

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

...C Inspection Report: 50-498/88-27
50-499/88-27

Operating License: NPF-76
Construction Permit: CPPR-129

Docket: 50-498
50-499

Licensee: Houston Lighting & Power Company (HL&P)
P.O. Box 1700
Houston, Texas 77001

Facility Name: South Texas Project (STP), Units 1 and 2

Inspection At: STP, Matagorda County, Texas

Inspection Conducted: May 2-6, 1988

Inspector: *[Signature]*
L. E. Ekershaw, Reactor Inspector, Division of
Reactor Safety

5/19/88
Date

[Signature]
L. D. Gilbert, Reactor Inspector, Division of
Reactor Safety

5/19/88
Date

[Signature]
R. G. Taylor, Reactor Inspector, Division of
Reactor Safety

5/19/88
Date

Approved: *[Signature]*
I. Barnes, Chief, Materials and Quality Programs
Section, Division of Reactor Safety

5/19/88
Date

Inspection Summary

Inspection Conducted May 2-6, 1988 (Report 50-498/88-27)

Areas Inspected: No inspection of Unit 1 was conducted.

Inspection Conducted May 2-6, 1988 (Report 50-499/88-27)

Areas Inspected: Routine unannounced inspection of preoperational testing quality assurance program, nondestructive examinations, and control of measurement and test equipment for Unit 2.

Results: Within the two areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

HL&P

- *J. T. Westermeir, Project Manager
- J. E. Geiger, General Manager, Nuclear Assurance
- *S. L. Rosen, General Manager, Operations Support
- *J. H. Kubenka, Manager, Staff Training
- *L. G. Weldon, Manager, Operations Training
- *P. T. Appleby, Manager, Training
- *R. L. Balcom, Manager, Quality Assurance (QA) Audits and Assessments
- *J. A. Slabinski, Supervisor, Unit 2 Operations Quality Control
- *T. J. Jordan, Project QA Manager
- *J. S. Phelps, Supervising Engineer, Project Compliance
- *D. C. King, Unit 2 Construction Manager
- *A. C. McIntyre, Manager, Operations Support Engineering
- *G. Ondrisk, Project Startup Group
- *S. Head, Supervising Licensing Engineer
- *B. Wellborn, Supervising Project Engineer
- *M. Polishak, Senior Engineer
- W. P. Moran, Acting Metrology Laboratory Manager
- G. M. Wilson, Senior Metrology Laboratory Specialist
- E. J. Huffine, Metrology Laboratory Training Coordinator
- W. G. Isereau, Supervisor, QA Surveillance Section
- J. Broadwater, Startup Manager

Bechtel Engineering Corporation (BEC)

- *C. F. O'Neil, Unit 2 Engineering Manager
- *R. D. Bryan, Field Construction Manager
- *R. H. Medina, QA Supervisor

Ebasco Services Incorporated (ESI)

- *R. Abel, Quality Program Site Manager
- *W. Pardee, QA Site Supervisor
- *E. Rosol, Site Manager

NRC-Region IV

- *A. B. Beach, Deputy Director, Division of Reactor Projects (DRP)
- *E. J. Holler, Chief, Reactor Project Section C, DRP
- *D. R. Carpenter, Senior Resident Inspector, STP
- *J. E. Bess, Resident Inspector, STP
- *R. B. Vickrey, Reactor Inspector, Division of Reactor Safety (DRS)
- *G. A. Pick, Reactor Inspector, DRS
- *M. E. Murphy, Reactor Inspector, DRS
- *E. P. Hildebrand, Reactor Inspector, DRS

The NRC inspectors also interviewed other licensee and contractor personnel during the course of the inspection.

*Denotes those personnel attending the exit interview.

2. Preoperational Testing Quality Assurance (35301, 35740)

The purpose of this area of the inspection was to determine if significant changes had been made to the licensee's QA program as it pertains to preoperational testing and to verify continued programmatic implementation. A previous comprehensive inspection of the activity was conducted during April and May 1987 as documented in NRC Inspection Report 50-498/87-26; 50-499/87-26.

