

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:

HOUSTON LIGHTING & POWER
COMPANY, ET AL.

(South Texas Project,
Units 1 & 2)

§
§
§
§
§
§
§
§

Docket Nos. 50-4980L
50-4990L

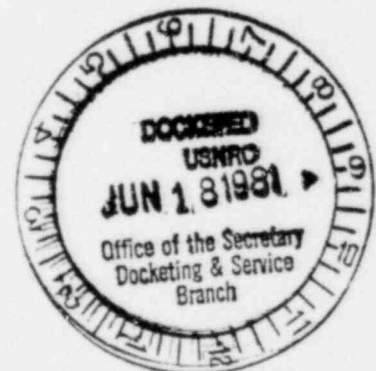
TESTIMONY ON BEHALF OF HOUSTON LIGHTING & POWER COMPANY, ET AL.

OF

MR. GEORGE W. OPREA, JR.
MR. JEROME H. GOLDBERG
MR. ROBERT I. MOLES
MR. RICHARD A. FRAZAR

REGARDING

THE OPERATION OF THE SOUTH TEXAS PROJECT



8106220302

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:

HOUSTON LIGHTING & POWER
COMPANY, ET AL.

(South Texas Project,
Units 1 & 2)

§
§
§
§
§
§
§
§

Docket Nos. 50-498OL
50-499OL

Testimony of George W. Oprea, Jr., Jerome H. Goldberg,
Robert I. Moles and Richard A. Frazar Regarding
the Operation of the South Texas Project

Q1. State your names and current employment.

A1. George W. Oprea, Jr., Executive Vice President for
Houston Lighting & Power Company (HL&P).

Jerome H. Goldberg, Vice President, Nuclear Engineering
and Construction, for HL&P.

Robert I. Moles, Plant Superintendent at the South
Texas Project (STP), for HL&P.

Richard A. Frazar, STP Project Quality Assurance
(QA) Manager for HL&P.

1
2
3
4 Q2. Mr. Oprea, describe your professional experience
5 and educational background.
6
7

8 A2. (GWO): That information is presented in my testimony
9 regarding HL&P's experience in the construction of STP.
10

11 Q3. Mr. Goldberg, describe your professional experience
12 and educational background.
13
14

15 A3. (JHG): That information is presented in my testi-
16 mony regarding HL&P's management of design and construction
17 of the STP.
18
19

20 Q4. Mr. Moles, describe your professional experience
21 and educational background.
22
23

24 A4. (RIM): I received the degree of bachelor of
25 science in Electrical Engineering from the University of
26 Texas in 1965.
27
28

29 I joined HL&P in 1965 as a Junior Engineer in the
30 Energy Production Department. As a Junior Engineer, I
31 performed testing on the 481 MWe P. H. Robinson Unit 1, and
32 participated in the installation and startup of 12 gas
33 turbine generating units. In 1968 I was promoted to Assistant
34 Electrical Engineer in the Electrical Maintenance Section,
35 which is responsible for maintenance of various electrical
36 and electronic equipment in ten generating plants. In 1971
37 I became Assistant Superintendent at the H. O. Clarke Generating
38 Station and in 1972 I was transferred to a similar position
39
40
41

Q7. Mr. Oprea, describe HL&P's management organization for the operation of STP.

A7. (GWO): As Executive Vice President I have ultimate responsibility for nuclear operations, including STP. The nuclear operations staff will report to me through a senior management position at the Vice President level. That Vice President will be responsible for operation of both the Allens Creek and STP plants. The organization for management of STP is shown on the attached chart (figure 1). We have been recruiting for a Vice President of Nuclear Operations and expect to fill that position in the near future with a person who has extensive nuclear operations experience.

Also reporting directly to me will be the Manager of the QA Department. Our QA Manager will have under him separate staffs for nuclear operations, nuclear and fossil design and construction, and supporting services. Our QA Manager, Mr. Frazar is currently serving as the STP QA Manager, and his office is at the Plant site. However, we expect to bring Mr. Frazar back to Houston once his replacement as STP QA Manager has taken over at STP. Mr. James Geiger, the new STP QA Manager is scheduled to report to work on June 22, 1981.

In addition to the nuclear operations and QA personnel there will be a technical support group. This

group is a part of the Nuclear Engineering and Construction organization that reports to Mr. Goldberg.

HL&P has a Nuclear Fuel group that is responsible for nuclear fuel support activities. The Director, Nuclear Fuel reports to me.

In addition to the staff working full time in the nuclear area, there are other HL&P staffs that will be providing support services for STP. Our Fossil Plant Engineering and Construction organization represents a resource of engineering expertise that will be utilized as needed. Although assistance from other HL&P groups and from outside consultants will be available to supplement our full time staff on the STP, we plan to make HL&P essentially self sufficient in regard to the conduct of our nuclear operations.

There are also two committees of executives and managers that will be reviewing the performance of Plant operations and QA. These are the Nuclear Safety Review Board (NSRB) and the QA Program Evaluation Committee. These two committees are described in FSAR Section 13.4 and 17.2, respectively, and are discussed below.

Q.8 Mr. Moles, describe the organization of the Plant Operations staff.

A.8 (RIM): Figure 13.1-2 of Section 13.1 of the Final Safety Analysis Report (FSAR) shows the organization for the operation of the two STP units, including the number of personnel per our current plans. While the details may vary as our planning progresses, I do not expect any major changes.

As shown in figure 13.1-2 and described in Section 13.1 of the FSAR, the organization includes four major Sections: Operating; Technical; Maintenance; and Training, each headed by a General Supervisor. The two other groups shown, the Radiation Protection Group and the Administrative Group, will also have senior level Supervisors. Section 13.1 of the FSAR summarizes the responsibilities of each group as well as the qualifications of key personnel. In my answers to the next few questions I describe the functions of each of these organizations, their ultimate staffing levels, and their staffing levels as of May 27, 1981.

Q.9 Describe the Operating Section.

A.9 (RIM): The Operating Section includes personnel licensed to operate the reactor and Auxiliary Operators. The Operating General Supervisor is in overall charge of reactor operations and will hold a Senior Reactor Operator (SRO) license on each unit.

The organization chart shows six Operating Supervisor positions in the Operating Section, our equivalent of the

1
2
3
4 Accountability Program, and the New Fuel Receipt, Inspection
5 and Storage Procedures. Their responsibilities during Plant
6 operation will include operational planning to determine
7 plant loading and stretchout or coastdown capability to
8 ensure that refueling periods correspond to the proper core
9 burnup and system load demand. The Reactor Engineers will
0 also implement the Special Nuclear Materials Accountability
1 Program for control and accountability of all special nuclear
2 material at the Plant site. They ensure that the receipt,
3 inspection, and storage of fuel is conducted in accordance
4 with applicable criteria.

5 The Chemical Operations Group will consist of 42
6 personnel, including a Supervisor, 6 Foremen, 15 Chemical
7 Operators and 20 Trainees and Auxiliary Operators. The
8 number of Chemical Operations Foremen has been increased to
9 provide supervision on each shift. We have one Chemical
0 Operations Foreman, three Chemical Operators, and four
1 Chemical Operator Trainees on board at this time. These
2 Chemical Operators and Operator Trainees have nuclear navy
3 backgrounds.

