

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-498/83-24  
50-499/83-24

Dockets: 50-498; 50-499

Construction Permits: CPPR-128  
CPPR-129

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 Conducted November 1-30, 1983

Inspectors: *W. Tomlinson*  
for D. P. Tomlinson, Senior Resident Inspector

1/23/84  
Date

*W. Tapia*  
for J. I. Tapia, Reactor Inspector  
Reactor Project Section A

1/23/84  
Date

Approved: *W. Crossman*  
W. A. Crossman, Chief  
Reactor Project Section B

1/23/84  
Date

Inspection Summary

Inspection Conducted November 1-30, 1983 (Report 50-498/83-24; 50-499/83-24)

Areas Inspected: Routine, announced inspection of previously identified inspection findings; site tours; allegations followup; and backfill placement activities. The inspection involved 38 inspection hours onsite by two NRC inspectors.

Results: Within the four areas inspected, one violation was identified (failure to follow standard test method, paragraph 5).

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Details1. Persons ContactedPrincipal Licensee Employees

- D. Barker, Project Manager
- \*J. Barker, Supervising Project Engineer
- \*D. Bednarczyk, Project QA Supervisor-Civil/Structural
- D. Bohner, Project QA Supervisor-Electrical
- J. Estella, Supervisor, Quality Systems
- J. Geiger, Manager, Quality Assurance
- J. Goldberg, Vice President, Nuclear Engineering and Construction
- \*R. Hawkins, Construction Superintendent, Support Services
- S. Hubbard, Senior QA Specialist
- \*D. Keating, Project QA General Supervisor
- I. Morrow, Construction Superintendent
- G. Oprea, Executive Vice President
- \*J. Williams, Site Manager
- \*M. Wisenburg, Manager, Nuclear Licensing
- C. Wright, Project QA Supervisor-Mechanical/NDE

Other PersonnelBechtel Power Corporation (Bechtel)

- \*J. Downs, Deputy Manager of Construction
- \*L. Hurst, Project QA Manager
- \*M. Lawson, Deputy SQE
- J. Little, Assistant Project Resident Engineer

Ebasco, Services, Inc. (Ebasco)

- \*J. Crnich, Construction Manager
- R. Cummings, QA Site Supervisor
- R. Grippardi, QC Site Supervisor
- \*C. Hawn, Quality Program Site Manager

\*Denotes those individuals attending one or more management meetings during the inspection period.

2. Site Tours

Routine tours of the site were conducted by the NRC inspector observing housekeeping activities; general cleanliness; protection and preservation of equipment and material; personnel access control; and plant status as follows:

a. Units 1 and 2

Reactor Containment Buildings, Mechanical-Electrical Auxiliary Buildings, Fuel Handling Buildings, and Diesel Generator Buildings.

b. Site

Reservoir, essential cooling pond, and storage areas, including the warehouse, laydown areas, and the welding fabrication shop.

With regard to the above areas, the NRC inspector confirmed the following.

- (1) Safety-related and storage areas were free from accumulations of trash, refuse, and debris.
- (2) Work areas were clean and orderly.
- (3) Tools, equipment, and material were returned to their proper storage locations when no longer in use.

### 3. Licensee Action On Previous Inspection Findings

(Closed) Unresolved Item (498 and 499/8209-01) Incomplete Installation of Cable Tray Supports. During a review of field verification reports (FVR), the NRC inspector noted various written comments related to the current status of cable tray supports. These comments were recorded during walk-down inspections of the cable tray supports and included such items as incomplete installation, material deficiencies, inadequate separation and insufficient room for future installations. The NRC inspector wanted to assure that documentation generated during these inspections would be further examined during a later portion of the transition phase.

All of the deficiencies noted above and all other deficiencies noted on cable tray supports have been fully documented on nonconformance reports (NCR), and will be dispositioned individually or generically. Each NCR contains the identification number of the affected support, its location, a description of the deficiency, and disposition, as determined by engineering. Several supports and/or conditions may be listed on one NCR and may be dispositioned on a case-by-case basis or may be blanket dispositioned. The NRC inspector reviewed NCRs BE-00069, BE-00070, BE-00071, BE-00072, BE-00073, BE-00074, BE-00087, BE-00088, BE-00089, BE-00090, and BE-00098. Each gave an accurate and comprehensive description of the deficiencies, the identification of the support, the location of the support, the disposition of the deficiencies and a narrative explaining the engineering justification for that disposition. Because of the NCR followup of the walkdown inspection findings, this item is no longer unresolved.

This item is closed.

(Closed) Unresolved Item (498 and 499/8216-02) Code Status Report Documentation. During a review of ASME transition packages documenting the status of components, supports, and appurtenances, the NRC inspector noted that on NCR SM-9763 stating that "installation documentation is not available at the time of code installation statusing, ie, operational travelers, mechanical data sheet, etc."

