

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-498/85-11 CP: CPPR-128 and 129
50-499/85-11


Dockets: 50-498
50-499

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

Facility Name: South Texas Project, Units 1 and 2

Inspection At: South Texas Project, Matagorda County, Texas

Inspection Conducted: July 1-31, 1985

Inspectors: 
R. R. Carpenter, Resident Inspector
Project Section C, Reactor Projects
Branch

12/17/85
Date

Approved: 
G. L. Constable, Chief, Project Section C
Reactor Projects Branch

12/17/85
Date

Inspection Summary

Inspection Conducted July 1-31, 1985 (Report 50-498/85-11; 50 499/85-11)

Areas Inspected: Routine, unannounced inspection included site tours, licensee action on previous findings, differential settling of Unit 1 and startup testing. The inspection involved 107 inspection-hours onsite by one NRC inspector.

Results: Within the scope of this inspection, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

Principal Licensee Employees

- *E. Hill - Project Compliance Engineer
- *F. White, Lead Project Compliance Engineer
- K. O'Gara, Project Compliance Engineer
- R. R. Hernandez, Supervisor, Project Compliance
- F. Alkov, Material Control Supervisor
- *L. Dolan, Project Compliance Engineer
- *R. Daly, Startup Manager
- *A. G. Peterson, Startup
- T. J. Jordan, Project QA Manager
- *D. R. Keating, Operations QA General Supervisor
- J. T. Westermeier, Project Manager
- *R. C. Arthurs, Project QA General Supervisor
- W. H. Kinsey, Plant Manager
- *S. M. Dew, Deputy Project Manager

Other Personnel

Bechtel Power Corporation (Bechtel)

- *J. B. Gatewood, Project QA Engineer
- R. H. Medina, Lead QA Engineer
- *D. M. Stover, Construction Manager
- *J. E. Noxon, QA Engineer

Ebasco Services, Inc. (Ebasco)

- *A. M. Cutrona, QA Manager
- *R. M. Zaist, Construction Manager

Westinghouse

A. Hogarth, Site Manager

*Denotes those individuals attending the exit interview conducted on August 2, 1985.

The NRC inspector made plant tours, both independently and with licensee and contractor personnel. These tours were to assess general housekeeping, plant cleanliness, protection of in-place plant equipment, fire protection, construction safety, plant status and general

construction testing, and maintenance activities. The areas toured included: Unit 1 -- Mechanical and Electrical Auxiliary Building (MEAB), Fuel Handling Building, Diesel Generator Building, and Reactor Containment Building; Unit 2 -- Reactor Containment Building, MEAB and Turbine Building, Balance of Plant (BOP), Emergency Cooling Pump Building, and laydown yards and warehouses. Within the areas observed, activities were acceptable with isolated anomalies being resolved in a timely manner by the licensee.

No violations or deviations were identified.

2. Licensee Action on Previous Inspection Findings

(Closed) Violation 498/499-8501-01 Failure to Follow Procedures
Startup Training:

This violation concerns a failure to follow procedures regarding training requirements for startup personnel. Several inconsistencies existed between the training files and the requirement of Startup Administrative Instruction (SAI) 10, "Indoctrination Training and Certification of Test Personnel." Additionally, the startup manager failed to attend a required QA program indoctrination training session as required by Operations Quality Assurance Plan, Section 4.0.

The training files were audited by the licensee and inconsistencies were rectified. All personnel requiring QA program indoctrination have been trained. The NRC inspector reviewed the original suspect training files plus randomly-selected additional training files and found no deviations from the requirements of SAI 10. The attendance roster of the QA program indoctrination training was reviewed and the required attendees were noted to have been present. The actions of the licensee are acceptable and this violation is considered closed.

(Closed) IRC-123 Leak Detection System in the SIS/CSS Pump Cubicles:

This item concerns a 10 CFR 50.55(e) notification of July 1, 1982 (IRC-123), regarding the potential for flooding all three Safety Injection System (SIS) Containment Spray System (CSS) pump cubicles in the event a failure of moderate energy piping or a pump seal failure. Several failure scenarios were developed where unmonitored flooding could occur to the point of rendering all three trains of the SIS an CSS inoperable at the same time.

Licensee and A-E analysis of the approved design indicated that a modification to the sump level alarm system would provide indication of flooding in any one cubicle. The level detectors were upgraded to seismic Category I instrumentation and the power supplies were upgraded to Class 1E. A control room alarm was added on the Qualified Display

Processing System (QSPS). Two independent Class 1E high level alarms are provided. Only one alarm must remain functional to provide the minimum leak detection capability. In the event of an alarm, adequate time (46.4 to 92.9 hours) is allowed for operator action, assuming a calculated leak rate of 50 to 100 gpm to mitigate the flooding before impacting operation of the SIS/CSS cubicle equipment. Each cubicle has its own sump and duplex sump pumps. These sump pumps and associated piping from the cubicles are designated nonseismic equipment. Under worse conditions, operator action would be required to isolate the source of cubicle flooding.