4 The Chemical Operations Group is responsible for
5 the operation of Chemical Process Systems, Demineralizer
6 Systems, Radioactive Waste Processing Systems, and Non-
7 Radioactive Waste Processing Systems. They are currently
8 writing procedures and developing training materials.
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1

magnitude of the workload. With the exception of the Electrical Maintenance Group, the Supervisor positions have been filled. Two of the Supervisors whose experience was in fossil plants have been assigned to operating nuclear plants to gain experience by participating in eling outages.

The Maintenance Engineering Group will consist of 11 personnel, including a Supervisor, a Planning Scheduler, 7 Specialists and 2 Clerk-Typists. The Supervisor and one of the Specialist positions are now filled.

The Electrical Maintenance Group will consist of 21 personnel, including a Supervisor, 2 Foremen and 18 Electricians, Apprentices and Helpers. One Foreman, 5 Electricians and 3 Apprentice positions are now filled.

The Mechanical Maintenance Group will consist of 44 personnel, including a Supervisor, a Welding Specialist, 5 Foremen and 37 Mechanics, Apprentices and Helpers. The Supervisor, a Foreman, 13 Mechanics and one of the Apprentice positions are now filled.

The Instrumentation & Control (I&C) Group will consist of 51 personnel, including a Supervisor, 2 Engineers, 4 Foremen and 44 I&C Technicians and Apprentices. The Supervisor, an Engineer, a Foreman and 12 Technician positions are now filled.

Maintenance personnel are currently performing preventative and corrective maintenance on the Reservoir Makeup Pumping Facility and Meteorological Tower equipment. They will assume maintenance responsibility for Plant equipment as it is released for Preoperational Testing. Maintenance personnel will provide support, both manpower and procedural, for initial wire checks and functional checks, instrument and relay calibration, initial motor checks, initial pump checks, checkout of valves, electrical continuity, meggar and hi-potential tests, and final coupling alignment. The Maintenance Section will also provide support for test calibration and assistance in leak testing, flushing of piping systems, and the preoperational testing. All Maintenance Groups are currently writing procedures and developing spare parts requirements.

Q.12 Describe the Training Section.

A.12 (RIM): The Training Section is responsible for Plant staff training activities. Since one of the recommendations resulting from a recent organizational review was an expanded training organization, we plan a large Training Section. We have three Groups in our Training Section: Operator Training, Simulator Training and General Training. The Simulator Training Group will utilize a plant specific simulator which is now on order and is scheduled to be installed on the site by mid-1983.

The Training General Supervisor has 20 years Navy experience, 15 in the nuclear area. He has attended an 8-week training course at the training center in Zion and is participating in the INPO Instructor Qualification and Certification Workshops.

The Operator Training Group will consist of the Operator Training Supervisor and 3 Training Instructors, all of whom will be licensed SRO's. This group will be responsible for all operator license training, except that utilizing the simulator.

The Simulator Training Group will consist of a Supervisor, 3 Instructors, 2 Programmer Technicians, a Draftsman and a Clerk. This Group will utilize the plant specific simulator to train Reactor Operators and a number of other personnel, including members of the Technical Support Staff.

The General Training Group will consist of a Supervisor and 7 Instructors. This Group will provide technical and general employee training.

The three Instructor positions in the Operator Training Group have been filled. The Instructors each have about 7 years of nuclear Navy experience. All three have attended the 30-week Westinghouse Reactor Operator Training Program, and each is certified at the SRO level.

1
2
3
4 Q.13 Describe the Radiation Protection Group.
5
6

7 A.13 (RIM): The Radiation Protection Supervisor is
8 assigned to the Plant staff from the corporate Health Physics
9 organization. The Supervisor receives technical direction
0 from the corporate Health Physics organization but receives
1 direction on scheduling from me. The Group is responsible
2 for a radiation exposure control program to assure that
3 exposure to the Plant staff and the public are kept as low
4 as reasonably achievable.
5
6

7 The Radiation Protection Group will consist of 33
8 personnel, including a Supervisor, two Health Physicists and
9 30 Radiation Protection Technicians, Monitors, Junior Monitors
0 and Trainees. We currently have a Supervisor and one Health
1 Physicist. The Supervisor has 30 years experience in applied
2 radiation protection including both Navy and commercial
3 nuclear power plant experience.
4
5

6 Q.14 Describe the Administrative Group.
7

8 A.14 (RIM): The Administrative Group will consist of
9 15-20 personnel, including a Supervisor. Its function will
0 be to provide clerical and administrative support to the
1 Plant organization.
2
3

4 Q.15 Mr. Frazar, describe the QA program for operations.
5

6 A.15 (RAF): As described in Section 17.2 of the FSAR,
7 HL&P has a QA Manual that establishes the corporate QA
8
9
0
1

1
2
3
4
5 policy and commitments. The QA Manual will be implemented
6
7 for STP operations by an Operations QA Plan (OQAP), which
8
9 contains general criteria and requirements for STP operations.
10
11 The OQAP is in turn implemented in accordance with procedures
12
13 that provide detailed instructions to employees performing
14
15 quality related work. The HL&P QA Manual has been in use
16
17 for a number of years. The OQAP is currently under development,
18
19 with a significant amount of the work already accomplished.
20
21 Our plan shows a tentative completion of the OQAP by the
22
23 middle of 1982, with further refinements occurring as we
24
25 move toward the fuel load date. This will allow more than
26
27 adequate time to continue development of the detailed procedures
28
29 and training programs.

30 Q.16 Describe the QA organization for operation of STP.

31 A.16 (RAF): Our organization structure for operations
32
33 QA will parallel the QA organization for design and construction
34
35 described in my previous testimony. The QA organization for
36
37 operations will report to executive level management not
38
39 directly responsible for power production. The Operations
40
41 QA organization consists of a Quality Engineering Group, an
42
43 Auditing Group, a Surveillance Group, and a Quality Control
44
45 (QC) Group. (See figure 2) The functions of these Groups
46
47 are set forth in Section 17.2 of the FSAR and are summarized
48
49 below.
50
51

Q.17 What are the functions of the Quality Engineering Group?

A.17 (RAF): Quality Engineering performs inspection planning; investigates nonconformance reports and corrective action requests; performs trending; reviews procedures, procurement documents, quality records, audit responses, specifications and receiving documents; evaluates test data; writes procedures and revisions to the QQAP; maintains the working QA files; prepares various QA reports; and provides QA training.

Q.18 What are the functions of the QA Auditing Group?

A.18 (RAF): The QA Auditing Group schedules audits; prepares audit plans; recommends auditor certification; provides input to the training program; and reviews and approves responses to the audit deficiency reports.

