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NUCLEAR REGULATORY COMMISSION

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NUCLEAR REGULATORY COMMISSION

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BRIEFING ON STATUS OF COMANCHE PEAK

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, October 19, 1989

The Commission met in open session, pursuant to notice, at 10:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman of the Commission
THOMAS M. ROBERTS, Commissioner
JAMES R. CURTISS, Commissioner

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STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

ERLE NYE, Chairmen of the Board of Directors and Chief Executive Officer, TU Electric

WILLIAM COUNSIL, Vice Chairman, TU Electric

WILLIAM CAHILL, Executive Vice President, TU Electric

AUSTIN SCOTT, Vice President of Nuclear Operations

BILLIE GARDE, Citizens Association for Sound Energy

JAMES TAYLOR, Acting Executive Director for Operations

THOMAS E. MURLEY, NRR

DENNIS M. CRUTCHFIELD, Associate Director for Special Projects, OSP

CHRISTOPHER T. GRIMES, Director, Comanche Peak Project Division, OSP

ROBERT F. WARNICK, Assistant Director for Inspections, OSP

P-R-O-C-E-E-D-I-N-G-S

10:00 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen. Commissioner Rogers is on official travel and will not be with us today.

The purpose of this morning's meeting is for the Texas Utilities Electric Company, Licensee for the Comanche Peak Steam Electric Station, and the NRC staff to brief the Commission on the status of Comanche Peak Unit 1.

I understand this briefing will be primarily historical in nature and that the Commission will receive an additional briefing in the future on the readiness of Comanche Peak for operation when it considers authorizing issuance of a full power license.

In addition, the Commission will hear from a representative from the Citizens Association for Sound Energy, or CASE, Ms. Billie Garde. CASE hold an oversight role at Comanche Peak as a result of a settlement agreement ending the NRC Atomic Safety and Licensing Board Hearings.

Copies of the presentation slides are available at the entrance to the meeting.

Do any of my fellow Commissioners have any

opening comments?

I would like to welcome the representatives of Texas Utilities and the representative from CASE here today. The Commission will first hear from the Licensee.

Mr. Nye, you may proceed with your presentation.

MR. NYE: Thank you, Mr. Chairman.

My name is Erle Nye. I'm Chairman and Chief Executive of TU Electric Company. We are the owners of the Comanche Peak Steam Electric Station.

With your permission, I would like to introduce those with me here today from the company. On my right is Mr. Bill Counsil, who was the senior nuclear officer at TU Electric prior to the time that he was elected as Vice Chairman. Also with me today is Mr. Mike Spence who is the President of the Generating Division of our company. On my left, the senior nuclear officer in the organization is Mr. Bill Cahill, Executive Vice President for Nuclear Engineering and Operations. The Vice President of Nuclear Operations is Mr. Austin Scott and the Vice President of Nuclear Engineering is Mr. John Beck. The Plant Manager is Jim Kelley.

We appreciate the opportunity to appear

before you today to present the status of Comanche Peak. After my opening remarks, Bill Counsil will provide an overview of the design and construction of Comanche Peak; Bill Cahill will describe our project organization and transition to operations; and Austin Scott will summarize our operational readiness.

(Slide) TU Electric is the principal subsidiary of the Texas Utilities Company, an investor-owned holding company. TU Electric provides electric energy to approximately 5.2 million people, about a third of the population of the state of Texas. The service territory extends about 600 miles east to west, from far west Texas to near the Louisiana border, and is about 250 miles deep, extending from the Oklahoma border south into Central Texas. TU Electric has about 20,000 megawatts of generating capability.

(Slide) We are dedicated to the safe, reliable operation of the Comanche Peak Plant. The employees in the nuclear organization are fully aware of the expectations and trust that is vested with the operators of a nuclear power plant, and we accept that responsibility with absolute commitment and dedication.

I believe that dedication starts at the top

and I believe in leadership by example and in upper level management involvement and visibility. I personally visit the plant at least every other week and I have a detailed briefing on site about major plant activities at least once a month. I also receive a weekly briefing from the nuclear staff on the status of the plant activities. Bill Counsil, whose office is near mine in Dallas and who provides executive level expertise on nuclear power and Comanche Peak in particular, makes frequent visits to the plant. Mike Spence typically spends at least two days a week at Comanche Peak. Bill Cahill, of course, maintains his office at the plant.

I'm also pleased that Texas Utilities Board of Directors has maintained a strong interest in Comanche Peak and in nuclear power. The Board does maintain a Subcommittee on Nuclear Power and that subcommittee has met seven times in this last 12 months and we do meet frequently at the plant. Additionally, besides visiting Comanche Peak, the Nuclear Committee has also visited recently the Palo Verde and Diablo Canyon Nuclear Power Plants.

As Bill Counsil will describe to you, it has taken us longer to reach this stage than we originally expected. However, we have designed and constructed

one of the finest nuclear power plants in the country.

(Slide) Also, we have developed an organization that is able to mobilize and use its resources in an effective manner and have assembled a highly qualified and experienced group of senior managers. I think it's interesting to note that our top 26 managers had an average of 19 years of nuclear experience prior to coming to Comanche Peak.

Bill Cahill, our top nuclear officer, has some 35 years of nuclear experience. Bill and I maintain a regular direct interface and he knows that he can come directly to me at any time for support and resources.

Reporting to Bill is the Senior Vice President, Mr. Buzz Bruner. Buzz brings 23 years of nuclear experience to our project.

Austin Scott, the Vice President for Nuclear Operations, is also located full-time on site and brings to the Operations organization a valuable and uncompromising commitment to nuclear safety and excellence that is founded on an exemplary 25 years in the Navy Nuclear Program during his 30 year Navy career.

Also reporting directly to Bill Cahill is Mr. John Beck, the Vice President for Nuclear

Engineering. John has 25 years of nuclear experience and his responsibilities include quality assurance and other oversight functions.

The Plant Manager, Jim Kelley, has 22 years of nuclear experience and was previously licensed as a senior reactor operator at another operating nuclear plant.

Bill Cahill will address his organization in more detail. But what I've tried to do is to impart the high level of expertise and involvement of the senior management organization in the company.

(Slide) I hope you will not confuse our confidence with complacency. We fully understand the critical responsibility that is ours and we approach the operation of Comanche Peak with deliberate caution. We have, for example, scheduled an operations preparation period of at least two weeks prior to fuel load. This period will be utilized to facilitate the transition from the construction phase to the operating phase. It provides, we think, a buffer zone for the operators to be fully in control and responsible for plant systems and areas before fuel is actually loaded.

In addition, we have established a program for critical self-assessment of personnel and plant

performance during the power ascension testing. This program includes operating the plant for about a week at approximately 50 percent power to provide additional experience to plant operating personnel. Austin Scott will describe these two programs in more detail later.

Recognizing that this is TU Electric's first nuclear plant, we've been committed to learning from the rest of the industry. We participate at the management level in many industry groups, such as INPO and NUMARC, which are intent on achieving excellence in nuclear operations. Jerry Farrington, the Chairman of the Board of Texas Utilities Company participates as a member of the Board of INPO and I am on the NUMARC Board. Bill Counsil presently chairs the Nuclear Utility Backfit and Regulatory Reform Group, the Nuclear Utility Fire Protection Group and the NUMARC Standardization Committee.

Our preparations have also included visits to many of the other nuclear plants which have recently gone into operation in this country, as well as nuclear plants in Japan and Russia and other countries. We have learned from their experiences that one fundamental concept which we believe very strongly is that we are what we do repeatedly and we

believe excellence then is not an act but a habit.

I expect that this concept will be used at all levels of the company and it must be applied particularly to such issues as attention to detail, discipline and formality in the conduct of operations, and professionalism.

(Slide) I have stressed certain principals for enhancing professionalism in our nuclear organization and have communicated these ideas in a letter which is located in the front of our nuclear policies and procedures manual. These principals include the following:

Complete moral integrity and compliance with regulations and procedures;

Development of realistic, yet challenging goals;

Accountability at all levels of the organization;

Direct, personal management involvement in the daily work environment;

Achievement and maintenance of a high level of skills, knowledge and job performance;

Maintenance of high standards of fitness for duty; and

Maintenance of open lines of communication.

Through a commitment to and compliance with these principals, I'm convinced that TU Electric can become one of the best nuclear power plant operators in the country.

(Slide) Furthermore, I am confident that Comanche Peak has been built safely and in compliance with regulatory requirements. My confidence is reaffirmed by the abundance of reviews, audits and inspections that have been conducted on this project during its history. I believe that Comanche Peak will provide a much needed, reliable source of power for the state of Texas in the coming decades and that its operation will bring pride to our company and to the industry.

Now I'd like to ask Bill Counsil to continue our presentation. Bill came to TU Electric in 1985 as Executive Vice President for Nuclear. Prior to that time, he was Senior Vice President with Northeast Utilities and worked in that company's nuclear organization for 18 years. During that period, Bill attained a BWR Senior Reactor Operator license and two PWR Senior Reactor Operator certifications.

Bill?

MR. COUNSIL: Thank you, Erle.

Mr. Chairman and members of the Commission,

my objective today is to provide you with a brief overview of the design and construction of Comanche Peak Unit 1, focusing on our extensive validation programs and the resolution of public intervention.

(Slide) Comanche Peak Unit 1 is located on a 7600 acre site approximately 45 miles southwest of Fort Worth. A nuclear steam supply system is a four-loop, Westinghouse pressurized water reactor. Warranted power output of the core is 3411 megawatts thermal, corresponding to an electrical output of approximately 1150 megawatts electric. The containment is a steel line, reinforced concrete structure. The heat sink is Squaw Creek Reservoir.

TU Electric has had overall responsibility for design, construction and operation since the inception of the project. Gibbs & Hill was the original architect/engineer responsible for design and engineering. TU Electric assumed direct management responsibility of design and engineering over several years in an orderly and controlled manner. As I will discuss later, several major architect/engineer firms provided engineering services for design and hardware validation during the latter stages of the project. Brown & Root was the principal constructor throughout.

(Slide) In the time elapsed since the

project began, many events have occurred, internal and external to the project, which one could call key. I have listed some highlights on this slide.

The Construction Permit was issued in December 1974. Construction proceeded immediately and continued without significant interruption. In February 1978, TU Electric submitted the operating license application. By late 1984, Unit 1 was essentially completed and pre-operationally tested.

Three groups had petitioned to intervene in the operating license proceedings and were admitted in June 1980. All but one, Citizens Association for Sound Energy, or CASE, subsequently withdrew. All of the original contentions were resolved except for a single contention related to quality of construction. In 1983, the ASLB issued a decision that effectively required TU Electric to file a plan to address a series of concerns raised by the intervenors mainly related to piping and pipe supports.

In the hearings which followed, additional concerns were raised. In July 1984, the NRC staff established a Technical Review Team which devoted 20,000 inspector hours in an extensive series of inspections over a ten week period.

(Slide) We initiated several actions to

address the concerns, the most significant being establishment of the Comanche Peak Response Team and the Corrective Action Program. In addition, an independent design assessment was conducted by Cygna Energy Services. I want to focus on these programs for a moment because in their scope and rigor they have been unique.

The Comanche Peak Response Team was comprised of independent, third party individuals under the direction of a senior review team. Originally established to investigate the specific concerns of the NRC Technical Review Team, it was subsequently expanded to include other issues, as well as self-initiated investigations of the design and construction. It reviewed samples of the safety related systems, structures and components in question, and subsequently overviewed performance of the corrective action program which will be discussed in a moment.

Based upon four years of detailed inspections and evaluations, the Comanche Peak Response Team concluded that there were some weaknesses in the historical programs, but that with implementation of certain corrective actions, the programs for construction, quality assurance, and

testing were adequate. The Comanche Peak Response TEam also concluded that the Corrective Action Program provided an acceptable means of validating the design and hardware.

The Cygna design assessment began in 1983. Initially consistent with the independent design verification programs requires of other construction projects at the time, the Cygna assessment expanded over almost six years into many areas of design and design control. Together, the Cygna effort and the Comanche Peak Response Team represent a truly unprecedented independent review of design and construction.

In mid-1986, we established the integrated Corrective Action Program to deal comprehensively with the concerns, rather than to undertake separate programs for each. In addition, the Corrective Action Program was structured to enhance the design documentation in order to permit any aspect of the design and hardware installation to be more readily described in the pending ASLB hearing.

Three experienced architect/engineering companies, Stone and Webster Engineering Corporation, Ebasco Services, Incorporated, and Impell Corporation, were selected to perform the Corrective Action

Program. We substantially restructured our Comanche Peak Engineering Department and hired additional experienced management and engineering staff personnel to manage, oversee and coordinate these activities. We also revised the Comanche Peak design control procedures to provide further assurance that design would be properly performed, documented, validated and maintained in the future.

(Slide) The principal aspects of the Corrective Action Program are shown on this slide. The design validation portion of the CAP assured that the design of safety related and selected non-safety related systems, structures and components complies with the licensing commitments. The hardware validation assured through physical inspections and engineering evaluations that the installed hardware complies with the validated design. We then assured that the design and the hardware matched.

In-depth technical overview and evaluation of the Corrective Action Program were provided by the Technical Audit Program, established within our Quality Assurance Department, and the Engineering Functional Evaluation performed by independent personnel from the Corrective Action Program engineering contractors.

