
May	2	28	30
June	2	28	30
July	3	15	18
August	2	14	16
September	2	24	26
October	2	15	17
November	2	14	16
December	2	876	878
TOTALS	26	2,613	2,639

ATTACHMENT 2

FORECAST OF ANNUAL CASH
REQUIREMENTS FOR NUCLEAR FUEL
1987 - 1990

	CPSES Unit 1 ($000's)	CPSES Unit 2 ($000's)	TOTAL ($000's)
1987	25,670	8,665	34,335
1988	18,636	20,377	39,013
1989	6,118	8,613	14,731
1990	7,737	(68)	7,669

Attachment 3

TEXAS UTILITIES GENERATING COMPANY

STATEMENT OF POLICY

CONCERNING

NUCLEAR FUEL FOR COMANCHE PEAK

It is the policy of TUGCO to maintain an adequate and reliable supply of nuclear fuel for Comanche Peak in order to ensure its continuous operation at the lowest practicable cost.

The economic benefits of nuclear generation to TUGCO and its Customers are dependent upon an assured and adequate supply of nuclear fuel. Maximum assurance of supply can best be provided by long term contractual commitments. Spot market purchases and sales can be utilized to provide near term flexibility. TUGCO will strive to minimize nuclear fuel component costs including uranium procurement, conversion, enrichment and fabrication. Competitive bidding for each of these areas will be utilized to the fullest extent.

The Company will also strive to control fuel costs by managing the nuclear fuel inventory to the lowest level needed to ensure uninterrupted plant operation. Fuel inventory levels may fluctuate because of deviations from planned startup schedules, deviations from planned generation levels, changes in outage lengths, and prior commitments to take delivery of uranium and enrichment under long term contracts. However, the Company will attempt to limit the nuclear fuel inventory to an amount sufficient for one refueling for each unit. It is recognized that this inventory must be managed in consonance with the objective to minimize total nuclear fuel costs. Inventory levels will not be reduced if such action will result in economic detriment to the Company and its Customers. TUGCO will also minimize the length of time fuel is in the fabrication process and the length of time the fabricated assemblies are stored prior to core loading.