Results of auditing activities are reported to executive management as well as management responsible for the activities which have been audited. This audit group does not, by itself, perform all of the audits necessary to satisfy criterion XVIII of Appendix B. HL&P has an additional auditing group which is off-site and which provides broader-scoped program audits to ensure that all 18 criteria of Appendix B are audited. Although there will be some overlap

1
2
3
4 during maintenance, repair, and modification; and initiates
5 nonconformance reports (NCR's).
6

7
8 Q.22 What is the current staffing level for the Operations
9 QA staff?
10

11 A.22 (RAF): We currently have six professional personnel
12 assigned to the Plant QA organization. Personnel will be
13 added to support the Operations QA program according to a
14 staffing schedule based on Project schedule information.
15

16 Q.23 What qualifications will be required for QA personnel?
17

18 A.23 (RAF): Quality Engineering personnel should
19 preferably have a degree in a specific technical discipline
20 (such as mechanical, electrical, or nuclear engineering) and
21 experience in QA. Our intent is to employ a mixture of
22 seasoned personnel with 5 to 10 years experience in nuclear
23 QA, coupled with junior personnel to work alongside the
24 senior people in a career development role.
25

26 Quality Surveillance personnel should have licensed
27 operations experience in the commercial nuclear power industry
28 or have had experience in one of the military programs as a
29 nuclear reactor operator or a senior person in charge of an
30 operating reactor, such as an Engineering Officer of the
31 Watch in the Navy nuclear program.
32

33 Auditing personnel should have previous experience
34 and certification as auditor or lead auditor and be certified
35 in accordance with ANSI N45.2.23 requirements.
36
37
38
39
40
41

Our QC personnel will be certified in accordance with ANSI N45.2.6 requirements as Level II in the discipline to which they are assigned. Level III support to the QC organization will be provided from the QA Department.

Management level personnel directly responsible for the operations QA functions must have QA experience and preferably a degree in engineering or science, and must be knowledgeable in nuclear power operations and maintenance.

Q.24 Mr. Oprea, does HL&P have an Operations QA Manager?

A.24 (GWO): No, we have been actively recruiting to fill that position, and expect to have a qualified individual on board by the fall of 1981.

Q.25 Mr. Goldberg, is HL&P planning how to provide technical support for Plant operation.

A.25 (JHG): Yes. Studying and planning for technical support of operations started in 1976 when HL&P defined the role of HL&P Engineering in pre-operational testing and start-up. In 1978 and early 1979, the scope of activities and responsibilities of the Site Engineering group during the design and construction stage was defined. Also, in 1979, a study was completed recommending that HL&P develop its own capability to perform non-LOCA transient analysis. We are now developing that capability. In the last two years, HL&P personnel have visited nuclear facilities of

Public Services of Colorado, Sacramento Municipal Utilities District, Southern California Edison, Virginia Electric and Power Company, Arizona Public Services, and Florida Power & Light to review various organizational structures used for technical support of Plant operations. Findings from these trips have been factored into our plans.

One of our most significant recent efforts was a study performed by Nuclear Services Corporation (NSC), completed in January 1980. A principal purpose of the NSC study was to evaluate, in light of TMI, the HL&P staff expertise needed to provide technical support during Plant operation. Numbers, skill type and skill levels of personnel as well as technical review areas were identified.

Q.26 What are HL&P's current plans for providing technical support for Plant operations.

A.26 (JHG): Most likely the present Site Engineering Group will form the nucleus for the technical group supporting Plant operation. We plan to have a technical group on-site, close to the activities it will support, to aid in developing a close relationship with the operating staff. Although formal procedures will govern such matters as requested design changes, a close relationship will be an aid to communications and mutual understanding. Some support will also be available from the headquarters office.

Q.28 What are Plant Operations personnel doing during the construction phase?

A.28 (RIM): One of the major pre-operational activities we have identified is procedure development. We have made significant progress in preparing our Plant Procedures Manual. As of March 3, 1981, 137 procedures had been approved and another 149 were in some stage of development. The procedure index identifies over 1600 procedures which we plan to have in our Manual.

The Plant Operations Review Committee (PORC), which is described below, has been meeting monthly since July 1978. The Committee's primary activity to date has been the review of safety-related procedures. Other major activities of Plant personnel to date have included spare parts evaluations and development of training materials.

Another major activity which Plant personnel will be involved in is pre-operational testing. Operators, Electricians, Mechanics, and I&C Technicians will be assigned to the Test Engineers as needed. Very valuable experience will be gained by our personnel in this way. Present personnel are giving emphasis in procedure development to procedures that will be utilized for pre-operational testing.

In addition to working on plans for Plant operation, my staff is undergoing training and is reviewing and commenting

1
2
3
4 on the Plant design. The experience of our operations staff
5
6 in operating similar systems at other plants has been reflected
7
8 in suggested changes to the design to improve system operability
9
10 and maintenance.
11

12 Q.29 Mr. Moles and Mr. Frazar, describe the transition
13 from construction to Plant operation.
14

15 A.29 (RIM, RAF): Before fuel is loaded in the Plant,
16
17 HL&P will conduct tests of the Plant equipment and systems.
18
19 A separate HL&P organization, called the Startup Group, has
20
21 been established to conduct these tests. The Startup Manager,
22
23 Barry Duncan, is also Assistant Plant Superintendent and his
24
25 qualifications are described in Section 13.1 of the FSAR.
26
27 The Startup Organization is described in Section 14.2 of the
28
29 FSAR. It includes a number of experienced engineers working
30
31 on STP under a contract with Westinghouse. Plant Operations
32
33 personnel, including Electricians, Mechanics, Chemical
34
35 Operators, Chemical Technicians, I&C Technicians and Reactor
36
37 Operators will be assigned to the Startup Group to assist in
38
39 the performance of testing. The Startup Group is now writing
40
41 the Startup test procedures utilizing, where practical,
42
43 Plant procedures.
44

45 As each Plant system nears completion the HL&P
46
47 Startup Group, HL&P Plant QA, Brown & Root (B&R) QA and B&R
48
49 Construction Engineering will jointly review the status of
50
51

the system to determine what must be done for the system to be ready for testing. This activity includes "walk-downs" of the system to identify hardware exceptions or deficiencies.

When nonconforming conditions are identified by HL&P Plant QA or Startup an NCR will be generated. The NCR will be dispositioned by the construction NCR system. Depending on the scope of work necessary to disposition the NCR, HL&P maintenance or B&R construction will implement the disposition of the NCR.

Once a system is tested and the test results approved, it will be turned over to Operations.

Q.30 Mr. Goldberg, has HL&P hired the personnel who will provide technical support for Plant operations?

A.30 (JHG): As I mentioned before, the current design and construction technical staff will form the nucleus for the technical staff during operations. Technical activities on the Project are under the direction of the Project Engineering Manager. The experience and qualifications of that staff were described in my previous testimony in this proceeding.

NUREG-0731 identifies technical support skills required for both normal and emergency operations. We already have on staff individuals that meet or will meet most of the qualifications outlined in that document. We plan to acquire or train additional individuals so that all

1
2
3
4 the requirements are satisfied. For instance, this year we
5 are actively recruiting specialized skills in the areas of
6 welding engineering, metallurgy, ASME Division III pipe
7 stress analysis, and transient analysis.
8

9
10 Q.31 Mr. Moles, describe the program for training STP
11 Plant operations staff.
12

13 A.31 (RIM): An important element of our training
14 program will be the use of a plant specific simulator.
15

16 Early this year we placed an order for a simulator
17 for STP. The purchase of a simulator was one of the recom-
18 mendations made after review of the lessons learned from
19 TMI.
20

21 We have formed a project organization to follow
22 the design, manufacture, installation, and testing of our
23 simulator. It is expected that the nucleus of our Simulator
24 Training Group will come from this Project organization.
25

26 The Operator Training Group will be responsible
27 for all operator license training except that utilizing the
28 simulator. The objective of HL&P's operator training is to
29 equip the operator to assess any given situation and to use
30 the available information to evaluate the Plant parameters
31 displayed in the control room. The key to the operator's
32 ability to do this is understanding such factors as the
33 physical laws that govern the operation of Plant systems and
34
35
36
37
38
39
40
41

how those systems function. We expect to have a staff of trained personnel who will be able to handle any situation they may be confronted with in the control room.