These efforts have provided substantial benefits. We have reviewed and strengthened our programs for design, construction and quality assurance. We have validated that the safety-related design complies with our licensing commitments and we have assured that the hardware satisfies the design. We believe the safety of the plant has been enhanced. The design bases are well documented for use by our responsible managers and professional staff.

We are thus particularly well prepared and fully committed to maintain the integrity of the design bases during the operation of the plant. These programs have provided a high level of assurance that Comanche Peak Unit 1 has been completed in compliance with regulations and licensing commitments.

While TU Electric's validation programs were proceeding, the operating license hearings before the ASLB were suspended beginning in January 1985. TU Electric responded to numerous informal discovery requests by CASE, the sole remaining intervenor, and held a series of public meetings with CASE to describe the Corrective Action Program and TU Electric's methodology for issue resolution. As a result, CASE and its technical consultants were able to resolve many of their concerns. It became apparent that CASE

had no fundamental issue with the structure and methodology of TU Electric's validation program. Rather, CASE was interested primarily in assuring that the program would be implemented as described.

(Slide) This led to a settlement providing several mechanisms for continued direct oversight by CASE into Comanche Peak activities. These are summarized on this slide. Importantly, under the settlement agreement CASE expressly reserved the right to take any safety concerns to the NRC.

The ASLB strongly supported these agreements and dismissed the proceedings in July 1988. The settlement eliminated potential further delay in the proceeding and allowed greater resources to be devoted to safety reviews of the plant, rather than to legal contests.

This concludes my remarks. I will turn the presentation over to Bill Cahill. Bill has 35 years of experience in the nuclear industry, including executive management positions at Consolidated Edison and Gulf States Utilities where he was responsible for the design, construction or operation of four nuclear power plants. Prior to assuming his present position at TU Electric in 1988, Bill was the Senior Vice President responsible for the construction and

operation of the River Bend Nuclear Plant.

Bill?

MR. CAHILL: Thank you, Bill.

Mr. Chairman, members of the Commission, I'd like to describe to you Comanche Peak's project organization, also to discuss some lessons learned during pre-operational testing and our transition from construction to operation.

(Slide) We recognize the complexity of operating one unit and completing the construction and initial start-up test program of a second unit. We therefore have designed the project organization to assure that we effectively operate Unit 1 while at the same time we manage the completion of Unit 2.

Buzz Bruner is responsible for the Operations, Engineering, Construction and Project Management organizations. Under him, Austin Scott is in charge of all areas of Comanche Peak operation and maintenance. Jim Kelley, the Plant Manager, directs the plant operation, maintenance, work control, radiation protection and chemistry activities. The managers of other functions, such as computer services, purchasing, personnel report to me or to Buzz Bruner in support of the Project and Operations activities.

(Slide) In a separate chain under me, John Beck is responsible for the quality assurance and licensing functions. He is also responsible for nuclear fuel management, core thermal-hydraulic analysis, and in addition he is in charge of corporate oversight activities such as the Independent Safety Engineering Group and Corporate Health Physics.

The Manager of the SAFETEAM Program reports directly to me. This program provides a means for Comanche Peak employees to confidentially identify concerns that they may have in regard to nuclear safety or quality. SAFETEAM ensures that a complete investigation is conducted of each concern and that a written response is provided to the concerned individual.

Our management has substantial nuclear experience. This experience, strengthened during the last several years through aggressive recruiting, is broad. It encompasses engineering, construction, quality assurance, and operations. The officers and managers identified on this slide and on the previous slide have 276 years of combined nuclear experience prior to employment at Comanche Peak. This includes 203 years of commercial nuclear experience.

Our executive line management personnel are

primarily located at the plant site. In addition, most of the senior management personnel, including the Chief Engineer and the Directors of Quality Assurance, Construction and Management Services, as well as all of the managers and supervisors in Nuclear Operations are located at the plant. By being at the plant site, we are directly involved in the day-to-day management of plant activities and are able to implement the hands on management approach. In addition, we're readily available to our managers and supervisors to address any issues or concerns as well as to provide a visible leadership.

As you are aware, during hot functional testing, deficiencies were identified related to check valve backflow and out of sequence performance of a step in a test. TU Electric, as well as the NRC, conducted extensive evaluation to determine the causes and corrective action to resolve these deficiencies.

(Slide) We are implementing the corrective actions and the post modification testing which assure us that these check valves function as designed. In addition, maintenance procedures have been modified and personnel have received additional training to preclude recurrence. Administrative procedures have also been revised to clearly state that the tasks in

any procedure are to be performed in the sequence specified and personnel have been trained to the revised procedures.

However, the important lesson that we learned was that although we were rapidly approaching operations, we're still performing these tests and other activities with a construction-phase attitude. I immediately directed my managers to assure that the appropriate operational attitude was employed in the remaining activities, particularly pre-operational and acceptance testing. I also ensured that action was taken to improve the documentation and reporting of plant events and equipment failures in a more aggressive and timely manner and to improve communication among the operators and the operating shifts. I believe that the actions taken are an important factor in our transition to operational readiness.

We appreciate the importance of making the transition from construction to operation. (Slide) A year and a half ago, we initiated a detailed and comprehensive Operational Readiness Program. The program assesses not only the readiness of the Operations organization, but also the readiness of support organizations such as Engineering,

Construction and Quality Assurance. Assistance was obtained from consultants who were experienced in plant operations as well as from our industry peers.

The program includes an assessment of equipment, personnel, procedures, training and maintenance. It emphasizes the interfaces between organizations which support operation to assure consistency of activities. The officers and managers associated in these areas assess their areas of responsibility and developed and implemented action plans so that they will be able to demonstrate to me that their organizations are ready to load fuel and commence low power testing. We're working hard to effect the transition and I believe that our pre-operational testing demonstrates that we are succeeding.

We also have diligently fostered a teamwork culture as we prepared for this transition. We provided a training program for managers which was formulated and conducted by professionals who are experienced in the area of management techniques and team building concepts.

(Slide) As Erle Nye has emphasized, complacency has no place in nuclear plant operation. And we therefore will continue to strive to do better.

I have continually directed that all engineering, construction and operation at Comanche Peak be performed with a quality first attitude. This attitude is imperative to safe plant operation. This attitude requires that activities be performed safely and in accordance with NRC regulations and our own procedural requirements. I will continue to emphasize this attitude. Personnel will continue to be held accountable for their actions. I am keenly aware that involved leadership is essential to ensure that complacency does not set in at any level of the organization and I take this responsibility very seriously.

Austin Scott will now describe the status of our readiness to load fuel and to begin low power testing. He has 30 years of responsible management experience in the Navy, 25 of it involved the safe operation and maintenance of submarine nuclear power plants. This experience has been complemented by his management of our pre-operational programs and by lessons learned from operating and near term plants during his four years at Comanche Peak.

Austin?

MR. SCOTT: Thank you, Bill.

(Slide) Mr. Chairman and members of the

Commission, it is my privilege to outline for you today the reasons why I believe that Comanche Peak Unit 1 is nearing readiness to load fuel and to begin low power testing. In doing so, I will discuss our efforts to prepare ourselves to operate the plant. My briefing will cover the development of a staff of licensed operators, the status of our maintenance program, and will conclude with a brief description of where we stand with respect to other areas that go together to comprise operational readiness.

(Slide) Over the years, we have been successful in recruiting and retaining a good staff of licensed operators. We presently have 32 active senior licenses and 23 reactor operators. In addition, there are 44 non-licensed plant equipment operators which we call auxiliary operators. This total of licensed and non-licensed individuals significantly exceeds the numbers required to operate Unit 1.

(Slide) Our current plans for shift manning shown here exceed technical specification requirements. The operators are on six rotating eight-hour shifts. Each shift currently has a shift supervisor in charge who holds an SRO license. Reporting to him are our unit supervisor who also

holds an SRO license, two licensed reactor operators, five auxiliary operators, two radwaste operators, three radiation protection technicians and two chemistry technicians. These numbers are minimums. Some shifts will have more assigned than those that I've shown.

Each shift will have a degreed individual with an SRO license who has received additional training to function as a Shift Technical Advisor. On some shifts, this person is one of the unit supervisors. In others, he is a separate individual, but all shifts are covered by at least one degreed SRO with STA training.

Over two-thirds of our plant operating staff have been at Comanche Peak for more than six years. They have been manning the control room for nine years, operating systems as they became ready for testing, participating in the test program and controlling tested systems once they were turn over to operations. Our operators have participated and observed actual plant operations at other utilities gaining hot operational experience. Our program has produced experience levels in excess of those to which we are committed and we have devoted a great deal of time to operator training on site, both in the plant

and in the simulator.

(Slide) In that regard, we take particular pride in our simulator and the efforts that we have made to assure that it looks and acts like the plant. Before obtaining an initial license under our current program, an operator has had a minimum of 240 hours operating time in the simulator. Each year the requalification program requires an additional 80 hours in the simulator over and above his required on-shift time in the control room. This is the nominal plan. During the past year, each operator has spent in excess of 200 hours in the simulator, in instruction and examination as part of the readiness for operations program.

A recent INPO evaluation of our simulator training found no serious deficiencies. They commented favorably on the improvements that had been made by both the operators and the instructors since our previous evaluation in 1987. On the most recent licensed operator requalification examinations administered by the NRC staff, all 12 of our candidates were successful. In the exit comments, the examiners singled out the simulator performance as being particularly strong.

But in spite of these favorable comments,

the operators themselves, as well as those of us with managerial responsibility, thoroughly recognize the risks of operational complacency at any level or at any time. In our pursuit of excellence in plant operation, we have set our goals high. To attain them and to set the tone of operational excellence from the start, we intend to employ extensive management coverage around the clock during the more demanding portions of the initial start-up program and, depending on our progress at that time, into the first weeks of commercial operation.

The operational goal that I mentioned is an ambitious one. It is to bring Unit 1 on-line with the performance results of a mature plant. That is to avoid the kinds of initial operating cycle performance numbers which NUREG 1275 forecasts.

(Slide) We also believe that our maintenance program is fully ready to support plant operation. It has been essentially in place and maturing since 1984. We have continued to expand and upgrade our procedures. Our mechanics, electricians and technicians have been working on their own equipment for a number of years, and we have continued to improve our work control processes. The initial review of the recent draft regulatory guide on

maintenance programs for nuclear power plants leads us to believe that our present maintenance program adequately addresses the key elements of the guide. A more thorough review is now in progress.

(Slide) For a number of years, our maintenance personnel have been heavily involved in the support of plant completion and they have gained significant experience through that effort. Our preventive maintenance program is in place, but it has been difficult to pursue aggressively during the reinspection and corrective action effort. Our goal is to have the ratio of preventive maintenance equal to 60 percent of total maintenance man hours by the end of the first refueling cycle.

During the reinspection and corrective action period, our tracking data has not differentiated between preventive and corrective maintenance along conventional lines, but we estimate that only about 20 percent of the maintenance manhours we've spent over the past year have been in preventive maintenance. The main restraint has been the establishment of required plant conditions.

Our predictive maintenance program is evolving. It now includes vibration analysis, lube oil analysis, and thermographic imaging to identify

incipient failures or trouble spots before they become genuine problems. It's a young, but we think, a good program that includes the safety-related equipment and a significant portion of the non-safety-related equipment. Eventually, we expect to cover the entire plant.

(Slide) Control of work is a matter of increasing importance as we begin operations. Currently, all maintenance activities must be approved by the control room shift supervisor. And to assist him in prioritizing, scheduling, and expediting maintenance activities, we have established a Work Control Center headed by an experienced manager with an SRO license. The center is staffed by representatives from Operations, Maintenance, I&C, and other support organizations. Collectively, it produces, issues, and manages an integrated work and test schedule which includes a detailed plan for individual work and testing items.

(Slide) Daily meetings are held to track progress, to identify restraints in problem areas, and to assign action responsibilities. Reports are provided weekly to keep management informed of the status of maintenance. Our maintenance backlog is now just over 2,000 work orders of which about 1,000 will

be completed prior to entry into operating Mode 6.

As I mentioned earlier, the key to reducing the maintenance backlog has been the establishment of appropriate plant conditions. Maintenance work, at least recently, has been almost exclusively in support of testing. And while this has given us excellent training under near-operating conditions, competing priorities have taken their toll. My managers and I have believed all along that our people could rapidly work the backlog down once the test and construction effort began to subside. I still believe this to be the case.

We have formed a work group from the construction organization and trained it to work to operations procedures. This augments our existing maintenance group similar to the way we expect to do so in refueling outages. Rather than work side by side with our mechanics, electricians and technicians, the augment group will handle specific work assignments coordinated out of the work control center which I mentioned.

The requirement to do maintenance work is a continuing challenge throughout the life of the plant. Deferred maintenance is a mortgage on the future which we are determined to avoid. We are convinced that we

have established a good team and a good program for dealing with both corrective and preventive maintenance.

(Slide) In passing, I might note that some of you have visited our on-site maintenance training facility and have seen the capability that we have to give our personnel evaluated hands-on experience in a realistic environment. Much of the equipment is identical to that in the plant. We are quite proud of the facility and are pleased to note that it has been described as world class. We expect to be able to put it to good use in our ALARA training, for pre-job mock-up training and for detailed work planning.