The NRC inspector reviewed Chapter 17.2 of the Final Safety Analysis Report (FSAR), which describes the licensee's QA program for operations. The program applies to preoperational testing activities as well as the activities involved in startup and operation. It was noted that since the above mentioned inspection, the licensee had filed Amendment 61 to the FSAR by letter dated June 16, 1987, to the NRC. The changes to the operations QA program were identified in the letter as minor in nature, primarily involving management position titles. The next lower tier document is the licensee's "Operations Quality Assurance Plan" which describes in greater detail the implementation mechanisms for QA. It was found that the plan had been revised in only two areas since the previous inspection. The first change involved the abolishment of the position of operations QA manager, a position described in the FSAR. The three primary groups that had reported to this position now report directly to the general manager, nuclear assurance, with each group having its own manager. The NRC inspector was provided with a change notice under development that will be included in a future amendment to the FSAR that will document the QA management organizational changes. The second change was to Section 10.0, "Inspection," where a provision was made for "notification points." These points are similar to "hold points," but allow the cognizant quality group to waive witnessing the functional activity involved. The latter change did not affect the program description in the FSAR. Both changes were considered to be minor by the NRC inspector.

The NRC inspector selected the programmatic areas of corrective action, training and qualification of QA personnel, and audits and surveillances for a more indepth review. The operations QA plan requires that various organizational departments develop detailed implementing procedures as appropriate for their functions. When a given QA requirement must be carried out by several departments, an Interdepartmental Procedure (IP) is developed and concurred in by all of the departments affected. Typically, the most involved department is the sponsoring department for the procedure. When IPs are utilized, the affected departments develop departmental procedures describing how and by whom the requirement is to be implemented. All procedures related to the QA program implementation are subject to review and concurrence by the QA department.

It should be noted for purposes of clarity that preoperational testing activities as well as the prerequisite testing that generally precedes preoperational testing, are performed by a group having the title "Startup." As defined by the NRC, prerequisite and preoperational tests are those tests that are performed prior to the loading of fuel, and startup tests are those performed after fuel load. The defined startup tests are performed by the plant operations organization rather than the startup organization.

In the area of corrective action, the NRC inspector reviewed the following procedures:

- ° Operations Quality Assurance Section 13.0, Revision 1, "Deficiency Control";
- ° Startup Administrative Instruction (SAI)-12, Revision 5, "Problem Identification and Resolution"; and
- ° Quality Control Procedure (QCP)-3.0, Revision 1, "Nonconformance Control."

Procedure SAI-12 discusses several types of problems and how each is to be treated. When nonconformances are identified as the problem, the procedure instructs the user to follow the requirements of Standard Site Procedures (SSP)-8, "Nonconformance Reporting" and SSP-65, "Reporting of Significant Situations, Problems or Concerns to Management."

Procedure QCP-3.0, which covers all areas of operations activities, invokes Procedure SSP-8 if the identified nonconformance is within the scope of the startup group's responsibility. The NRC inspector reviewed Procedure SSP-8, Revision 4, and Interim Change Notices (ICN) through ICN 40 and found that the procedure satisfied the requirements of the FSAR and Appendix B to 10 CFR 50.

In the area of QA audits and surveillances, the NRC inspector found that the requirements of Section 15.0, "Quality Assurance Audits and Surveillances," had been further amplified by IP-4.4Q, Revision 2, titled "Performance of Quality Assurance Audits and Surveillances." The apparent purpose of this procedure was to establish within the various groups subject to audits and surveillances an understanding of their responsibilities while being audited or surveilled and the requirements for response to findings or concerns developed by the auditors. The IP has been signed by all departmental managers associated with plant startup and operation. The startup organization implemented IP-4.4Q in SAI-2 and SAI-3 while the QA organization implemented the IP through procedures QAP-2.8, Revision 1, "Plant Audits" and QAP-2.9, Revision 1, "Plant Surveillances." At a more detailed level, the NRC inspector was informed by the QA supervisor of the surveillance group that generic surveillance checklists have been developed for each of the sections of the startup manual that involve testing activities and accomplishment of the checklists is generally scheduled on a monthly basis. The NRC inspector selected for review checklists SAI-17 and SAI-18, which are, respectively,

the startup organization's administrative procedures for conduct of prerequisite tests and preoperational tests. Review of the checklist attributes in relation to the procedures indicated a thorough assessment of the key action statements of the procedures. The surveillance schedule for May 1988 was reviewed. The schedule indicated that the two checklists were to be performed at least once during the month by surveillance group personnel who were assigned to provide around-the-clock coverage of plant activities. The NRC inspector also reviewed the 1988 audit schedule and noted that the scheduled annual audit of startup activities had been performed under audit No. 88-06. The NRC inspector reviewed the generic audit checklist for this audit and found that it addressed each of the 18 startup administrative procedures that direct testing and related activities. The checklist contained a total of 78 attributes drawn from the administrative procedures. Again, it appeared on the basis of a selective examination of several of the attributes versus the related procedures that activity coverage was thorough.