Our on-site operator license training program consists of three parts: the Nuclear Steam Supply System (NSSS) Training Package developed by Westinghouse, a Balance of Plant Package, and a Procedures Package. The NSSS Training Package consists of 43 lessons including health physics, chemistry, reactor theory, systems, accidents, transient and instrument failure analysis. It includes system descriptions, lesson plans, and training aids. The Balance of Plant Package is being developed by our Operator Training Group. It will consist of 62 lessons on Plant systems. Each lesson will include system descriptions, lesson plans, and training aids. The current status is:

System Descriptions:	32 completed, 15 in draft
Lesson Plans:	20 completed
Training Aids:	20 in development

The Procedures Package has not yet been developed. It will consist of 12 lessons covering operating procedures, including normal, abnormal, emergency, and annunciator response.

The General Training Group will provide the other training for the Plant staff including General Employee Training (Security, QA, health physics, etc.). Technical

1
2
3
4 Training will also be provided for six of the Plant groups:
5 Chemical Analysis, Chemical Operations, Radiation Protection,
6 Mechanical Maintenance, Electrical Maintenance, and Instrumentation
7 and Controls.
8

9 Q.32 Describe the training completed to date.
0

1 A.32 (RIM): Since 1977, we have sent three groups of
2 trainees through the Westinghouse Phase I, Phase II, and
3 Phase III programs at Zion.
4

5 These groups consisted of Reactor Operators,
6 Supervisors, Plant management personnel and Engineers.
7 Through this program we have certified 17 individuals at the
8 SRO level and 8 individuals at the RO level. In addition to
9 that program, we have taken 8 individuals who were already
0 cold licensable and put them through a Westinghouse 8-week
1 intensive course to familiarize them with Westinghouse
2 commercial PWR's. Six additional co-licensable individuals
3 began the Westinghouse 8-week course on June 8, 1981.
4

5 We think it is important to periodically provide
6 refresher training to those individuals who have been through
7 the Westinghouse programs. Accordingly, we have contracted
8 with Westinghouse for 4-day Regualification programs on the
9 Zion simulator. To meet current retraining requirements we
0 intend to send our licensed operators to Zion on an annual
1 basis for the 4-day Regualification program.
2
3
4
5
6
7
8
9
0
1

In September, October, and November of 1979, we sent 24 personnel to the Westinghouse 4-day Regualification program at Zion. In January, February, and March of this year we returned 33 personnel to Zion for that program.

Q.33 How will the training program be utilized to prepare for initial Plant operation?

A.33 (RIM): This spring we are conducting an abbreviated on-site lecture series. In early 1982 we intend to send our people back to Zion for the 4-day Regualification program and in the spring begin a 15 week on-site lecture series. In early 1983, we plan two weeks of Simulator training. When that is completed we will have the Westinghouse Pre-License Review Series and Audit and then personnel will be taking the license examination. Our plan is to put enough people into the start of this program to man both Units 1 and 2. Although we do not expect a 100% pass rate, we are confident that this approach will ensure that we have enough licensed personnel for Unit 1. We expect 40-50 people to be taking the license examination.

Q.34 How will the training program be utilized once the Plant begins operation?

A.34 (RIM): After Unit 1 fuel load, our program will be structured to bring people in at the entry level and train them to qualify for the SRO license by means of three programs.

1
2
3
4 The first is the Auxiliary Operator Training Program.

5
6 Annually, we intend to have one class which will include the
7
8 following: 2 weeks indoctrination, 7 weeks Nuclear Power
9
10 Plant fundamentals, 8 weeks of systems, 8 months of on-the-job
11
12 training, and 20 hours of simulator training.

13
14 After an Auxiliary Operator has been with us for 18
15
16 months, he is eligible to go into hot license training at
17
18 the RO level. That is the second of the three programs. We
19
20 intend annually to have one class which will include: 10
21
22 week lecture series, 200 hours of simulator training, and 13
23
24 weeks of standing watch in the control room under the direction
25
26 of a licensed Reactor Operator. Finally, candidates for RO
27
28 and SRO certificates will take the Westinghouse Pre-License
29
30 Review Series and Audit, followed by the license examination.

31
32 The third program is the RO to SRO upgrade. Annually,
33
34 we will conduct one class which will include: 13 weeks of
35
36 standing watch at the SRO level under the direction of a
37
38 licensed SRO, 40 class room hours of supervisory leadership
39
40 training, 40 hours of simulator training at the SRO level,
41
42 and 4 weeks of advanced theory.

43
44 All Auxiliary Operators, Reactor Operators, and
45
46 Senior Reactor Operators will undergo retraining on a con-
47
48 tinuous basis. We plan to utilize a six shift rotation
49
50
51

1
2
3
4 which provides that five days in each 42 are used exclusively
5 for retraining. Another four days in 42 are available for
6 relief duty. When relief operators are not standing relief
7 watches in the plant, they will be involved in additional
8 retraining activities on an as-needed basis.

9
10 The retraining program will include lectures,
11 simulator exercises, examinations, general employee training,
12 Licensee Event Report (LER) review, respiratory training,
13 fire brigade training, procedures review, and supervisory
14 training.

15
16 Our plant specific simulator for STP will be
17 located at the site. We hope to have the simulator operational
18 in time to utilize it during the cold license training of
19 our first group of Operators. Of the simulator training
20 that I mentioned previously, that which is done before we
21 have our simulator operational will be conducted at Zion.

22
23 Q.35 Mr. Frazar, please describe how the training
24 program of the QA Department will be conducted during Plant
25 operations.

26
27 A.35 (RAF): The QA Department will perform indoctrination
28 and training for QA personnel as well as other HL&P employees
29 whose duties and responsibilities will be governed by the QA
30 program.

31
32 Indoctrination and training of QA and non-QA HL&P
33 employees will be conducted to familiarize new or transferred

employees with the Nuclear QA Program. The program will stress the importance and meaning of QA as it applies to the employee's new position. It will include a discussion of the philosophy and objectives of the QA Program; an explanation of the QA Program and how it affects the duties and responsibilities of the employee; and the purpose, scope and implementation of quality-related manuals, instructions, procedures, Regulatory Guides, standards and codes, with specific emphasis on the sections which most directly affect the employee's new position. Emphasis will be placed on the fact that the QA Program has been endorsed by the President of HL&P and that quality policies and the various plans and procedures that make up the QA Program are mandatory requirements which must be implemented and enforced.

In addition to the QA Department training and indoctrination described above, each set of departmental procedures and the Plant procedures will provide for training and certification, if required, of personnel who perform quality-related work.

Q.36 Mr. Goldberg, will there also be training programs for technical support personnel?