(Slide) We have also been active in developing a detailed trip reduction program. A dedicated team of engineers, operators, technicians and maintenance people collected data from other utilities and studied the literature on reasons for unnecessary trips. They evaluated what could be done to minimize the possibility of those same events at Comanche Peak, and have made specific recommendations for actions to be implemented. Approximately 35 areas were identified.

Where possible, modifications have been made to hardware features. Procedures have been improved

to help reduce operator and technician errors, and increased emphasis is being placed on the training of test and calibration personnel where the potential for inadvertent safety system actuation during testing exists. We believe that this effort will pay dividends in eliminating trips, scrams and inadvertent actuations of the safety systems during plant operations. As I mentioned, our goal is to come on-line with the performance record of a mature plant.

The detailed procedures required for testing and operations up to and including full power have been issued and are ready for use. Emergency operating procedures have been validated through walkdowns and on the simulator, and they have been satisfactorily audited by the NRC staff. We intend to satisfactorily complete all corrective action growing out of these audits prior to initial criticality.

As Bill Counsil noted, pre-operational testing was essentially completed in 1984. To assure the plant has been tested to applicable licensing standards, given the changes, upgrades and modifications that have been made since that time, we developed what we called a prestart test program to keep it separate from the previous programs. The prestart test program has been almost as comprehensive

as the original pre-operational testing. With few exceptions, of which the staff is aware, we have redone the pre-op tests and are convinced that the plant is tested to current licensing standards.

Audits show that our security program meets the 10 CFR 73 requirements. It was put into effect partially in August and into full effect on October 14th. Access to the protected area and the vital areas is now controlled as it will be during plant operations.

(Slide) We have a fitness for duty program in place which we think is fully in compliance with the recently issued NRC regulation. As required, it applies to all personnel who have unescorted access to the protected area and to members of the emergency response organization. It includes pre-employment and pre-access testing, random testing, and testing for cause. A confirmed, positive test results in withholding of access authorization to the protected area until subsequent correction active appropriate to the situation is taken.

(Slide) Comanche Peak Emergency Plan has been recently tested in a full participation graded exercise observed by the NRC and FEMA. The exercise demonstrated that Comanche Peak, the surrounding

counties and the state of Texas are prepared to cope with a severe nuclear emergency condition that would necessitate protective action for the Comanche Peak staff and for the public.

(Slide) To prepare ourselves for an orderly and controlled transition from construction conditions to the operational environment needed to load fuel and operate, we have designed into our schedule an operations preparation period. It will run for a minimum of two weeks and will remain in effect until a fuel load decision is made. Prior to starting this period, we will require that all systems, rooms and areas necessary to support fuel load in Mode 6 be under the control of operations. All of the station operating procedures for control of work, for system operability, for meeting tech spec requirements and for maintenance will be in effect as if we were operating under the operating license.

Surveillances and preventive maintenance will be performed under required license conditions. Limiting conditions for operation from the technical specs for Mode 6 will be imposed and any required action statements will be performed. 10 CFR 50.72 reports that would be made to the NRC under license requirements will be made to on-site representatives.

During this period, we intend, among other things, to practice the procedures for loading fuel, and to exercise our procedures for handling radiological conditions requiring radiation work permits, anti-contamination clothing, surveys and normal radiological precautions in the radiation control area. Security will remain in full effect for the entire protected area and the Unit 1 vital areas. We have prepared table top scenarios to support control room training in other areas as appropriate to finalize our readiness to load fuel and to proceed into low power testing. A checklist of items required to enter Mode 6 will be maintained and all items will be completed prior to starting the fuel transfer process once the license is issued.

As Erle Nye noted, the operations preparation period is intended as a formal demarcation between activities controlled by construction oriented procedures to activities controlled by procedures required for an operating plant. It gives us a buffer zone for the operators to practice being fully in control and fully responsible for their systems and areas before fuel is actually loaded. We expect it to reduce the likelihood of surprises and mistakes and to establish an atmosphere of doing business under

licensed conditions before the license actually applies.

(Slide) Looking beyond fuel load and low power testing, we have charted a careful program for power ascension testing which will include continuing a formal program of critical self-assessment of personnel and plant performance. Special teams have been assigned to develop performance objectives and assessment criteria in their areas to be reviewed at low power, at the 50 percent power plateau, and again at 75 percent power. Before proceeding beyond the 50 percent power point, we plan to operate for about a week at between 45 and 50 percent power while test results and the results of the self-assessment program are reviewed. This will give us an opportunity to look at hot operating proficiency under relatively stable conditions before completing the test sequence.

(Slide) In summary, we believe that the Comanche Peak staff, its programs and its equipment are well along in preparation for loading fuel, and beyond that for conducting low power testing and for proceeding smoothly into power ascension testing.

The operators that I speak for look forward to the opportunity to fuel the reactor, take it critical and begin testing the plant systems at power.

We are prepared to do so in a controlled and deliberate fashion under close scrutiny by our own management team and the NRC. And we are committed to the task of operating the plant conservatively with professional skill and with the utmost concern for safety.

Erle?

MR. NYE: Mr. Chairman, members of the Commission, that concludes our formal remarks. We would be pleased to answer any questions you might have either now or later in the presentation.

COMMISSIONER CURTISS: I just have two or three questions following up on the briefing.

Could you describe in more detail where you stand on open items prior to fuel load, what the status is and what your schedule is for resolving your punch list items?

MR. SCOTT: The open item list is -- we're down on Monday to about 8700 and we expect to work this down to 2500 or so before we end up in ops prep. We have scrubbed the list for operability. That is to say we are checking whether or not the item itself has a significance to us as far as system operability or room operability and we're working on the ones that are operationally significant first.

COMMISSIONER CURTISS: And can you give us a sense for how long it will take to go down from 8700 to 2500, what your schedule is for that?

MR. SCOTT: We think that we'll be ready to start getting into ops prep in about a week. It may take awhile to get there once we get down to the scrubbing the list down to the last few numbers. Beyond that, I think it could take as much as a week to get into ops prep and then we have committed to at least two weeks once we're there.

COMMISSIONER CURTISS: On the thousand maintenance items in the backlog that you won't have worked off before Mode 6, do you have a schedule for resolving those once you finish the first --

MR. SCOTT: We do. We have them distributed in accordance with their mode significance and we expect to work that number down to in the neighborhood of 500 by the time we reach commercial operations.

COMMISSIONER CURTISS: Do you have a schedule for the remaining 500?

MR. SCOTT: Well, we're not quite there yet, but yes, we will have those in our scheduling process.

CHAIRMAN CARR: How many of your licensed operators were previously licensed at some other unit?

MR. SCOTT: Two.

CHAIRMAN CARR: And how many now would you say have significant hands-on experience?

MR. SCOTT: Well, hands-on experience being --

CHAIRMAN CARR: Some hot operation at some other unit or that kind of --

MR. SCOTT: I'm not sure how to quantify that. We --

CHAIRMAN CARR: Other than the simulator is what we're talking about.

MR. SCOTT: All of the supervisors and I will say as many as five to six of the reactor operators and about 18 of the auxiliary operators.

CHAIRMAN CARR: And you mentioned that some of your SROs have college degrees. How many do you have that are degreed SROs?

MR. SCOTT: Now, I have one degreed SRO that's not an STA. We started our group of STAs in the plant and they've done very well and we are moving them up to unit supervisors. So, I think -- let me be sure I've got it right -- about -- there are seven total degreed SROs now, six of which started as STAs and are either still STAs or unit supervisors and one other operator who has gained a degree.

CHAIRMAN CARR: Do you have a program that

leads to college degrees for your people?

MR. SCOTT: We do but it's struggling. We have not gotten to the point where we are happy with it. It's a difficult problem to work, as you know, and we've got more work to do in that area.

MR. NYE: Mr. Chairman, I might say we're committed to having a degree program for our people. We think there's a cadre of perhaps 120 to 130 candidates for these programs. We do have relatively accessible educational institutions with which we're negotiating now and we do expect to have a full degree program paid by the company in place in a short order.

COMMISSIONER ROBERTS: What is readily accessible?

MR. NYE: Well, Stephenville, for one. By Texas terms it's readily accessible.

COMMISSIONER ROBERTS: That's the most barren, remote site I ever saw.

MR. NYE: We like to think of it as the garden spot.

CHAIRMAN CARR: That means within 100 miles.

COMMISSIONER ROBERTS: What did you say, a garden spot?

MR. NYE: A garden spot, yes.

COMMISSIONER ROBERTS: Well, let me ask you a question.

MR. NYE: Yes.

COMMISSIONER ROBERTS: Minutia. Did you construct the -- what is it, Squaw --

MR. NYE: Creek Reservoir. Yes, sir, we did.

COMMISSIONER ROBERTS: Where does the water come from?

MR. NYE: Well, it comes out of the Brazos River primarily. It has some runoff, but we do pump that reservoir full for initial service and we do have supplemental pump capability as well, although it has some runoff.

MR. SCOTT: Rolls right off the limestone.

COMMISSIONER ROBERTS: Thank you.

CHAIRMAN CARR: Thank you very much. And before you all leave the table, I'd like you to be joined by Ms. Garde, if she would, and we'll get her testimony, please.

Welcome.

MS. GARDE: Thank you.

CHAIRMAN CARR: Proceed.

MS. GARDE: Thank you very much.

My name is Billie Garde and I'm attorney

representing the Citizens Association for Sound Energy. CASE is a non-profit, tax-exempt public interest organization in Texas which was formed in 1974. The purpose of the organization is to inform the public about economics, health and safety concerning the use of energy through a variety of methods.

Historically, CASE's primary goals, or one of their primary goals and activities has been to bring out the truth in the manner in which Comanche Peak Nuclear Power Plant has been designed and constructed. CASE also participates regularly in public activities such as television programs, forums, radio talk shows and has done that since 1975.

Specifically and relevant to you is that CASE became one of the three original intervenors in the licensing hearing in 1979 and then remained as the only intervenor after the other two admitted interventions withdrew. CASE continued in the operating license hearing for over six more years as intervenor. In 1984 is when I began representing CASE in connection with the licensing hearings.

In 1988, CASE and Texas Utilities reached a settlement of the operating license issues and I agree with Mr. Counsil's characterization that at the time

of the settlement CASE decided that the only remaining concern was implementation, successful and adequate implementation of the Corrective Action Programs that had been hammered out over a period of years.

This resulted in both a settlement and a joint stipulation. The joint stipulation is simply a different method for CASE to accomplish the same purpose that they have had all along. It gave CASE extensive rights and opportunities to monitor completion of Comanche Peak in an unprecedented manner. I'd like to briefly summarize some of those things. My written statement has the words, you can read them, but basically we have three forms of operations that we are engaged in.

The first is the Operations Review Committee and Mrs. Juanita Ellis, who is the President of CASE, was appointed as a regular member of the ORC. I'm the alternate. At this time, the ORC is meeting on a regular monthly basis and is extremely active and involved in other subcommittee activities which basically review everything about the plant on a monthly basis at this point. I believe they meet quarterly, regularly.

They review tech spec changes, licensing amendments, procedures, violations and deviations

identified by the Nuclear Regulatory Commission, audit reports and findings from the regular staff. All of these things are shared with the ORC through mail packages. We then have meetings, we review them, discuss them and come to some resolution on whether or not the ORC agrees with what the site management's proposed resolution or action is. At times we do and at times we don't. When we don't, the ORC provides input and suggestions to site management and they have to react to that suggestion. Usually they take it. Most of the time they take it.

CASE's involvement has been as a full participating member. We don't just show up and attend the meetings and not say anything. We ask questions, we participate in subcommittees, we are actively involved in the ORC roles. We've reviewed and attended a lot of the various meetings as ORC members and actively pursue those issues which are of concern to us that arise through our work on the monitoring project.

The monitoring project is CASE's essentially day-to-day activities on Comanche Peak. Through essentially Section 2.3 of the Stipulation, CASE was provided the opportunity to monitor audits at the plant. Now, this was something that CASE put on the

table in the settlement discussions as a method that we devised in order to be able to determine what was really going on at the plant. We could have asked for or discussed at the settlement a lot of other options in terms of how are we going to get the information about what's happening at the plant. But we decided that if we were able to monitor the audits, that we would be able to essentially piggyback the auditing programs review of the plant. So we would get the benefit of watching what was happening throughout the site as well as be able to determine at the earliest possible opportunity if something was going wrong with the audit program itself. Because of that, Section 2.3 gives CASE the right to also ask for our own audits to be done. If we think the audit program is out of control, we also can go in there and put together some kind of audit to keep it on track.

Up to this point we have monitored about 60 audits to date. Now, what that means is that a CASE consultant, and occasionally myself, have actually gone on hands-on auditing activities. We've looked at the same documents, we review the same procedures, we look at the same hardware, we reach independent conclusions on those audits and when we have independent conclusions which are different from the

auditors, that becomes what is loosely called a CASE concern.

Those concerns may be small. They may be as minor as identifying a bolt or a weld that we have some problem with to having fairly major programmatic concerns. Through the stipulation process, we raise those concerns to Texas Utilities and Texas Utilities responds to those concerns in some manner. Now, concerns go on a track which is clearly delineated in the stipulation process and if they are not resolved along the way and CASE continues to have a concern that isn't taken care of correctly, it raises to the level of a dispute.

A dispute is when we formally notify the Nuclear Regulatory Commission that we've got a problem and we want to get them involved in helping us sort it out. They look at CASE's position and they'll look at Texas Utilities' position and then they will reach their own independent position on that issue. Now, if the staff takes a position and CASE still disagrees with it, we then can go forward to a 2.206 process and could continue that through the courts if we wanted to.

