APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-498/86-33
50-499/86-33

Construction Permits: CPPR-128
CPPR-129

Dockets: 50-498
50-499

Expiration Dates: December 1987 and
December 1989

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

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

Inspection At: STP, Matagorda County, Texas

Inspection Conducted: November 2, 1986, through January 2, 1987

Inspectors: _____ 2/5/87
for D. R. Carpenter, Senior Resident Inspector, Project Section C, Reactor Projects Branch — Date

_____ 2/5/87
for T. Reis, Resident Inspector, Project Section C, Reactor Projects Branch — Date

_____ 2/4/87
H. F. Bundy, Project Inspector, Project Section C, Reactor Projects Branch — Date

Approved: _____ 2/5/87
G. L. Constable, Chief, Project Section C, Reactor Projects Branch — Date

Inspection Summary

Inspection Conducted November 2, 1986, through January 2, 1987
(Report 50-498/86-33; 50-499/86-33)

Areas Inspected: Routine, unannounced inspection including preoperational test program review, preoperational test witnessing, preoperational test procedure review, training review, Technical Specifications (TS) review, SAFETEAM, and site tours.

Results: Within the areas inspected, no violations of NRC requirements were identified. One deviation is identified (failure to make preoperational test procedures available to the NRC within approximately 60 days of testing, paragraph 4).

DETAILS

1. Persons Contacted

Principal Licensee Employees

*W. H. Kinsey, Plant Manager
*J. T. Westermier, Project Manager
*M. R. Wisenburg, Deputy Project Manager
*S. M. Dew, Deputy Project Manager
*R. J. Daly, Startup Manager
*J. Hughes, Startup Engineer
*J. E. Geiger, Nuclear Assurance Manager
*T. J. Jordan, Project Quality Assurance Manager
*D. F. Bednarczyk, Operations Quality Assurance
*A. C. McIntyre, Project Engineer
*M. A. McBurnett, Supervising Engineer, Site Licensing
*S. M. Head, Lead Engineer Site Licensing
*S. D. Phillips, Licensing
G. Ondriska, Lead Engineer, Startup
R. Penn, Startup Engineer
B. L. Landry, I/C Startup Engineer
J. Janicki, Startup Engineer

Bechtel Power Corporation (Bechtel)

*L. E. Davis, Construction Manager
*L. W. Hurst, Quality Assurance Manager
*R. H. Medina, Quality Assurance
R. Purdy, Building Superintendent
J. Corder, Area Superintendent

Ebasco Services Inc. (Ebasco)

*A. W. Cutrona, Quality Assurance Manager

NRC

R. Perch, TS Reviewer

In addition to the above, the NRC inspector also held discussions with various licensee, AE, Constructor, and other contractor personnel during this inspection.

*Denotes those individuals attending the exit interview conducted on January 5, 1987.

2. Preoperational Test Program

Three events occurred during preoperational testing that appear to indicate the need for increased licensee attention during the preoperational testing. These events appear to be the result of ineffective coordination between the startup, operations, and construction organizations.

a. On December 7, 1986, a rupture disc on Unit 1 pressurizer relief tank (PRT) ruptured during the performance of preoperational test WL-P-01. The incident occurred because instrumentation and control technicians removed power to the level indicator of the PRT without informing the startup engineer running the test. Operations personnel were also unaware of the loss of power to the indicator. The test was stopped, the procedure was changed, and the test was resumed without further incident.

b. On January 1, 1987, Unit 1 residual heat removal (RHR) pumps A and C were run with their respective suction valves closed. The pumps are equipped with low flow trips to prevent such an occurrence. However, the trips were not functional because they were out of service for other testing and the operators were unaware of the situation. Retest and inspection of the pumps revealed no damage resulted from the improper operation.

c. During the 48-hour run-in period of the motor driven auxiliary feedwater pumps, the NRC inspector noted several articles of fiberglass insulation in the vicinity of the pump shafts. The material originated from overhead construction and could have very easily become entangled in the rotating equipment. The area was cleaned and protected from further construction activities.

The above examples illustrate weaknessess in STPs program for control of simultaneous construction work and preoperational testing activities. The licensee has now established a test director and an access authorization program to coordinate construction, startup and operations activities.

No violations or deviations were identified.

3. Preoperational Test Witnessing

Portions of the following preoperational tests were witnessed:

1-FH-P-01	Fuel Handling Crane System
1-AF-P-01	Auxiliary Feedwater System
1-RS-P-03	Reactor Trip Switchgear
1-WL-P-01	Radioactive Liquid Waste Processing System
1-CS-P-01	Containment Spray Nozzle Tests
1-DG-P-02	Diesel Generator No. 12, Train A
1-FC-P-01	Spent Fuel Cooling System
1-CV-P-03	Boric Acid/Makeup Controls

During the course of test witnessing, the NRC inspectors noted that the latest revisions of the test procedures along with approved test change notices were available and in use by the test personnel. The NRC inspector noted that tests were stopped, when appropriate, for clarification or problem resolution. The tests were performed as required by the approved test procedure.

No violations or deviations were identified.