In the area of training and qualification of personnel, Section 4.0 of the Operations QA Plan requires that each department establish procedures to assure that personnel assigned to applicable functions be appropriately trained, qualified, and certified. The quality organization has implemented the requirements through the following procedures:

- ° QAP-2.1, Revision 0, "Training, Qualification, and Certification of Audit Personnel";
- ° QAP-1.4, Revision 0, "Indoctrination and Training of Personnel";
- ° QAP-2.2, Revision 0, "Training, Qualification, and Certification of Surveillance Personnel";
- ° QCP-4.0, Revision 1, "Certification of Inspection, Examination, and Testing Personnel"; and
- ° NDEP-1.0, Revision 1, "Training, Qualification, and Certification of NDE Personnel."

The above procedures, except for QAP-1.4, are consistent with the appropriate regulatory guideline or industry standard for the type of activity involved. As an example, QCP-4.0 is based on the provisions of Regulatory Guide (RG) 1.58 and ANSI N45.2.6, and NDEP-1.0 is based on American Society for Nondestructive Testing recommendations contained in SNT-TC-1A as required by the ASME Section III Code. QAP-1.4 requires certain nontechnical site specific training intended to familiarize the employee with site quality activities. It was noted during a review of the above procedures that the requirements for the minimum qualifications for the managers of audits, surveillances and quality control were not included. It was learned and subsequently verified that these standards are contained in "Job Description" documents retained in the possession of

the general manager-nuclear assurance. The NRC inspector reviewed the three job descriptions and found that they contained essentially the same requirements for the position of QA manager contained in ANSI/ANS-3.1-1981.

The startup group implemented the requirements of the operations QA plan through SAI-10, Revision 5, "Indoctrination, Training, and Certification of Test Personnel." Review of this procedure indicated that it was based on RG 1.58 and ANSI N45.2.6.

No violations or deviations were identified during this followup inspection of the programmatic controls of the licensee's QA program as it applies to Unit 2 preoperational testing activities.

3. Nondestructive Examination (257060, 257070, 257080, 257090)

a. Review of Procedures

The NRC inspector reviewed the procedures that were issued for ESI to perform nondestructive examinations. The procedures reviewed are listed below:

- Procedure NDE-006-1, Revision 3, "Liquid Penetrant Examination";
- Procedure NDE-007-1, Revision 2, including Addendum 3, "Magnetic Particle Examination";
- Procedure NDE-005-1, Revision 7, including Addendum 2, "Ultrasonic Examination (Thickness Measurement)";
- Procedure NDE-005-2, Revision 2, "Ultrasonic Examination of Pipe Welds and Components"; and
- Procedure NDE-002-1, Revision 5, including Addendum 3, "Radiographic Standards for Welds."

In the areas reviewed, the procedures and changes were approved and consistent with the requirements of ASME III, 1974 Edition through Winter 1975 Addenda.

b. Observation of Work

The NRC inspector observed the liquid penetrant examination of a piping weld in the component cooling system. The weld identified as FW-0010R-1 on Line No. CC-2118 was examined in accordance with Procedure NDE-006-1. The NRC inspector also inspected the radiographic film for two welds in the safety injection system and two welds in the component cooling system that were identified as FW-0049 on Line No. SI-2102, FW-0051 on Line No. SI-2302, FW-9912 on Line No. CC-2318, and FW-9931 on Line No. CC-2118. The radiographs for these welds were consistent with the requirements of Procedure NDE-002-1.

In the areas inspected, the examinations met the requirements of the liquid penetrant and radiographic examination procedures for using certified personnel, examination techniques and materials, and acceptance criteria.

c. Review of Records

The NRC inspector reviewed the following additional records:

- o Magnetic particle examination reports for five welds in the component cooling system that were identified as FW-0022 and FW-1141 on Line 2110, FW-0002 and FW-0005 on Line 2410, and FW-0002 on Line 2302.
- o Ultrasonic examination reports for six welds on the pressurizer lateral supports that were identified as FW-02, FW-03, FW-05, FW-06, FW-10, and FW-12 for Support Number MK PL-1A.
- o Records for all Ebasco site personnel currently certified Levels I, II, or III in the areas of liquid penetrant, magnetic particle, radiographic, and ultrasonic examinations.