The reason that I explain this is because I want to also reiterate and emphasize the point that

none of the issues that CASE has as concerns, whether they come to CASE as allegations, whether they independently are discovered by CASE at the plant, are, if you will, captured or held within the TU/CASE process. If we feel strongly enough about an issue, we can pick up the phone and call the NRC staff about that issue. If we feel that, for some reason, Texas Utilities isn't appropriately advised of that issue, we can pick up the phone and call. Most of the time that would only be in the context of an OI investigation, if something like that came up. But we have the right to do that, we retain the right to do that.

The other part of the project -- I did want to tell you that we've had one dispute. We're in the final resolution of that dispute. Everybody has taken their final position and CASE now has to make a decision on what it is going to do in response to the NRC staff's position on that issue.

We are also in a preliminary stage of a potential dispute. Besides that, there are a number of concerns which TU and CASE are working on. None of those are on track, if you will, to a dispute.

The real strength of the stipulation process is the open communication between top level management

in Texas Utilities and CASE. This occurs regularly, sometimes daily, but it occurs through monthly scheduled meetings between Mr. Counsil, his advisor, and Ms. Ellis and myself. We meet the first Wednesday of every month. We have very open, frank, sometimes loud sessions on our concerns on how things are going, whether they're going well, whether we're having interface problems, whether we're having major disagreements on particular substantive issues. But we do meet regularly and have managed to stay at the table and keep talking regarding all of our different concerns.

CASE is not here to brief you on fuel load readiness. The only response that I have to the presentation that you've been presented this morning is that CASE does have a concern that we're a little premature on fuel load readiness and that goes to essentially two issues, the plant's actual condition, the number of open items, the number of personnel on the site. I have a little concern with Mr. Scott's number of 8700 open items. My last check, which was about a week and a half ago, was 26,000. So either we're working off different lists or I'm aware of all the other ones that have been closed out.

The second is the management attitude, what

the Commission usually refers to as character incompetence. I'd like to briefly state that CASE's concern on management attitude is that the site mid-level management has not, in our view, yet demonstrated the same level of sensitivity that top-level management, the people that are talking to you today, have demonstrated. In the incidents in which we've observed Texas Utilities over the last couple months that I would say raise to the level of an incident, particularly the check valve, once top level management got involved there was immediate, responsive corrective action, appropriate, look at the broad based concerns, looked at the generic implications and immediately recognized the event for what it was.

Our concern was and still is that that attitude has not yet filtered down to mid-level management sufficient to make us feel comfortable. I know that that's one of the goals of the two week operational readiness time period and it's something that TU is working on and it's certainly something that he's heard from us, Mr. Counsil has heard from us before.

That is essentially a summary of what our concerns are at this point. I'd be glad to answer any

questions you might have for us.

CHAIRMAN CARR: Thank you very much.

Commissioner Roberts?

COMMISSIONER ROBERTS: I have no questions, just an observation. At a hearing before the Subcommittee on Nuclear Regulation, I think Ms. Garde and CASE took some bum wraps --

MS. GARDE: Thank you.

COMMISSIONER ROBERTS: -- and I think there were some inferences about your integrity and your motives in regard to this stipulation agreement that I thought were quite unfair.

MS. GARDE: Thank you, sir. I appreciate that.

COMMISSIONER ROBERTS: That's all I have.

CHAIRMAN CARR: Commissioner Curtiss?

COMMISSIONER CURTISS: Well, I would like to commend both parties in this proceeding for what I think is a unique and unprecedented agreement that serves not only your interest but the interest of the Commission as well. It does seem to me that for the first time we had an agreement here that everybody gave a little bit in and I trust from what you've said, and I'll ask the licensee as well, that it's proven to be an effective mechanism for raising and

resolving concerns that you might have.

Does the licensee concur in that?

MR. NYE: Yes, we do.

COMMISSIONER CURTISS: Okay. Just a couple of quick questions. Is there an explanation for the discrepancy between the open items, the 27,000 versus 8700

MR. CAHILL: I think I can help there. I think what Austin Scott referred to was the work items under operations and maintenance and represented physical work, some adjustment or modification to the physical plant. There are what we call paper items which involved reconciling any missing part of the record or they could be anything from a signature that has to be traced down or a lost package. Those amount to some 7,000 in addition and his number was 8,700. That's roughly 9,000.

In addition, there are construction completion items that probably make up the difference. All of these, the paperwork and the construction work, are being closed down very rapidly and that explains to some extent the large number of people that we have on site. In addition, because of the nature of this project with all of the review groups and the need to maintain the project records and track all of this

work from original construction through the corrective programs at the same time that we're completing construction and testing the plant, training and getting ready for operation, while also maintaining a cadre of the second unit, that adds up to around 7,000 people. Now, only about 3,000 of those are in construction and they're going down very fast.

CHAIRMAN CARR: How many of those 7,000 are Comanche Peak employees?

MR. CAHILL: There are 1,400 roughly TU Electric employees and the remainder are consultants, construction people, guards.

CHAIRMAN CARR: And how many of those-- what's the planned level at fuel load and criticality?

MR. CAHILL: Oh, at fuel load and criticality, we expect by that time to be below 4,000.

COMMISSIONER CURTISS: How many of those will be contractors?

MR. CAHILL: What's that?

COMMISSIONER CURTISS: How many of those 4,000 will be contractors?

MR. CAHILL: 1,400 permanent employees. They include operators and engineers and quality assurance people in support of the plant. And they would be supplemented by contract guards and more or

less permanent support to bring that level to something over 2,000.

COMMISSIONER CURTISS: When you reach the end of your warranty run and your commercial operation, does that number stay relatively constant?

MR. CAHILL: When both units are in service, we'll reach a steady level that should be somewhere between 2,000 and 3,000.

CHAIRMAN CARR: Any other questions?

COMMISSIONER CURTISS: I just had one other quick question.

On the mid-level management concern, is that a concern that falls within the scope of the ORC? Is it an issue that has been raised there and are there suggestions that you have as to how that issue might best be addressed or resolved?

MS. GARDE: It has been raised at the ORC at the last meeting briefly, although I think it most appropriately has been raised at the management meetings with Mr. Counsil. How the process would work would be that if we didn't see some response or reaction, then we would feel as our duty as an ORC member to say, "Management isn't reacting properly to this concern which we have raised. Now the ORC needs to get involved." We've advised the ORC. We haven't

asked the ORC to do any action or take any action because we think we've made management sufficiently aware of what our concern is and that they're working on that.

I would be concerned if we were here to talk about whether or not they're ready to load fuel. I would probably be more aggressive in saying that's a very real concern. But I'm certainly willing on the basis of TU's reaction and response to give them an opportunity to try to work that out.

COMMISSIONER CURTISS: One other quick question. You mentioned under the agreement that you've got the right to come to the Commission through a 2.206 or to call the staff.

MS. GARDE: Yes.

COMMISSIONER CURTISS: Does that agreement permit you to go directly to the licensing board and initiate a formal request for a hearing if that's an option that you should decide you'd wish to pursue?

MS. GARDE: My view of the settlement agreement is that we could not.

MR. NYE: There is no licensing --

MS. GARDE: Well, right. You asked if we could initiate a new one. No.

CHAIRMAN CARR: Any other questions?

Thank you very much for your presentations.

At this time we'll ask the staff to come forward.

You may proceed, Mr. Taylor.

MR. TAYLOR: Good morning, sir. With me at the table, to my right, Tom Murley of the Office of NRR and Bob Warnick, who is under OSP but is stationed at the Comanche Peak site. Immediately to my left, Denny Crutchfield and Chris Grimes, both from the Office of Special Projects with the responsibility for the work at Comanche Peak and the work of the staff.

We will brief you this morning on the status of the staff work under Mr. Crutchfield's office, who reports to Doctor Murley, and we will include inspection activities at Comanche Peak.

I've separately informed the Commission of staff activities related to anonymous letter you received from "NRC staff inspectors" raising issues with the current SALP process at Comanche Peak. This information has also been publicly released. Doctor Murley will provide some further mention of that matter in his discussion.

I'll now ask Doctor Murley to commence.

DOCTOR MURLEY: Thank you.

Mr. Chairman, Commissioners, the purpose of

this briefing by the staff is to inform the Commission of the status of licensing activities at Comanche Peak as Unit 1 nears completion.

The last briefing the Commission had on the status of Comanche Peak was during an NTOL status meeting in mid-1987. We will come back and brief the Commission again when we're prepared to recommend issuance of a full power operating license.

The staff's presentation will be made by Chris Grimes, at my far left, who's the Director of the Comanche Peak Project Division, and Bob Warnick, on my right, who's Assistant Director for Inspection at the site. And, of course, Mr. Crutchfield is the Associate Director for Special Projects since the Comanche Peak Project Division returned to NRR in January of this year, and Mr. Crutchfield reports directly to me.

A considerable amount of work has been accomplished at Comanche Peak in recent months. Soon after the Special Project Activities were reassigned to NRR in January, I directed that an operational readiness assessment team should be planned to determine the readiness of Comanche Peak to load fuel and to begin start-up testing. That team, which is organizationally independent of Special Projects,

began a two week inspection on Monday of this week.

Preliminary information that I have received from the team is that there is a considerable amount of work yet to be done at the plant before they're ready for fuel load. Comanche Peak plant will have to meet the same safety standards as all other plants that we have licensed in recent years. I will rely heavily on the findings of the operational assessment team for my judgments.

Only after we're satisfied that the issues important to plant safety have been acceptably resolved and that TU Electric staff is prepared to operate the plant safely will a low power license be issued.

We have implemented a plan to address the concerns raised in a memorandum to the Chairman dated October 4th, apparently from an anonymous group of NRC staff inspectors. I submitted this plan to the EDO on October 10th and, as he mentioned, he forwarded to the Commission on October 11th. We are treating that memorandum similar to a differing professional opinion in accordance with Manual Chapter 41.25, except that we have had to adjust those procedures that do not provide for an anonymous differing professional opinion.

In addition, Mr. Crutchfield has requested that all NRC staff who have been involved in inspection activities at Comanche Peak review the draft SALP report and submit any comments they may have to him by October 25th. The differing professional opinion panel will review those comments in conjunction with their review of the concerns raised in the memorandum. Mr. Crutchfield and I will then decide the appropriate course for completing the SALP report after we have received the DPO panel report.

Mr. Grimes will now make the staff presentation.

MR. GRIMES: Good morning, Chairman Carr, Commissioner Curtiss and Commissioner Roberts. My name is Chris Grimes and I have been Director of the Comanche Peak Project Division since it was created in February of 1987 under the Office of Special Projects.

First, I will describe some of the NRC staff activities which occurred early in the operating license application review which is useful in understanding the nature of some of the issues associated with Comanche Peak.

Second, I will describe some of the Special Project activities which are germane to the current

status of the project. Following my presentation, Bob Warnick will describe the inspection activities associated with our efforts.

TU Electric has substantially described the history of Comanche Peak and the programs that have been involved in their efforts to correct the design and construction of the facility. I will try to avoid repeating that information and focus on specific matters that are of interest to the NRC staff's efforts.

Testimony presented during the Atomic Safety and Licensing Board hearings in 1982 raised several issues related to pipe support designs and the process for field design changes which were later referred to as the Walsh-Doyle issues. The NRC sent a special inspection team to Comanche Peak to explore those issues. The special inspection team identified 19 areas of concern related to design control practices, pipe support analytical methods and pipe support construction.

The ASLB issued a memorandum and order in December of 1983, as Mr. Counsil mentioned on the quality assurance for design which concluded that the Walsh-Doyle issues had not been adequately addressed and required an independent design review of the

plant, substantially expanding the scope of the issues that might be litigated and therefore the extent to which the staff would have to evaluate and document the resolution of those issues.

TU Electric had initiated an independent design review with Cygna Energy Services at the request of the staff in 1983. TU Electric expanded the scope of the Cygna Program in 1984 in response to the ASLB's order. At about the same time, the Executive Director for Operations directed that a coordinated staff effort be developed to address all of the pending concerns, including approximately 600 technical concerns and allegations which resulted in the formation of the technical review team under a senior NRR manager.

The TRT consisted of approximately 50 staff and consultants who formed into discipline teams to evaluate issues in seven broad areas. Those areas were electrical and instrumentation, civil structural, mechanical and piping, quality assurance and quality control, coatings, test program and miscellaneous. You can see the depth that the TRT explored issues at Comanche Peak.

The results of that effort identified additional detailed concerns which were documented in

Supplements 7 through 11 to the Staff Safety Evaluation Report. These findings were a primary motivation for TU Electric's formation of the Comanche Peak Response Team and provided the central issues for the CPRT Program plan.

In early 1985, the applicant requested that the ASLB hearings be suspended while they implemented the Cygna and CPRT Programs. The staff's efforts at that point were focused on the manner by which these programs would address the known specific issues and their generic implications.

In early 1986, the staff issued Supplement 13 to the Safety Evaluation Report which concluded that the CPRT Plan provided an adequate overall structure to address all existing and any future issues and identified any needed corrective actions. The staff's evaluation also identified those items that would have to be addressed during implementation of the program.

Later in 1986, based on the CPRT's initial findings, TU Electric began the development of a Corrective Action Program which had as a central element provisions for a complete validation of the plant's design, departing from the early CPRT Plan for sampling discipline-specific design properties.