A.36 (JHG): Yes. Training of the technical support groups involves a number of considerations. First, a general training program is planned for each technical discipline.

Included in this planned training will be the use of the STP simulator. We believe it is important that the technical support staff understand plant operations from the reactor operator's viewpoint.

Another important part of the technical support staff training is health physics training. We plan to perform this function totally in-house and to have on board the instructors and the appropriate multimedia equipment to accomplish this task.

Q.37 Mr. Moles, describe the organization for each shift during reactor operation.

A.37 (RIM): The shift organization is shown in Figure 3. An Operating Supervisor with an SRO license will be on site anytime a unit is loaded with fuel. All personnel on shift are responsible to him.

Reporting directly to him is an organization for each reactor unit headed by a Watch Supervisor with an SRO license and a Chemical Operations Foreman with associated staff. Each unit will also have two operators with RO licenses, a Radiation Protection Technician/ Monitor and a Chemical Technician/Monitor.

Chemical Operations personnel working on a unit will keep the Watch Supervisor informed of their activities, but will receive direction on priorities for scheduling work activities from the Operating Supervisor.

We have added administrative aides on shift as a result of TMI lessons learned. Administrative functions that detract from or are subordinate to the Operating Supervisor's management responsibility for the safe operations of the plant will be delegated to these personnel. Even before TMI we had anticipated a PBX operator on shift to relieve the control room of telephone answering responsibilities.

Our current plans call for the fire brigade to be headed up by the Chemical Operations Foreman. The other four members will be made up of Chemical Technicians and Chemical Operators from the Chemical Analysis Group.

Q.38 Does HL&P plan to include a Shift Technical Advisor (STA) in its shift organization?

A.38 (RIM): Our present plan is to provide the expertise of the STA through increased training of our Operating Supervisors. The STA position was recommended as a lesson learned from TMI in NUREG 0578. The purpose was to provide an individual on-shift, with training in nuclear engineering or a related science and training in plant design and transient response, to complement the functions of other shift operations personnel. The STA would be available in the control room within 10 minutes of being summoned to diagnose off-normal events and advise the shift supervisor. I understand that STA's are serving now at currently operating commercial nuclear power plants.

1
2
3
4 In NUREG 0731, "Guidelines for Utility Management
5 Structure and Technical Resources", the NRC staff took the
6 position that "the long-term need for a shift technical
7
8 advisor to provide advice to the control room supervisor may
9
0 be eliminated when upgraded qualifications for the control
1
2 room supervisor ... and improved control rooms ... have been
3
4 attained." We believe that the long term approach discussed
5
6 in NUREG 0731 is preferable. The person making the decisions
7
8 about reactor operation should have the necessary experience
9
0 and education to perform properly.
1
2

3 However, if the NRC continues to require STA's as
4
5 separate advisors, HL&P will add qualified STA's in accordance
6
7 with the NRC requirement.
8

9 Q.38 What will be the procedures for controlling access
10
11 to the control room?
12

13 A.38 (RIM): Plant procedures will limit normal access
14
15 to the Control Room to those individuals responsible for
16
17 direct operation of the Plant, technical advisors, and
18
19 specified NRC personnel, and will establish a clear line of
20
21 authority, responsibility, and succession in the control
22
23 room. Limited special access to the control room may be
24
25 approved by the Watch Supervisor for specified purposes.
26
27

28 Q.39 Will there be shift turnover procedures?
29
30
31

NRC generated input, including I&E Bulletins, Notices, new regulations, and Regulatory Guides are screened by our Nuclear Licensing Department for applicability and importance and then sent for action to the appropriate management and technical personnel, including those in Operations. The publication, Nuclear Power Experience Reports, is used as another source of input to the technical support and Operations staffs. The reports are reviewed by the cognizant discipline and factored into the Plant design, construction and/or planned operation as appropriate along with other inputs.

In addition, both Mr. Moles, STP Plant Superintendent and Dr. James Sumpter, of my staff, are members of the EEI Nuclear Operations Subcommittee. This group, is composed of the chief technical support and operations personnel from many utilities in the U.S. They meet tri-annually and exchange information concerning operational experiences.

Through the efforts of Nuclear Safety Analysis Center and the Institute of Nuclear Power Operations, the many hundreds of LER's are now being screened and distributed to interested parties, through a service known as NOTEPAD. We are a user of that service.

Q.42 Mr. Moles, how will Plant operating procedures be controlled?

A.42 (RIM): Responsibility for preparation of each procedure is assigned to a supervisor in the Plant organization. After appropriate reviews, the procedure is submitted for approval to the Plant Superintendent. For safety-related procedures, the cycle includes review by the PORC, a group required by the Technical Specifications to perform such reviews as well as other functions. Procedures governing the activities of the PORC are included in the Plant Administrative Procedures.

Q.43 Describe the PORC.

A.43 (RIM): The PORC is a committee established by the Plant Administrative Procedure Manual and required by the Technical Specifications. Its members include the Plant Superintendent, the Assistant Plant Superintendent, the Operating General Supervisor, the Technical General Supervisor, the Maintenance General Supervisor, a Reactor Engineer, the Radiation Protection Supervisor, the Plant QA Supervisor and a Site Engineering Representative.

The PORC reviews procedures, tests, changes to Technical Specifications and safety-related systems, Technical Specification violations, 24-hour notification items, Plant operations, and the Security and Emergency plans.

The PORC advises the Plant Superintendent regarding these matters, and he makes his decisions after considering

minutes of the PORC and significant operating abnormalities, including violations of license requirements or internal procedures having nuclear safety significance.

In addition, it conducts periodic audits of the following areas:

1. The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions.
2. The performance, training, and qualifications of the entire facility staff.
3. The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety.
4. The performance of activities required by the OQAP to meet the criteria of Appendix B to 10CFR50.
5. The facility Emergency Plan and implementing procedures.
6. The facility Security Plan and implementing procedures.

Q.45 Will there also be a dedicated engineering staff at the site, without operational responsibilities, which will perform independent safety reviews?

A.45 (JHG): Yes, as a result of our review of the NRC proposed post-TMI requirements, HLCP is committed to having an effective Independent Safety Engineering Group (ISEG) and we have under study the details of its operation. Our current plan is that the ISEG will report to me and will be composed of a small staff of on-site, full-time engineering personnel. Its responsibilities will include those specified in NUREG 0737, "Clarification of TMI Action Plan Requirements."

Q.46 Mr. Oprea, during Plant operation will HL&P continue to utilize the QA Program Evaluation Committee described in your previous testimony?

A.46 (GWO): Yes. The QA Program Evaluation Committee is a corporate level group that evaluates the performance of QA activities on all HL&P projects. Review of the performance of the STP Operations QA program will be an important function of this Committee.

Q.47 What is the composition of that Committee?

A 47 (GWO): I will continue to chair the Committee. The other members include the Group Vice President, Fossil Plant Engineering and Construction; the Vice President, Nuclear Engineering and Construction; the Vice President, Nuclear Operations; the Vice President, Purchasing and Services; the Vice President, Fossil Power Plant Construction; the Manager, STP; the Manager, QA; and the Director, Nuclear Fuel.