The NRC inspector reviewed the IRC package, P&ID revision, purchase orders for seismic Category I instrumentation and FSAR revision. The revisions to these systems will be acceptable for the elimination of this failure mode for equipment located in the SIS/CSS Pump Cubicles. This item, IRC-128, is considered closed.

(Closed) IRC-124 Unanalyzed Release of Radioactivity to the Environment:

This item concerns a 10 CFR 50.55(e) notification of July 1, 1982 (IRC-124), regarding the unanalyzed release of radioactivity to the environment during a Loss of Coolant Accident (LOCA).

The scenario involved a postulated LOCA in which recirculation has been established and a passive failure in a SIS pump results in leakage of radioactive water in that cubicle. This leakage would be transferred to the floor drain tank in the MEAB via the cubicle sump pumps. Since the MEAB is not served by an ESF filtration system, a pathway exists for an unanalyzed release of radioactivity to the environment during a LOCA.

The deficiency has been corrected by revising the system design to preclude the automatic operation of the SIS/CSS pump cubicle sump pumps following a LOCA.

The NRC inspector has reviewed the data package for IRC-124, including sump pump logic diagram 6Q06-9-Z-42313, Revision 1, FSAR revisions and potential radioactive release data and find the resolution to the design deficiency acceptable. This item is considered closed.

(Open) Unresolved Item 498/499-8508-01 Permanent Plant Maintenance:

This item concerns the greasing phase of the Permanent Plant Maintenance (PPM) program. Initially, the motor bearings for the Unit 1 and 2 Service Air (SA) compressors (4 units) (not safety related) were found without grease, this is in conflict with the Maintenance Action Cards (MAC) that indicated the SA compressors had been greased every 6 months for the past

2 years. This finding plus similar information received from a allegation under review by HL&P prompted a licensee investigation of the entire PPM program.

The initial phase of this investigation related to greasing of PPM equipment. A total of 551 pieces of permanent plant equipment were examined with the following preliminary results:

Total items: 551 Maintenance Deficiencies: 216 Percentage: 41%
Safety Related: 234 Maintenance Deficiencies: 92 Percentage: 39%

The bulk of Maintenance Deficiencies (MD) were for overgreasing or commingling of greases. A series of activities were undertaken by HL&P to determine the status of the greasing of permanent plant equipment. These included a 100% grease check of all PPM equipment with a QC verifier for all safety-related equipment to record the "as found" condition, training sessions for all craftsmen, foreman, and supervisors involved in the PPM program on requirements and proper methods of greasing, and the segregation and tagging for type of grease and grease equipment used in the PPM program.

This unresolved item 498/499-8508-01 remains open pending issuance of the "Grease Verification Program Followup Report."

3. Differential Settling of Unit 1

The NRC inspector reviewed Bechtel Specification 7Y310YS1000, "Power Block Geotechnical Monitoring," and all of the plots for this specification. These included:

<u>Monitoring Type</u>	<u>No. of Points</u>	<u>Min. Frequency</u>
Structural bench marks	160	monthly
Borehole heave points	25	monthly
Standpipe piezometer	190	weekly
Pore pressure cells	35	periodically
Snodde extensometers	10	monthly
Horz. and Vertical Monuments	30	monthly

The data was plotted several ways, including a point-by-point historical, depending on when the point was established, which in some cases went as far back as 1973. The settling data is reviewed either biweekly or monthly. An independent consultant, Woodward Clyde Inc., also reviewed this data periodically.

There have been no substantive additions or deletions of monitoring points during the past 3 years. All points reviewed on a sampling basis by the NRC inspector indicated a point-to-point consistency and no indication of significant differential settling was identified. The settling, as

indicated by point plots, was tracking the projections within the assumption made at the time of projections. Some deviation is actual vs. projected, which is due to a delay in filling of the main cooling reservoir and continued dewatering of plant areas. The data reviewed by the NRC inspector was transmitted to Region IV office for further evaluation.

No violations or deviations were identified.

4. Startup Testing

The NRC inspector observed prerequisite testing on Class 1E and non-Class 1E electrical breakers located in Unit 1 MEAB and the Unit 1 Turbine Building. The testing was being conducted to approved procedures and the startup engineer was present. Equipment was properly tagged and all test equipment was within calibration. Both startup and maintenance personnel had a clear understanding of the test and acceptance criteria.

No violations or deviations were identified.

5. Exit Interview

An exit interview was conducted on August 2, 1985, with those personnel denoted in paragraph 1 of this report. During the exit interview, the NRC inspectors summarized the scope and findings of this inspection.