In February 1987, the Office of Special Projects was formed to provide the dedicated management oversight of Comanche Peak in the TVA Projects and to assess whether the identified problems were on a path to an acceptable solution and, where not, to identify acceptable solutions necessary to enable the staff to complete its licensing review. At about that time TU Electric presented the staff with its plans for the Corrective Action Program.

TU Electric has described the scope and elements of the Corrective Action Program. I would like to pause before I describe the Special Project activities and note the important features of the Corrective Action Program.

Through the use of design documents and field verification of the plant's construction, TU Electric provided a means to trace the design basis and the plant hardware and where they differed to provide procedures to reconcile the differences.

During the implementation of the Corrective Action Program, numerous design changes and physical changes to the plant occurred, of varying significance. Some of the changes resulted from designer construction deficiencies. Others occurred because of the need to provide a defensible design

basis, and still others occurred because of new issues. For example, the resolution of generic letters and bulletins. As a result, TU Electric had to update the final safety analysis report to reflect these changes.

Inasmuch as the staff's conclusions in its Safety Evaluation Report had been developed in the period from 1980 to 1984, the staff developed a plan to evaluate the new amendments to the final safety analysis report in conjunction with a comprehensive review of earlier staff conclusions.

TU Electric's project staff maintain a file of all of the FSAR amendments with cross references to related staff conclusions in the Safety Evaluation Report and all of its supplements. The staff used this information to direct the staff's technical review as to to assure the most efficient use of staff resources and at the same time focus attention on those areas with the greatest potential safety significance.

The initial efforts of the Comanche Peak Project Division focused on the various programs. In January 1988, we issued a program evaluation which described the relationship between the Cygna CPRT and Corrective Action Program. We concluded that with specific conditions, these programs could be

reasonably expected to identify and resolve any design and construction deficiencies.

Shortly thereafter, the CPRT completed its efforts and presented its conclusions in the form of a collective evaluation report and a collective significance report.

Shortly thereafter, the staff issued supplements 14 through 20 to the Safety Evaluation Report, which described the resolution of the specific pending issues and the associated programmatic changes, generally following the format of the TRT's findings.

In Supplement 20, the staff presented its evaluation of the CPRT process and its conclusions. The joint stipulation, which led to the dismissal of the hearings in July, 1988, allowed the staff to shift resources from the adjudication of issues to more direct review and inspection efforts.

In 1989, the staff issued Supplement 21 to the Safety Evaluation Report, which provided the first update on the status of licensing issues since Supplement 12 was issued in October 1985.

In July 1989, the staff briefed the Advisory Committee on Reactor Safeguards on the status of Comanche Peak and the issues that they had raised in

their 1981 letter to the Chairman. The ACRS concluded that they do not need to take any further action relative to Comanche Peak, affirming their previous conclusion.

At present, the staff is completing its review of the operating license application for Comanche Peak. While there are still some issues to be resolved, they are fairly typical of issues pending on a near-term operating license: for example, the application of leak before break to certain piping designs, in this case the RHR line, and the resolution of thermal stratification concerns for such piping systems; completion of all equipment environmental qualification summary packages, in this case for certain cables and transmitters; implementation of the full security program and conduct of a related exercise to demonstrate personnel accountability during an emergency evacuation of this site; the resolution of recent seismic findings relative to the adequacy of the plant seismic design basis, which is similar to issues that were raised on Perry and Vogtle.

In addition, we are pursuing generic concerns related to Borg Warner check valve failures, substandard fasteners and fittings, and capped-on

wiring insulation failures, which have particular applicability to Comanche Peak. We believe that these and other pending issues can be effectively resolved in a timely manner.

When TU Electric informs the staff that they are ready to load fuel, we will advise Doctor Murley of the status of any pending issues and recommend what actions, if any, need to be resolved before low power licensing or what license conditions should be imposed. The Comanche Peak Project Division will prepare a readiness memorandum from Mr. Crutchfield to Doctor Murley, as is required under Inspection Manual Section 94 300, which is usually presented by the regional administrator.

At this point, I would like to ask Bob Warnick to describe the inspection activities that will support that finding, unless there are any questions you'd like to ask of me at this time.

CHAIRMAN CARR: I have none.

MR. WARNICK: Thank you. My name is Robert Warnick. I have served as the Assistant Director for Inspection Programs, since the Comanche Peak Project Division was created in 1987. My two lead senior inspectors, Herb Livermore, in charge of construction, and Joel Wiebe, in charge of operations, are with me

today.

Since our formation, the Comanche Peak inspection staff and myself have been located at the plant site. At our peak effort, we had a resident professional staff of 15 inspectors and consultants. We currently have a resident professional staff of 11. In addition, we have used specialist inspectors and teams from Headquarters and the regions.

During the period from September, '87, through August, '88, more than 20,000 direct inspection hours were applied at Comanche Peak, resulting in 83 inspection reports. Most of this effort was associated with the Corrective Action Program and related construction activities.

During the period from September, '88, through August, '89, the most recent SALP period, more than 21,000 direct inspection hours were applied at Comanche Peak, documented in 91 inspection reports. During this period, we shifted our emphasis to the pre-operational programs.

During the first half of 1989, we performed three team inspections of the Corrective Action Program. These were major milestones in our efforts to complete our inspections of that program. In general, we found that the Corrective Action Program

had been successfully and satisfactorily implemented.

The pre-operational test program for Unit 1 was originally completed in 1984. However in view of the substantial number of design changes and construction activities that have occurred since that time, the NRC asked TU Electric to repeat all of the pre-operational tests or to justify why specific tests were not needed to be repeated. Approximately 90 percent of the pre-operational tests will have been repeated by the time the utility completes their prestart program.

During the past two years, inspectors and specialists from Headquarters, the regions, and the Technical Training Center have been utilized in the inspections of Comanche Peak to insure we had the appropriate technical expertise in our inspection efforts and to provide an Agency-wide perspective of Comanche Peak.

For example, the Region I NDE mobil van and inspectors were on-site in 1988 and again in 1989 for pre-service inspections and an independent NDE assessment.

Headquarters provided inspection teams for equipment qualification, seismic qualification, and pump and valve operability.

Region IV provided inspection teams for the emergency preparedness appraisal, the emergency graded exercise, and the emergency operating procedures evaluation.

Representatives from Region II, Region IV, and the Technical Training Center participated in the operations and maintenance procedures team inspection.

And inspectors from Region IV have performed inspections in the areas of security, radiation protection, environmental monitoring, chemistry, confirmatory measurements, and operator licensing.

The issues and weaknesses identified during these and other inspections have been or are being addressed by the applicant.

With regard to operator licensing and training, we observed that the pass rate for reactor operator exams had historically been poor. Following a management meeting with the applicant in mid-1988, TU Electric made significant changes to their operator training program. In July '89, eight senior reactor operators and four reactor operators were administered requalification exams by the region. All of those individuals successfully passed the examination, indicating that the training program improvements have had an effect.

As TU Electric previously explained, they have an adequate staff to support operation of Unit 1. However, the licensed operators as a general rule do not have much nuclear power plant operating experience. TU recognized this weakness and took steps to have the operators obtain hot operating experience at similar facilities that are operating. This is an area that we will be particularly sensitive to during plant start-up and initial plant operation.

The SALP process for Comanche Peak was suspended in 1984, because of the considerable attention that was already being devoted by the NRC to evaluating the plant and the company. We reinstated the SALP process in 1987 and assessed the applicant's performance for the period from September 1, 1987, through the end of August, 1988.

The SALP Board assessed the applicant's performance in both construction and operations functional areas. The applicant's performance was rated category one in the area of security, primarily because of the state of the art equipment they had in their comprehensive security plan. All other areas were rated category two or were not rated because of insufficient activity. Strengths were noted in management involvement and control and staffing.

Weaknesses were identified in the handling of deficiencies.

The SALP Board met again on September 19th, 1989, to review the applicant's performance for the period September 1, '88, through the end of August, '89. Because a differing professional opinion was submitted to the Commission, the proposed initial SALP report has not yet been issued.

At present, the Unit 1 construction and related Corrective Action Program activities are nearly complete, as are our NRC inspection activities. The pre-operational tests are similarly nearing completion. Out of 98 planned pre-operational tests, 94 have been performed. Test results for 78 have been approved by the applicant's joint test group. Out of 30 planned acceptance tests for nonsafety systems, 29 have been completed by the applicant. Four safety-related heating, ventilating, and air conditioning pre-op tests and one nonsafety chilled water system test remain to be performed.

As Doctor Murley described, beginning on Monday of this week an independent operational readiness assessment team is at the site to conduct a two week inspection of the applicant's readiness for plant operation.

As TU Electric has described, they have committed to a two week operational preparation period following the completion of essential construction. This will give them time to prepare, practice, and demonstrate their readiness. Our site inspection staff will continue to carefully monitor the applicant's preparations for plant operation and the resolution of remaining construction deficiencies as part of our efforts to develop a sound basis for a recommendation relative to the issuance of a license for Unit 1, pursuant to Manual Chapter 94 300 of our inspection program.

With regard to the status of Unit 2, in April 1988, TU Electric postponed construction and implementation of the Corrective Action Program on Unit 2 to direct their efforts to Unit 1. Since that time, construction on Unit 2 has been limited to those activities required to support Unit 1 and to minimize Unit 2 construction personnel in Unit 1 areas after Unit 1 goes into operation. The applicant currently estimates Unit 2 construction to be about 85 percent complete, and that Unit 2 will lag Unit 1 by approximately two years.

That concludes my presentation.

MR. TAYLOR: Mr. Chairman, I believe some of

the numbers that have been mentioned will give you an idea -- the Commission -- of the extraordinary effort that the staff has dedicated to the oversight in the past years to the completion of construction and licensing and inspection at Comanche Peak.

With that final thought, that concludes the staff's presentation.

CHAIRMAN CARR: Any questions, Commissioner Roberts? Commissioner Curtiss?

COMMISSIONER CURTISS: No, just a comment.

Picking up on the point that Mr. Taylor just made, it does seem to me that the staff ought to be commended for the work that's gone into this proceeding, this briefing, not just the people here at the table but the others that have been involved.

This case has had a long and tortuous history and it's clear that we're not to the end of the road yet. But for the effort that's gone in to date, as well as the approach that Mr. Taylor and Doctor Murley have outlined for the resolution of the remaining issues, it seems to me it's a responsible and an aggressive one and I think they're to be commended.

That's all I have.

CHAIRMAN CARR: Well, I would like to thank

the representatives of Texas Utilities and the NRC staff and CASE for this informative briefing. The information we've heard today provides valuable perspective on the progress at Comanche Peak and will be useful to the Commission in our future considerations of Comanche Peak.

As Texas Utilities is nearing completion of the construction phase of Comanche Peak Unit 1 and preparing for operations, I want to caution Texas Utilities of the importance of the transition from construction to operations and insure you take a conservative approach in assessing your operational readiness. It sounds like there is still work to be done before fuel load and much paper and record clean-up. The staff should follow this carefully.

I will be interested in the results of the Operational Readiness Assessment Team inspection being conducted this week and next week, and request the staff to continue its close monitoring of that as well.

Do my fellow Commissioners have any comments?

If not, we stand adjourned.

(Whereupon, at 11:41 a.m., the above-entitled matter was concluded.)

CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING ON STATUS OF COMANCHE PEAK

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: OCTOBER 19, 1989

were transcribed by me. I further certify that said transcription is accurate and complete, to the best of my ability, and that the transcript is a true and accurate record of the foregoing events.