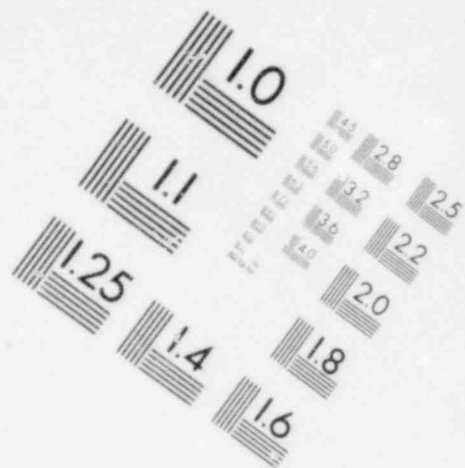
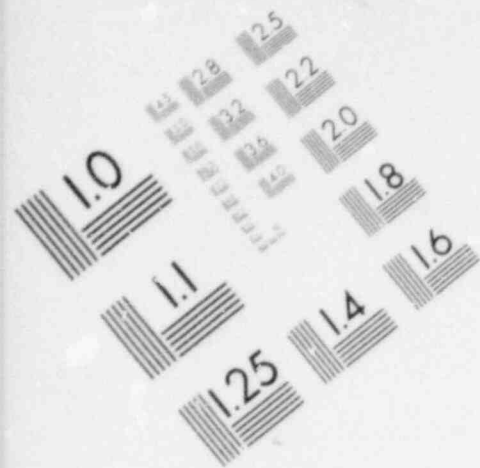
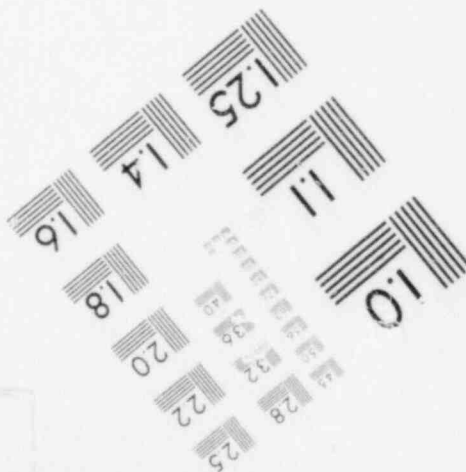
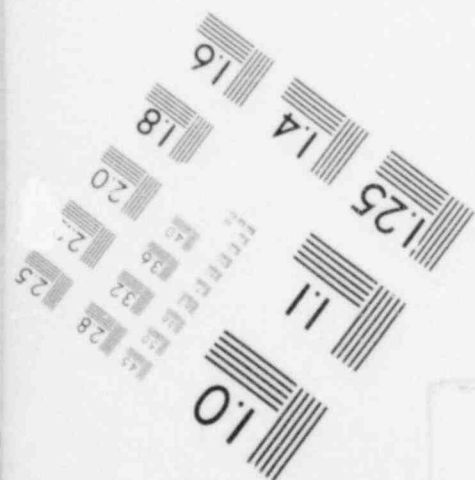


IMAGE EVALUATION TEST TARGET (MT-3)



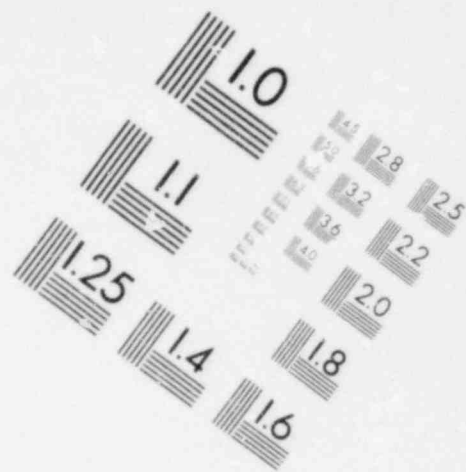
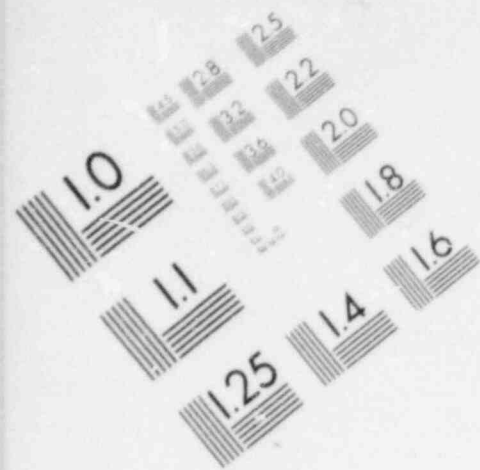
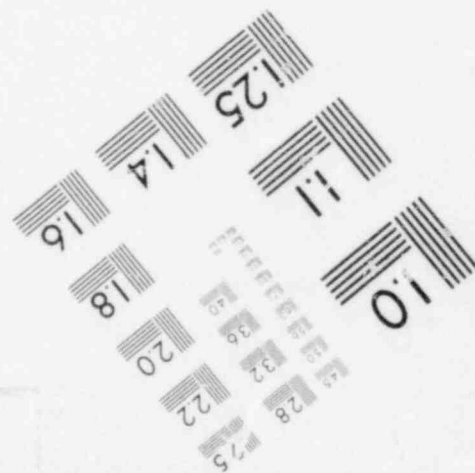
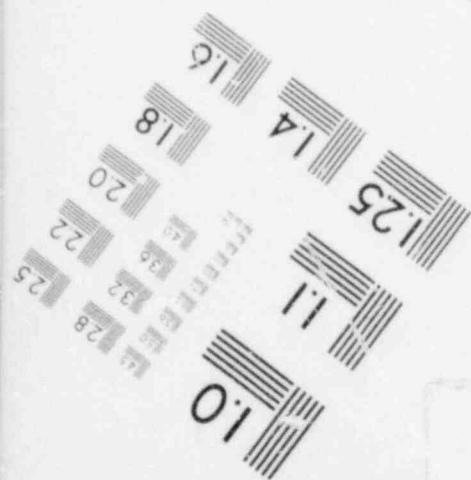
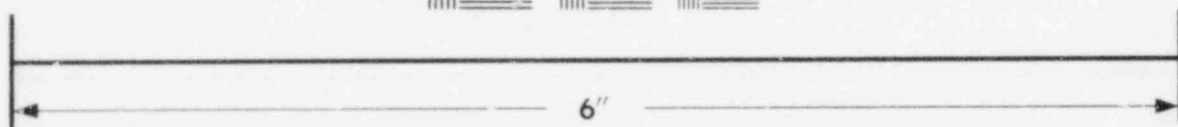
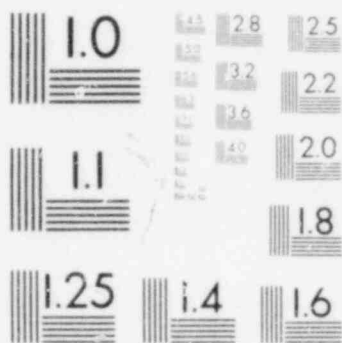


IMAGE EVALUATION
TEST TARGET (MT-3)



Q.48 What will be the functions of the QA Program Evaluation Committee during plant operation?

A.48 (GWO): The QA Program Evaluation Committee will continue to assess the effectiveness of the HL&P nuclear QA program from the management viewpoint. It will review NRC reports, trend analysis data, selected audit reports, and management QA audits. It will also review major substantive changes to methods and systems being implemented as part of the Nuclear QA program.