In the areas reviewed, the records were retrievable, complete, and accurate.

No violations or deviations were identified.

4. Measuring and Test Equipment (35750)

The purpose of this area of the inspection was to verify that the licensee had developed and implemented a QA Program relating to the control of measuring and test equipment (M&TE) that is in conformance with regulatory requirements, commitments in the FSAR, and industry standards. The NRC inspector reviewed the following documents to assure that a program for the control of M&TE had been developed.

<u>Document No.</u>	<u>Revision</u>	<u>Date</u>	<u>Title</u>
Chapter 17	-	06/16/87	FSAR, Amendment 61
OQAP Section 12.0	2	01/30/87	Instrument and Calibration Control
OQAP Section 4.0	1	12/02/85	Qualification Training and Certification of Personnel
OPGP03-ZM-0001	12	10/07/87	Measuring and Test Equipment Control Program

OPMP01-ZA-0032	6	10/06/87	Vendor Calibration of Measuring and Test Equipment
OPMP01-ZA-0035	0	06/02/87	Qualification and Certification of Maintenance Personnel
OPGP03-ZM-0016	0	08/18/86	Installed Plant Instrumentation Calibration Verification Program

These documents appear to provide the bases, describe the requirements, and establish the responsibilities necessary to ensure that a M&TE program is properly implemented. The procedures provide for the establishment of calibration frequency, methods for device identification, calibration status, addition and/or deletion of equipment from the program, and device calibration history. Further, they address identification of calibration standards used and their traceability to national standards, and personnel qualifications.

In order to assess the implementation of the procedures applicable to the M&TE program, the NRC inspector selected the following devices from the calibration schedule, which identifies all equipment in the M&TE program by description and identification number (ID) manufacturer, model number, calibration internal calibration procedures to be used, ranges and required accuracy:

<u>Equipment Nomenclature</u>	<u>ID</u>
Crimper, Hydraulic	ST-CC-5433
Micrometer, Outside	ST-CC-5447
Gauge, Pressure, Hydro-Test	ST-CC-5469
Torque Wrench, Dial	ST-CC-5832
Gage/Go-No-Go	VE-00098
Ammeter, AC	100-00210-01
Multimeter, Digital	100-00217-41
Transmitter, Temperature & Relative Humidity	100-00584-08
Caliper, Dial	100-02184-06
Depth Gage, Dial	100-02608-02
Tester, Dial Indicator	300-02504-01
Gage Blocks (Standards)	300-02546-02

A historical file was established for each device and contains a calibration form in which all pertinent data is recorded, including the identity of the technician performing the calibration and the environmental conditions (temperature and relative humidity) of the metrology laboratory at the time of calibration. In addition, the applicable specification sheet, which showed the range and accuracy of the device, was included. The files also contained (as applicable) an evaluation form, which was used to

assess the impact of devices which have been returned to the metrology lab and found to be in an out-of-tolerance condition. A M&TE issue/record sheet, which was used to record all usage of the device, was also included in the file. In the case of item l. above, the National Bureau of Standards annual certifications were included in the file.

Three of the devices (items f., h., and i.) had been removed from service, and this was documented on the records. All of the other devices were located to assure that either the device itself or its protective container were identified and that a calibration sticker showing the calibration due date had been affixed. The NRC inspector reviewed the qualification records of eight technicians who were documented as having performed the most recent calibrations on all of the devices listed above. Each record file contained a certification package which provided the educational and experience background that has been established for determining the level to which a technician is assigned. Included is a qualification summary sheet which specifies the minimum requirements required for qualification and which allows the supervisor to limit the type of activities a technician is qualified to perform. In addition, each record file contained the annual eye examination report form. Signed attendance sheets which describe applicable training and document a technician's attendance were also included in the record file.

It would appear that the licensee has established and implemented an effective M&TE program. No violations or deviations were identified in this area of the inspection.

5. Exit Interview

The NRC inspectors held an exit interview with the licensee and the NRC personnel denoted in paragraph 1 on May 6, 1988, to discuss the areas inspected and the findings. There was no information discussed at the exit meeting which was identified as proprietary.