Carol Lynch

Reporter's name: Peter Lynch

10/19/89

SCHEDULING NOTES

Title: Briefing on Status of Comanche Peak

Scheduled: 10:00 a.m., Thursday, October 19, 1989 (OPEN)

Duration: Approx 1-1/2 hrs

Participants: Licensee (Texas Utilities [TU Electric])) 45 mins

- Erle Nye
  Chairman of the Board of Directors and
  Chief Executive Officer

- William Counsil
  Vice Chairman

- William Cahill
  Executive Vice President

- Austin Scott
  Vice President of Nuclear Operations

CASE 5 mins

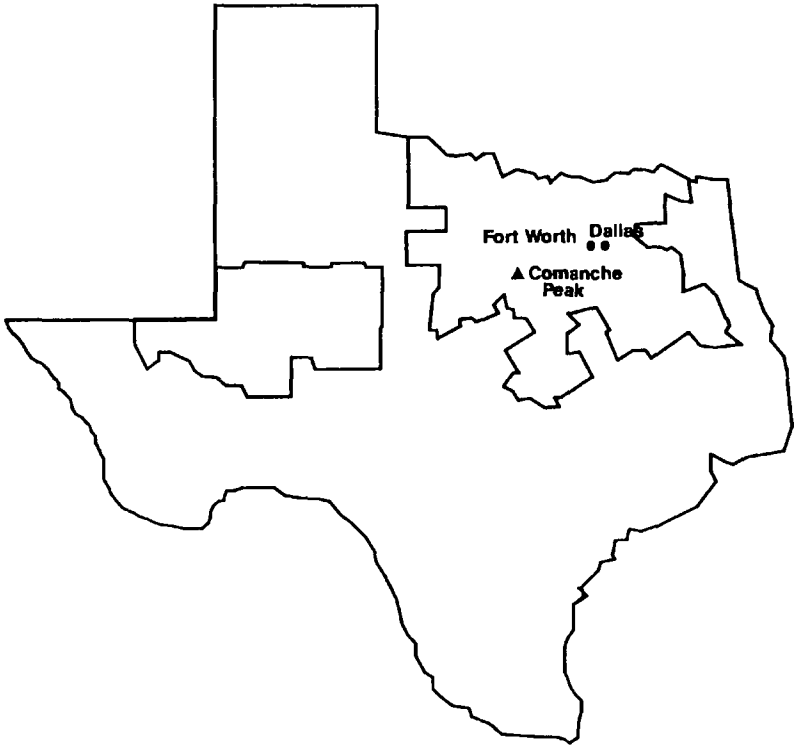
- Billie P. Garde

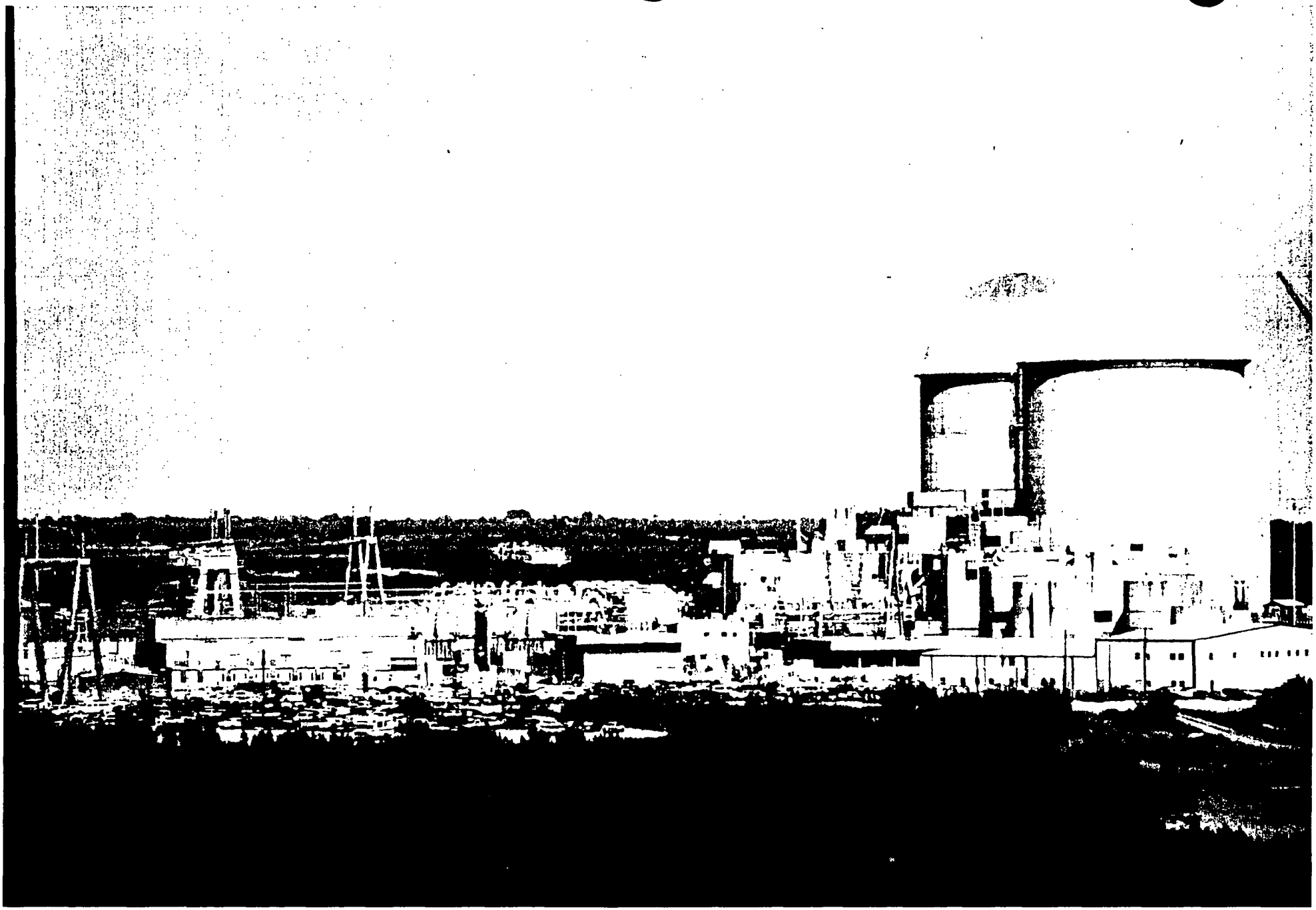
NRC 20 mins

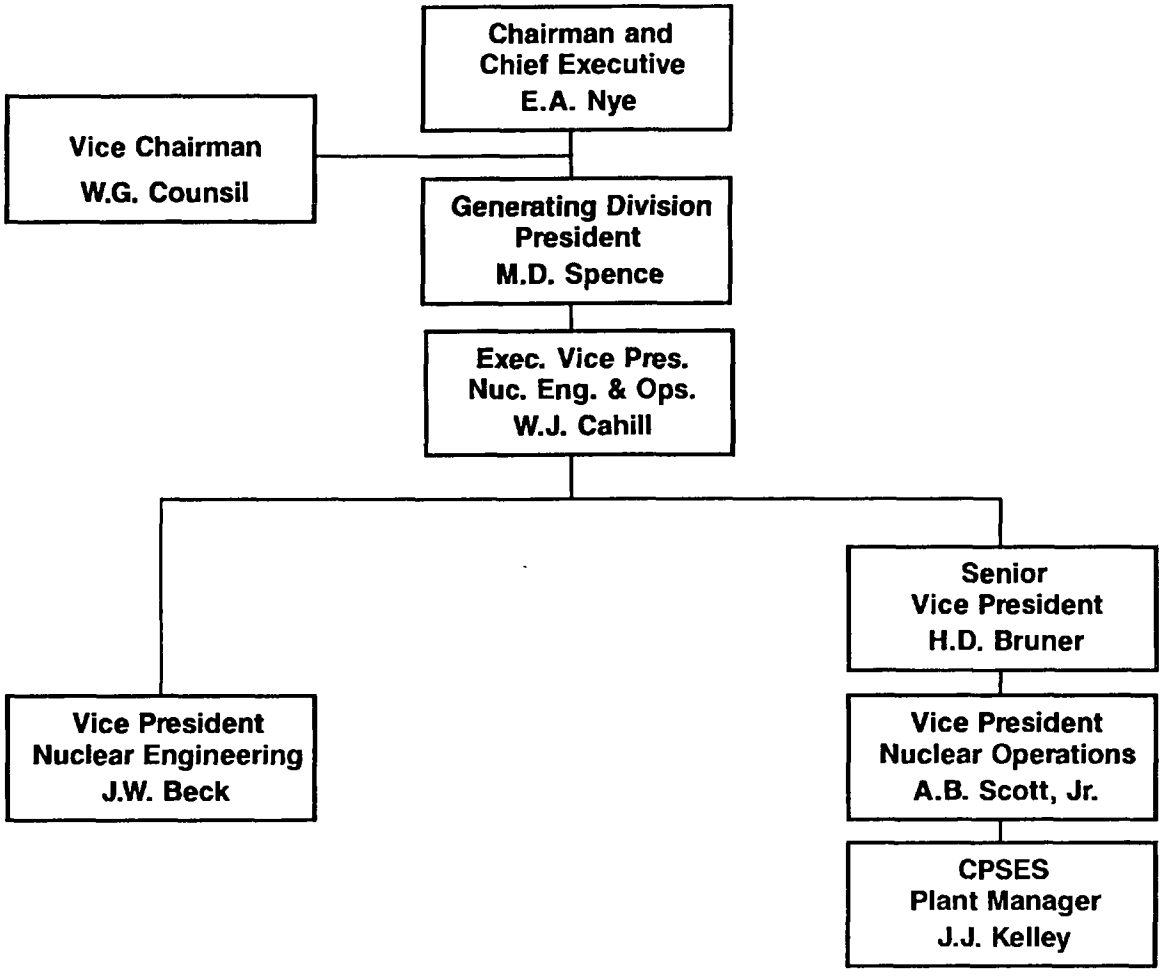
- Thomas E. Murley
- Dennis M. Crutchfield
- Christopher T. Grimes
- Robert F. Warnick

COMANCHE PEAK STATUS
October 19, 1989

THE TEXAS UTILITIES COMPANY SYSTEM






Chairman and
Chief Executive
E.A. Nye
Vice Chairman
W.G. Counsil
Generating Division
President
M.D. Spence
Exec. Vice Pres.
Nuc. Eng. & Ops.
W.J. Cahill
Senior
Vice President
H.D. Bruner
Vice President
Nuclear Engineering
J.W. Beck
Vice President
Nuclear Operations
A.B. Scott, Jr.
CPSES
Plant Manager
J.J. Kelley

Comanche Peak Steam Electric Station

Licensing Status

October 19, 1989

Christopher Grimes

Robert Warnick

Contact: C. I. Grimes
Phone: 492-3299

HISTORICAL BACKGROUND

1982 Hearing Issues

NRC Special Inspection Team

1983 ASLB Order on Design QA

1984 CYGNA Program

NRC Technical Review Team

TU Comanche Peak Response Team

HISTORICAL BACKGROUND

(continued)

1985 Hearings Suspended

NRC Evaluation of CYGNA and Comanche Peak Response Team

1986 SSER 13 on CPRT Plan

TU Corrective Action Program

1987 Office of Special Projects

CORRECTIVE ACTION PROGRAM (CAP)

Design Validation

- Design Basis Documents

Hardware Validation

- Field Verification Methods

Design/Hardware Reconciliation

CAP Impact on FSAR Review

SPECIAL PROJECT ACTIVITIES

1988	Program Evaluation
	CPRT Conclusions
	SSERs 14 - 20
	Hearings Dismissed
1989	SSER 21 on Licensing Status
	ACRS Briefing

INSPECTION ACTIVITIES

CAP Implementation

Preoperational Testing

Team Inspections

Operator Licensing & Training

Staffing

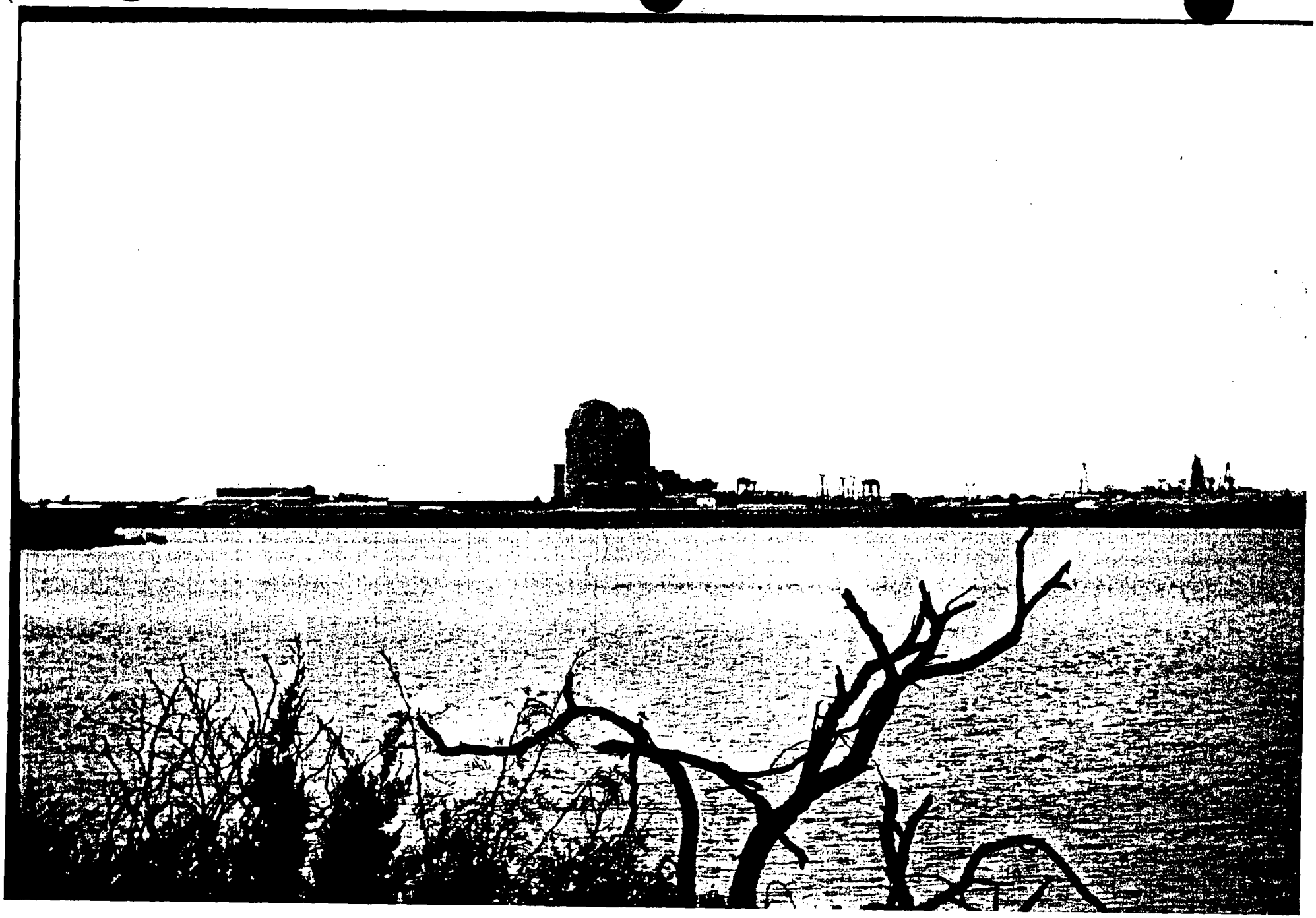
PLANT STATUS

SALP Findings

Unit 1 Preoperational Testing

Operational Readiness

Unit 2 Construction Resumption



TU ELECTRIC
PRINCIPLES FOR ENHANCING NUCLEAR PROFESSIONALISM

- Integrity and compliance
- Goals
- Accountability
- Management involvement
- Training
- Fitness for Duty
- Communications