Q.49 Mr. Goldberg and Mr. Moles, does the FSAR describe how HL&P will conduct the operation of STP?

A.49 (JHG, RIM): Yes, Chapter 13 of the FSAR is entitled Conduct of Operations. It describes the HL&P organization for Plant operations, the personnel training program, certain Plant operating procedures and the review and audit program. Section 13.3 references the separate volume containing the Emergency Plan which is now being revised to meet POST-TMI requirements, and Section 13.6 references the Security Plan.

Q.50 How were Sections 13.0, 13.1, 13.2, 13.4 and 13.5 of the FSAR prepared?

A.50 (JHG, RIM): The Plant operations staff was responsible for drafting major portions of those sections. The Nuclear Licensing Section then coordinated an internal review of the drafts. These sections were reviewed and updated earlier

this year and we both personally reviewed and approved these FSAR sections as revised.

Q.51 Are the contents of FSAR Section 13.0, 13.1, 13.2, 13.4 and 13.5 true and correct to the best of your knowledge and belief?

A.51 (JHG, RIM): Yes.

Q.52 Mr. Frazar, is the Operations QA program described in the FSAR?

A.52 (RAF): Yes, there is a description of the Operations QA program in Section 17.2 of the FSAR.

Q.53 How was Section 17.2 prepared?

A.53 (RAF): Section 17.2 was originally submitted in 1978. In 1981 HL&P submitted a substantial revision. I reviewed Section 17.2 and its revisions in draft, as did various other staffs of HL&P and their comments were considered in the preparation of the final drafts that were then provided to HL&P Licensing for final editing, printing and submittal to NRC.

Q.54 Are the contents of FSAR Section 17.2 true and correct to the best of your knowledge and belief?

A.54 (RAF): Yes.

Q.55 What guidelines were used in the preparation of Section 17.2?

A.55 (RAF): We used the NRC's standard format Reg. Guide 1.70, Revision 1 and the Standard Review Plan, Nureg 75/087. In addition we considered the applicable industry Standards and Regulatory Guides, including Reg. Guide 1.33, "Quality Assurance Program Requirements (Operation)", Reg. Guide 1.58, "Qualification of Nuclear Plant Inspection, Examination, and Testing Personnel", and the applicable ANSI N45 daughter documents.

Q.56 Mr. Frazar, in your opinion does HL&P's Operations QA program comply with Appendix B to 10 CFR Part 50, and applicable Regulatory Guides and industry standards?

A.56 (RAF): Yes. In my opinion the Operations QA program complies with Appendix B and the with relevant NRC guidance mentioned in Answer 55 above.