4. Preoperational Testing Procedure Review

a. During this inspection period, the NRC inspectors conducted a general review of the following preoperational test procedures in preparation for HFT:

1-SB-P-01	Steam Generator Blowdown System
1-HZ-P-03	Containment Building Temperature Survey
1-HZ-P-04	Engineered Safety Feature (ESF) Pump Room Temperature Survey
1-FP-P-01	Fire Protection System-Water Subsystem-Fire Pumps - Controllers, Storage Transfer and Pump House Sprinklers
1-WG-P-01	Waste Gas Processing System
1-AF-P-01	Auxiliary Feedwater System
1-CS-P-01	Containment Spray System
1-FH-P-01	Fuel Handling Crane System

The listed preoperational test procedures were reviewed to determine if the contents were in accordance with Regulatory Guide 1.68 and the STP Final Safety Analysis Report (FSAR) and the licensee's administrative procedures. Within the areas examined, the NRC inspector found the procedures acceptable.

b. Review of Preoperational Test Procedure 1-RC-P-02, "Hot Functional Test (HFT)," Revision 0

This preoperational test, as written, serves as a skeleton document that pulls together 86 plant operating procedures, 19 subordinate preoperational tests and two acceptance tests. The plant operating procedures will be modified to support the HFT per section 6.25 of the HFT by the use of an operations work request (OWR). Paragraph 14.2.11.5 of the FSAR calls for preoperational test to be available for NRC review approximately 60 days prior to scheduled use. The HFT, 1-RC-P-02, was issued November 19, 1986, and is

scheduled to commence January 15, 1987, not quite 60 days. However, as of the end of this inspection period the 86 OWR modified operating procedures, five of the support preoperational test procedures and both of the acceptance test procedures, had not been received by the NRC inspector. These documents are considered part of the HFT by the NRC inspectors and a complete integrated review of the HFT test package cannot be completed until these documents are received by the NRC. Failure of the licensee to submit the HFT procedure together with supporting documents to the NRC for review approximately 60 days prior to scheduled performance of the HFT is an apparent deviation from the FSAR, Paragraph 14.2.11.5 (498/8633-01).

Additional comments on Revision 0 of the HFT procedure are as follows:

- Numerous typographical errors were identified to the licensee, some significant enough to impact the conduct and acceptability of the test.

- Section 4.2 through 4.5 requires a large number of systems or subsystems to be "acceptable." It is not clear what "acceptable" means.

- Section 5.4 states, "Ensure the following systems are aligned . . .," while 5.4.1 through 5.4.48 are merely a list of procedure numbers. The intent of section 5.4 is not clear. Additionally, the procedures should be identified by name at this point to ensure clarity.

- Section 6.1. The licensee should consider including a set of pressure-temperature (PT) curves in the procedure in order to reduce the possibility of plant damage due to PT violations. Also a set of heatup/cooldown curves would be advantageous.

- Section 6.15. The meaning of statements like, ". . . greater part . . .," and, " . . . near the end . . .," are not clear.

- Section 7.3, The phrase "often enough" is not defined in the note.

- General. These issues as well as other points of clarification were discussed with the licensee.

The licensee has committed to issuing a revision to the HFT test procedure. Resolution of the above NRC comments and reissuing a revision of the HFT is considered an open item (498/8633-02).

No violations were identified. The apparent deviation from document availability requirements is discussed above.

5. Training Review

The NRC inspector attended General Employee Training (GET) I. The inspector found the presentation to be informative, beneficial and in full compliance with FSAR requirement 13.2.2.4. This training is required for all employees with access to protected areas. GET II and III are required for radiation workers and workers requiring respiratory equipment respectively.

The NRC inspector attended a course for Quality Control (QC) inspectors titled, "New Fuel Receipt and Storage Course." The inspector considered the course adequate in that personnel satisfactorily completing the course will meet the QC requirements outlined in the FSAR, section 4.2.4.2.

No violations or deviations were identified.

6. TS Review

The NRC inspectors reviewed the first draft of the STP TS and participated with Nuclear Reactor Regulation (NRR) TS Reviewers in discussions with the licensee. The second draft was issued in the first part of January, and the TS Reviewer scheduled a meeting with the licensee onsite for January 7, 1987, to discuss changes incorporated in the second draft. The proof and review copy of the STP TS is currently scheduled for issuance in mid-February.

No violations or deviations were identified.

7. SAFETEAM Visibility

The NRC inspector talked with 15 Nuclear Plant Operations Department (NPOD) personnel to assess their knowledge of and attitude regarding the operation of SAFETEAM. The NPOD personnel interviewed were from the reactor operation and maintenance departments. All individuals had heard of SAFETEAM and understand its basic function. None had used it or knew of anyone from NPOD that had submitted a concern. All felt that they could use it without intimidation but they also felt they could get resolutions to safety concerns within the regular company structure. They indicated that they would use it as a last resort if they felt a significant safety concern was not being adequately addressed. In addition the NRC inspectors randomly asked other STP employees about their understanding of the SAFETEAM with similar results. Construction workers interviewed appeared to have a little more apprehension about dealing with SAFETEAM than the permanent plant employees.

No violations or deviations were identified.

8. Site Tour

The NRC inspectors conducted site tours both independently and accompanied by licensee personnel. These tours were made primarily to assess the

condition of inplace safety-related equipment, plant status, and to observe ongoing preoperational testing and work activities. The areas toured included:

Unit 1 - mechanical and electrical auxiliary building (MEAB), reactor containment building (RCB), fuel handling building (FHB), emergency diesel generator building (EDGB), and the isolation valve cubicle (IVC).

Unit 2 - MEAB, RCB, FHB, EDGB, and IVC.

Over the course of the inspection period, the NRC inspector noted a marked improvement of general housekeeping as more unit 1 systems are turned over from construction in preparation for HFT.

No violations or deviations were identified.

11. Exit Interview

The NRC inspecto. met with licensee representatives (denoted in paragraph 1) on January 5, 1987, and summarized the scope and findings of the inspection.