CPSES - UNIT 1

Location:	**45 Miles S.W. of Fort Worth**
NSSS:	**Westinghouse PWR, 4-Loop 3411 MWt 1150 MWe 2 Safety Trains**
Containment:	**Steel lined, reinforced concrete**
Heat sink:	**Squaw Creek Reservoir, safe shutdown impoundment**
A/E:	**Gibbs & Hill**
Principal constructor:	**Brown & Root**
Validation engineers:	**Stone & Webster EBASCO IMPELL**

KEY EVENTS

December 1974	CP issued
February 1978	OL Application submitted
June 1980	Intervenors admitted
December 1983	ASLB Memorandum and order issued
July 1984	NRC Technical Review Team (TRT) began
July 1988	ASLB Hearings settled

SIGNIFICANT PROGRAMS

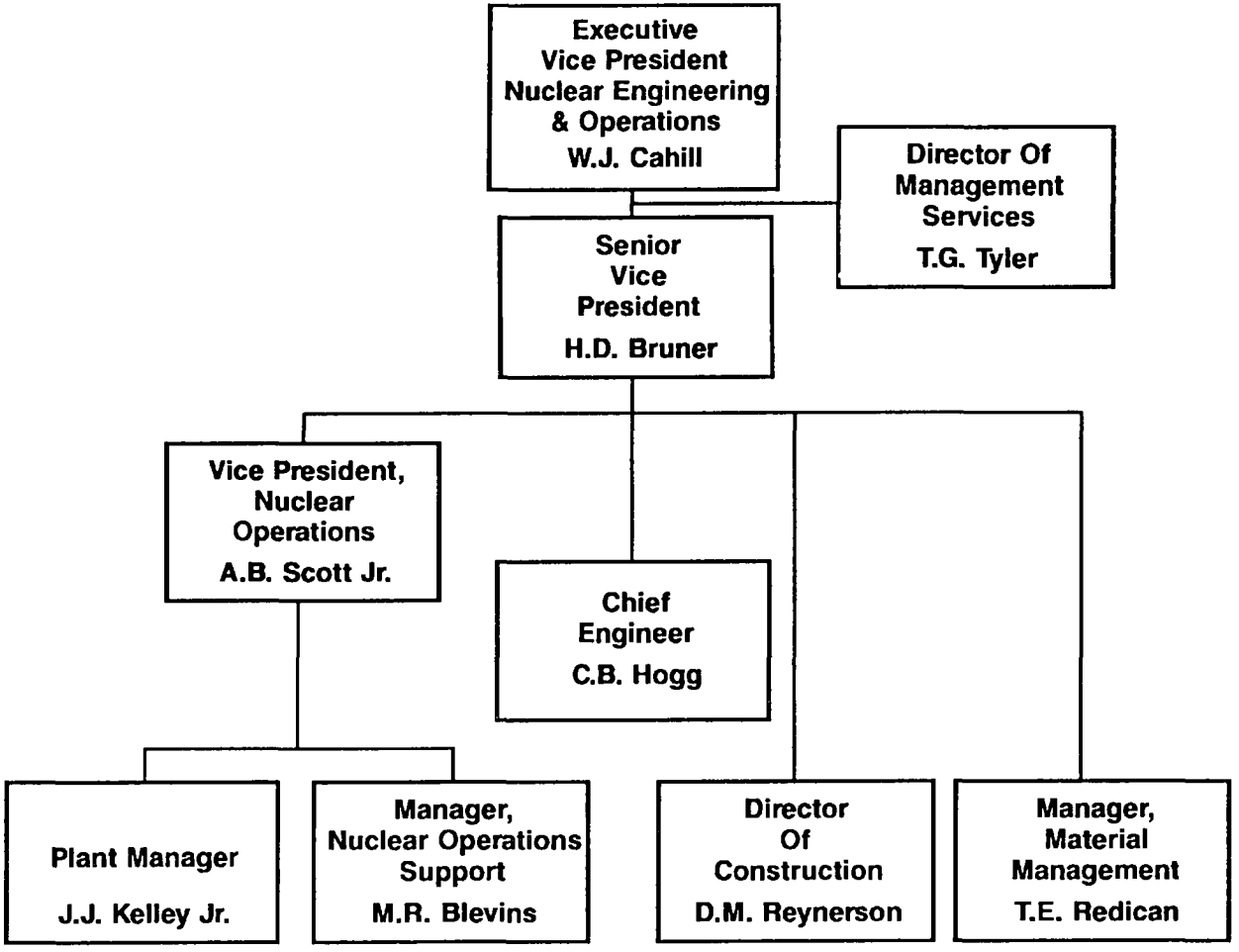
- Comanche Peak Response Team
- Cygna Independent Assessment Program
- Corrective Action Program

CORRECTIVE ACTION PROGRAM

- Design validation
- Hardware validation

CASE OVERSIGHT

- Representative on Operation Review Committee
- Monitor QA Audits
- Receipt of NRC correspondence
- Opportunity to attend NRC exit meetings


Executive
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& Operations
W.J. Cahill
Director Of
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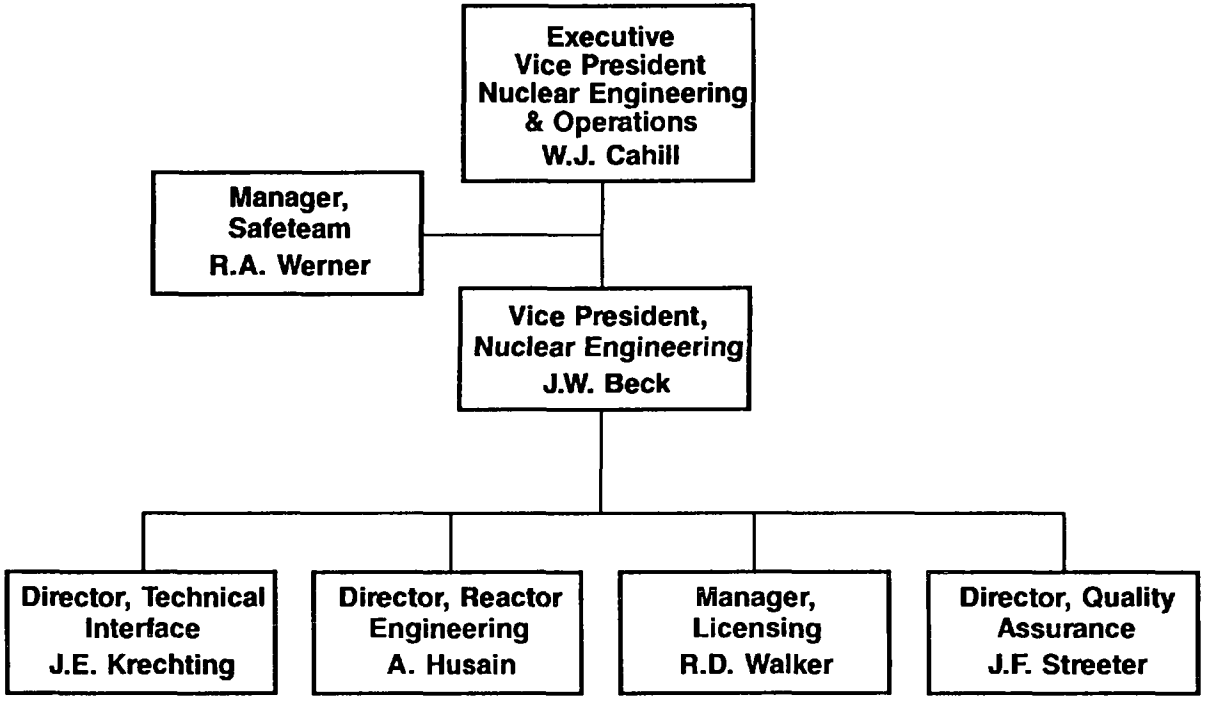
Services
T.G. Tyler
Senior
Vice
President
H.D. Bruner
Vice President,
Nuclear
Operations
A.B. Scott Jr.
Chief
Engineer
C.B. Hogg
Plant Manager
J.J. Kelley Jr.
Manager,
Nuclear Operations
Support
M.R. Blevins
Director
Of
Construction
D.M. Reynerson
Manager,
Material
Management
T.E. Redican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& Operations
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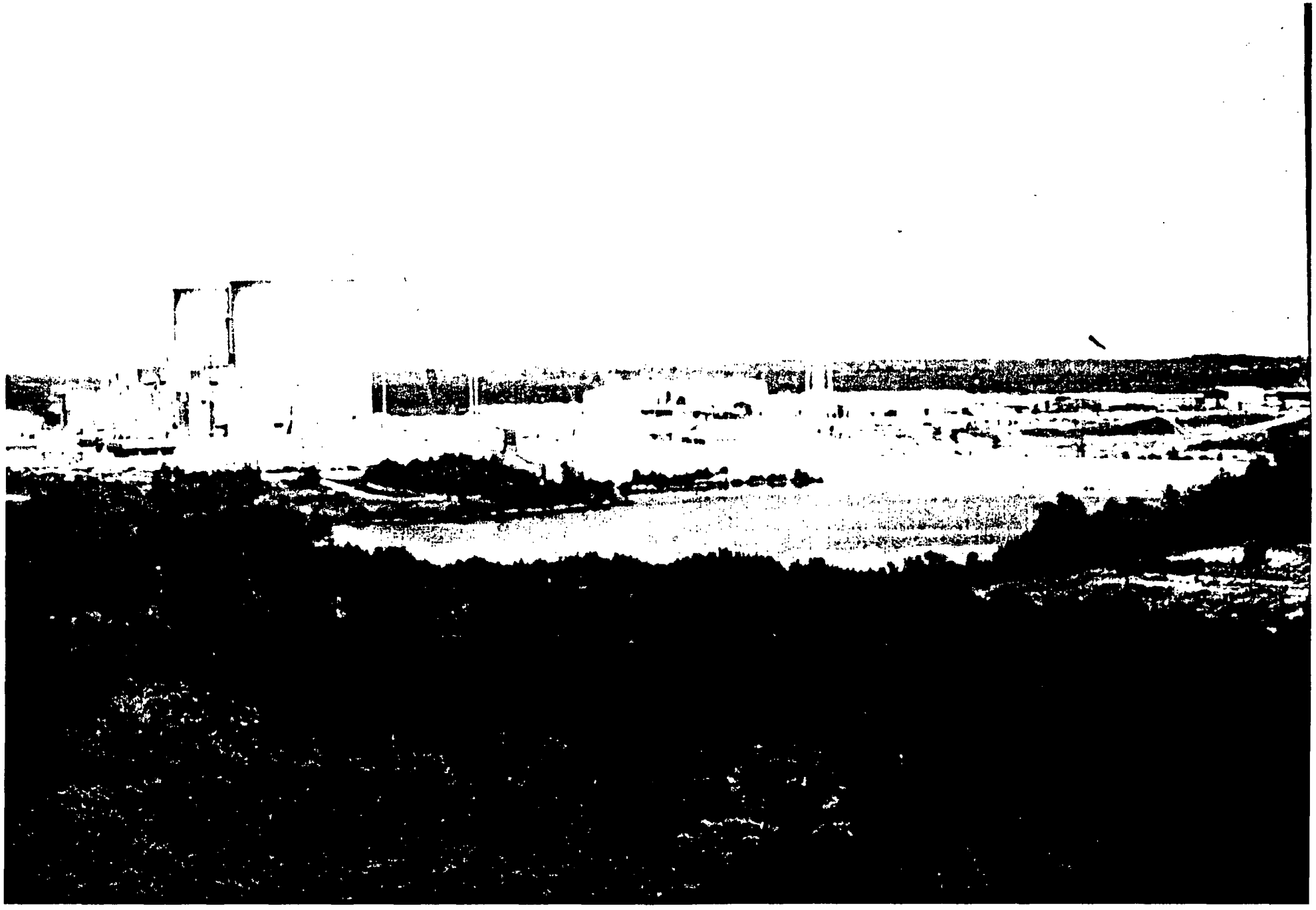
Manager,
Safeteam
R.A. Werner
Vice President,
Nuclear Engineering
J.W. Beck
Director, Technical
Interface
J.E. Krechting
Director, Reactor
Engineering
A. Husain
Manager,
Licensing
R.D. Walker
Director, Quality
Assurance
J.F. Streeter