TH:13A

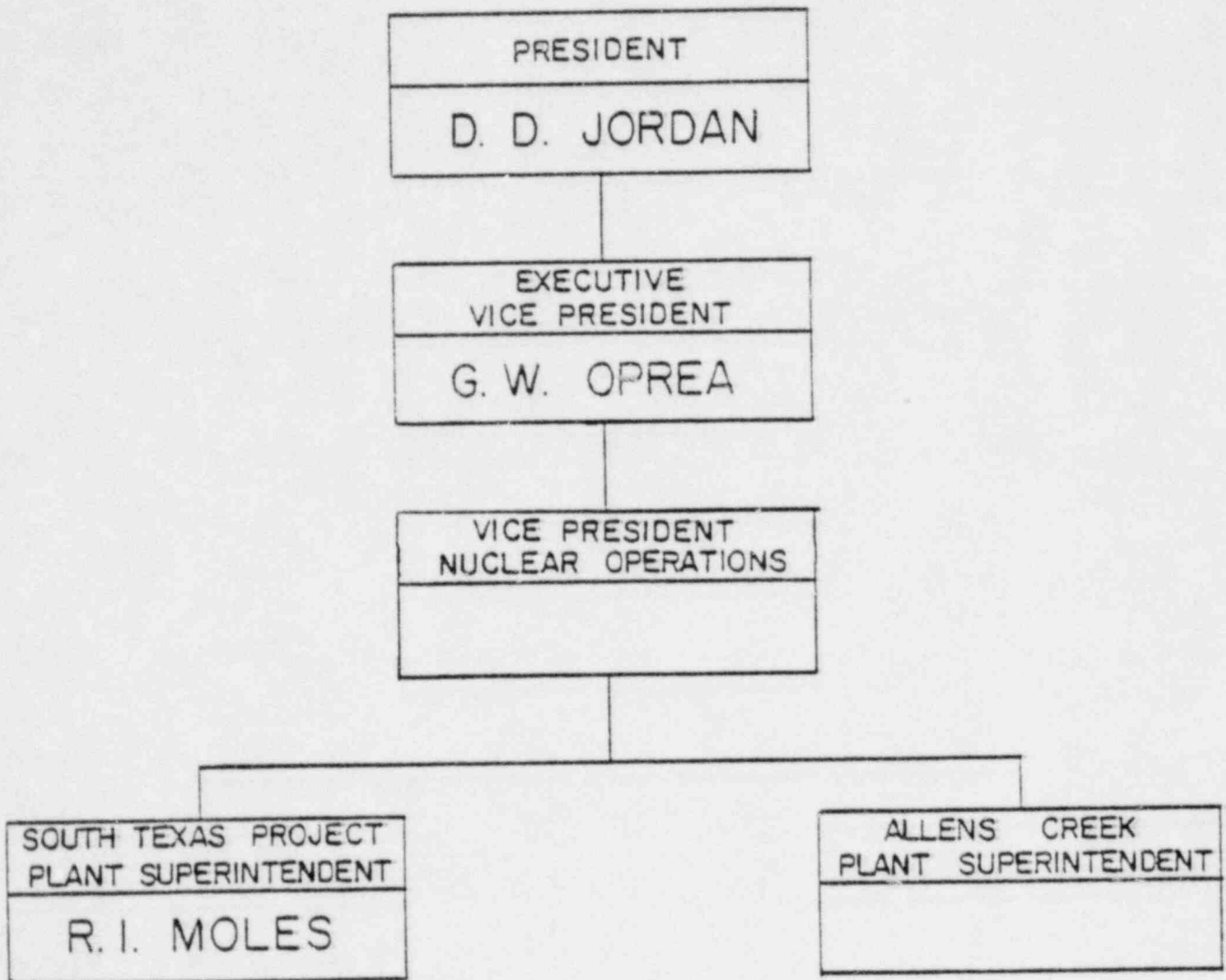


FIGURE 1

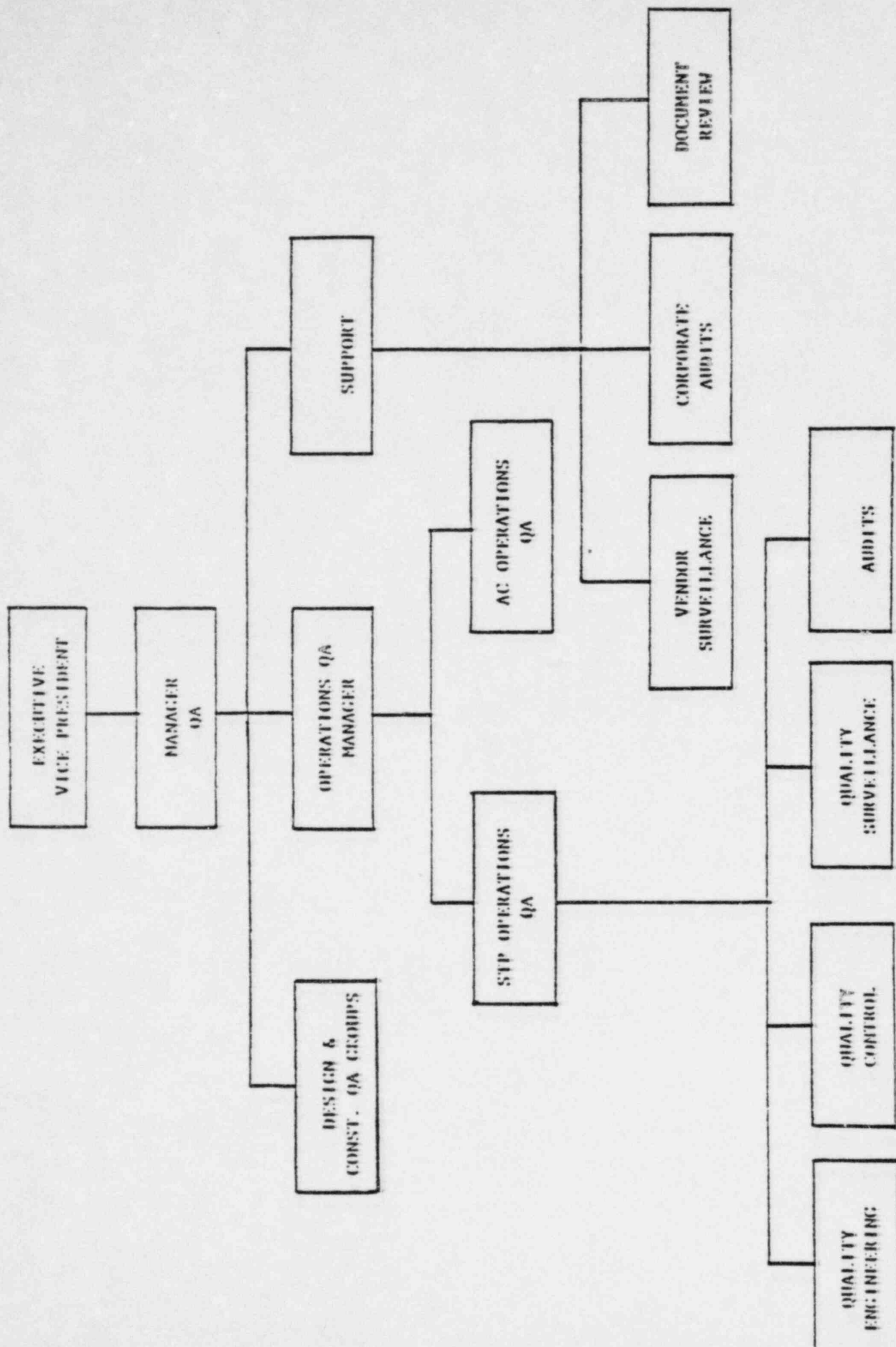


FIGURE 2

SHIFT ORGANIZATION

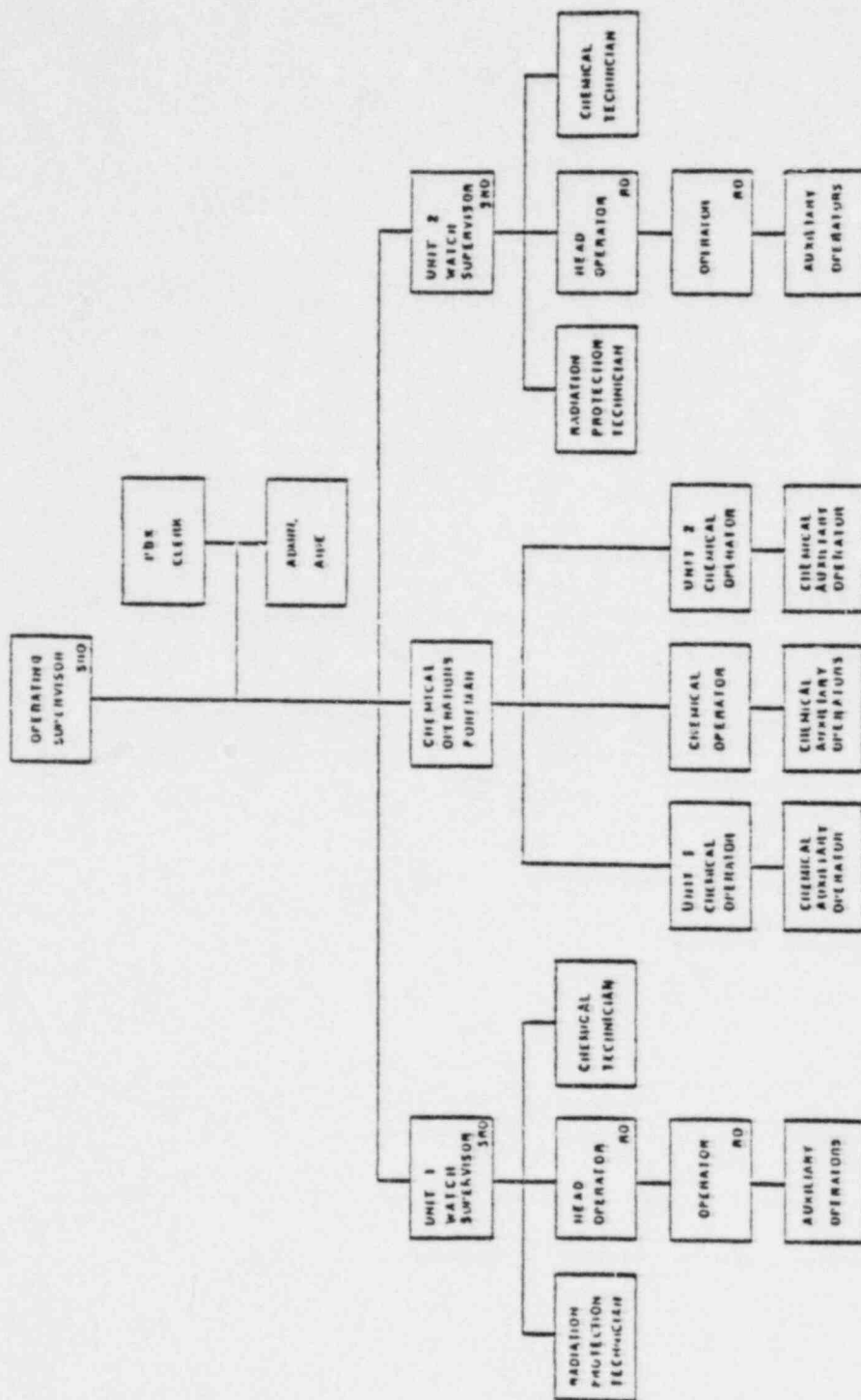


FIGURE 3