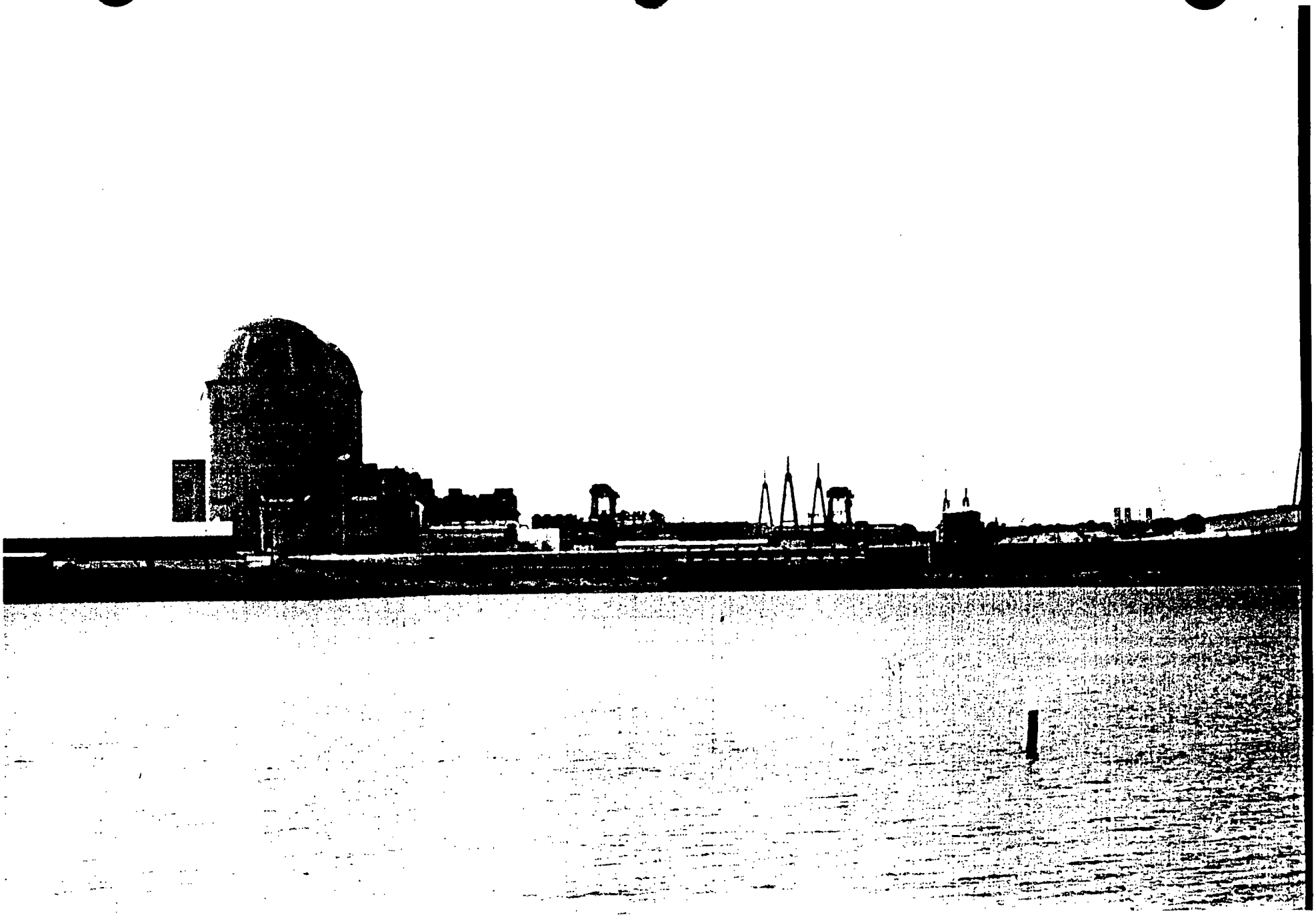
AFW CHECK VALVE CORRECTIVE ACTIONS

- Rework and test check valves
- Revise Maintenance Procedures
- Revise Administrative Procedures
- Retrain personnel to procedure revisions
- Improve documentation and reporting of plant events
- Improve communication

OPERATIONAL READINESS PROGRAM

- Readiness to operate plant
- Readiness of operation support organizations
- Readiness of equipment, personnel, procedures, training and maintenance





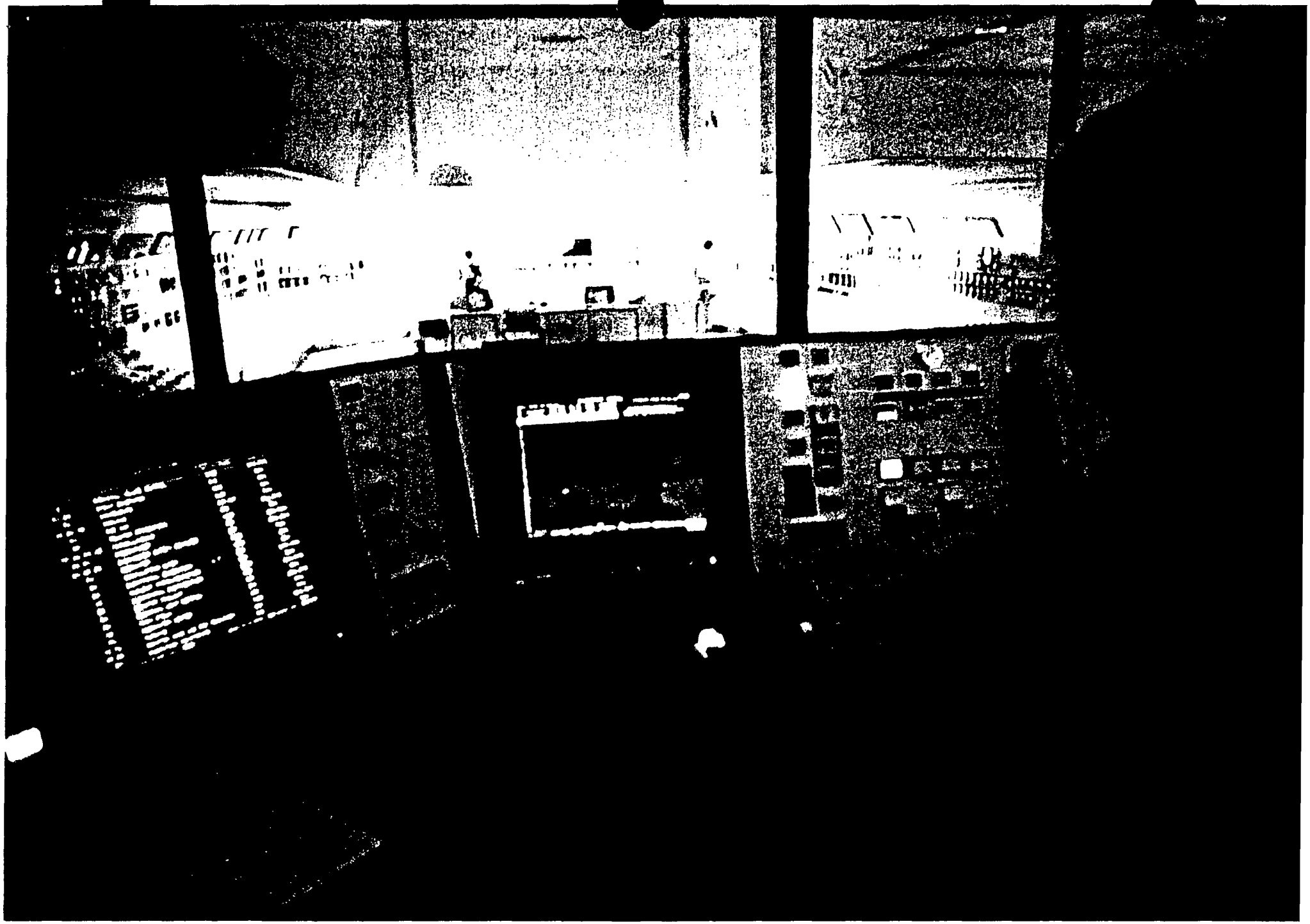
OPERATOR STATUS

Current License Holders

- Senior Reactor Operator (SRO) 32
- Reactor Operator (RO) 23
- Auxiliary Operator (Non-Licensed) 44

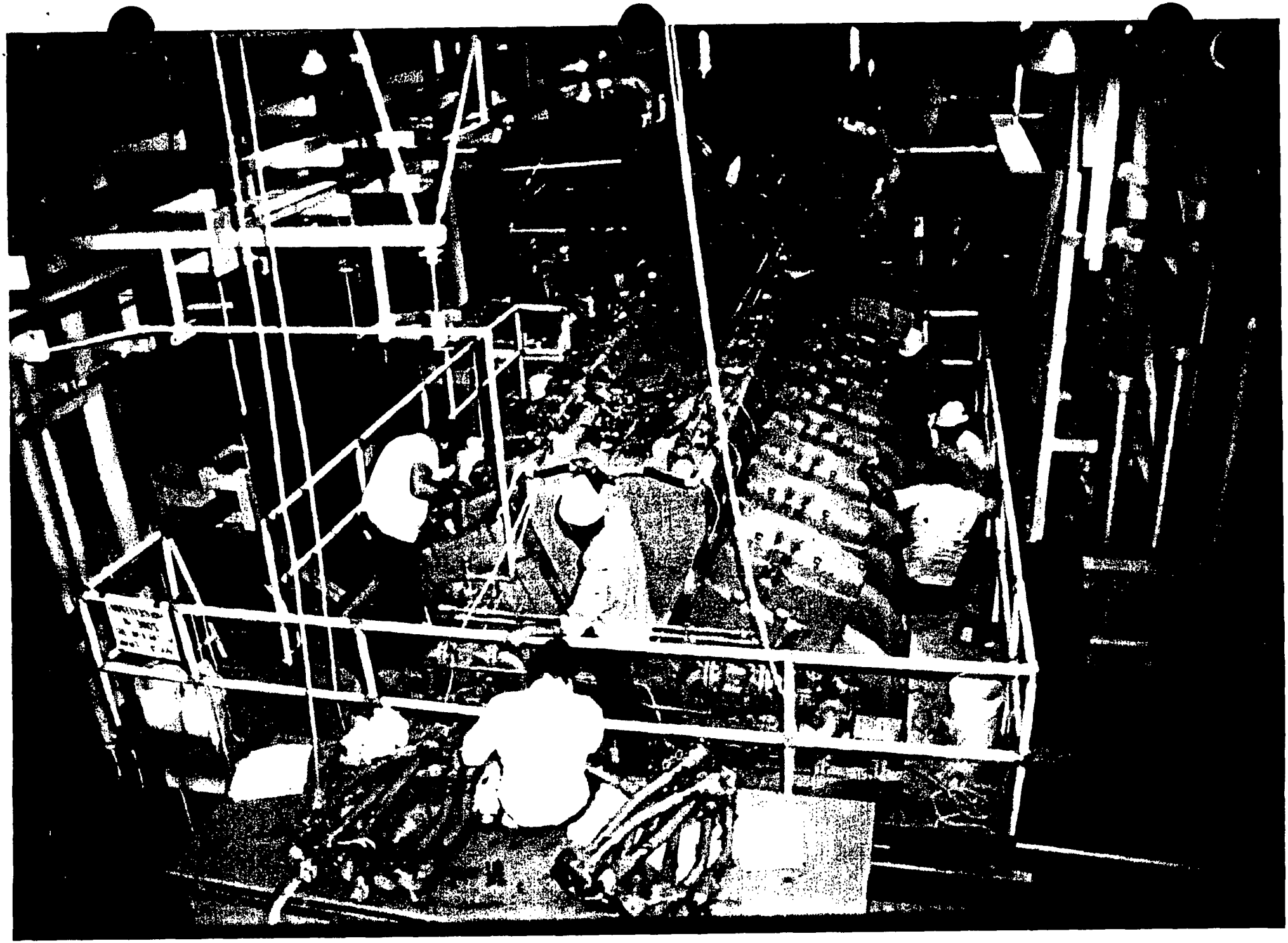
SHIFT STAFFING

	Tech Spec Requirement	Planned Unit 1
Shift Supervisor (SRO)	1	1
Unit Supervisor (SRO)	1	1
Reactor Operator (RO)	2	2
Auxiliary Operator (Non-Lic)	2	5
Shift Tech Advisor	1	1
Rad Protection Tech	1	3
Chemistry Tech	1	2
Rad Waste Operator		2



MAINTENANCE PROGRAM

- Experienced personnel
- Proven procedures
- Tested work control processes
- Corrective maintenance
- Preventative maintenance
- Work Control Center



OTHER READINESS ACTIVITIES

- Trip reduction
- Procedures
- Testing
- Security

FITNESS FOR DUTY PROGRAM

- Complies with current NRC regulation
- Applies to all personnel with unescorted access
- Pre-employment, pre-access, random and for cause testing
- Corrective action implemented for positive test

EMERGENCY PLAN

- Plan tested in full participation exercise
- Exercise observed by NRC and FEMA
- Exercise demonstrated plan acceptability

OPERATIONS PREPARATION PERIOD

- Minimum two-week period
- Systems and areas under operations control
- Station procedures in effect
- Tech spec conditions simulated
- Practice fuel load activities
- Full security implemented
- Training and assessment

POWER ASCENSION SELF-ASSESSMENT

- Establish performance objectives
- Establish assessment criteria
- Evaluation at 50% power