NCR SM-9763 was a Brown & Root "rollover" NCR that documented the current status of 41 separate items. Documentation was not complete for these items because permanent installation had not yet been accomplished. In some cases the equipment had been moved into its approximate location and temporarily "stored-in-place." In other cases the equipment was mounted on embeds that had not been permanently located and grouted.

This was a general NCR written to cover items that lacked documentation because the work had not been accomplished at the time of the status and work package turnover.

This item is closed.

(Closed) Unresolved Item (498 and 499/8315-02) Marking of Bulk Bolting Material. During a tour of the warehouse area, the NRC inspector noted that some bulk ordered safety-related bolting material was purchased without a requirement for stamp identification of the individual pieces. In these cases the parts are stamped onsite by a QC inspector. No procedure could be identified which detailed the inspections or verifications required to assure that all prerequisite conditions were satisfied prior to marking. These inspections were explained verbally by the QC inspector but were not proceduralized.

WPP/QCI 12.4, "Material Identification and Marking Requirements," specifies that QC shall verify the ASME Code Class, if applicable, and the safety-related category of the items prior to marking of the material. A procedural change notice (PCN) was issued which further details the inspections required by QC personnel. This change now directs QC to verify that safety-related items were procured and received as safety-related by tracing the items back to the purchase order, material receiving report, or receiving inspection report. Verification of ASME class is now being performed by the QC inspector through a thorough review of all receipt documentation before the identifying stamps are applied. Revision 5 to Procedure WPP/QCI 12.4, which clarifies the inspection requirements, became effective on October 28, 1983.

This item is considered closed.

(Closed) Unresolved Item (498 and 499/8315-05) Control of Small Parts for Code Pipe Supports. During a routine inspection, the NRC inspector noticed that on two adjacent pipe supports the clamp-to-strut connection was made using different types of fasteners. One connection was made using a pin and a threaded bolt was used on the other. The NRC inspector expressed concern that small parts may be lost or that a substitution of material could occur during installation or assembly.

Ebasco Procedures QCP-10.12, CSP-7, and ASP-5 address the verification and installation of piping supports. These have all been revised to include a marking/tagging/color coding system of identification of all parts. Verification of all parts of the hanger or support is part of the final inspection performed to assure that all parts are in accordance with the appropriate drawing and the manufacturers specification. At the time the NRC inspector noted this condition, the hangers were in the process of being installed and the incorrect fasteners were being used temporarily as a construction aid. The installation was not complete and the final inspection had not been performed.

This item is closed.

(Closed) Unresolved Item (498 and 499/8318-02) Support Beam Not Connected to Embed in Unit 1 Containment Wall. The NRC inspector observed one end of a support beam welded to a structural floor member. The opposite end

terminated adjacent to an embed in the containment wall with no attachment clips or connecting welds. This item was passed on to a licensee QA representative for further investigation.

This structural beam is located at elevation 22', approximately 20' south of column 3. The condition noted was noted in Bechtel's Phase "A" transition package and is also identified on Bechtel NCR-GC00152 and is awaiting disposition. The structural steel drawing for this beam shows that clips are to be welded to the adjacent embed and a bolted connection made to the beam. No final inspections have been made of this structure.

This item is closed.

(Closed) Unresolved Item (498 and 499/8318-03) Use of DN Tag to Track Incomplete Construction. The NRC inspector observed a NCR tag attached to a structural steel member in Unit 1 Fuel Handling Building stating that the connection bolts had not been installed. The NRC inspector expressed his concern that either the QC inspector had inspected the area before it was ready or the NCR tag was being improperly used as a tracking mechanism for the installation of the bolts.

The tag in question was a "Deficiency Notice" (DN) attached by an Ebasco QC inspector. The DN tags are used to identify discrepancies which do not require an engineering evaluation prior to disposition. Because the discrepancy was of this nature, the use of a DN was proper. DN 164-C was issued to document the lack of A-307 bolts, nuts, and washers for the diagonal braces.

This item is closed.

(Closed) Unresolved Item (498 and 499/8318-04) Material Control of Embeds. The NRC inspector examined a bundled lot of embeds located in a material lay-down area adjacent to Unit 2 MEAB. Following a discussion with a QC inspector it was unclear to the NRC inspector who was responsible for assuring that the embeds are of the correct material prior to installation.

When structural steel is received, Bechtel engineering reviews the material certification and mill test reports to verify that the material is of the correct type and that all dimensional, chemical, and physical requirements are met. The material is then transferred to Ebasco and is color-code painted in accordance with Bechtel Specification 3A0105S0030, Revision 1, SCN-10. These requirements are passed on in Bechtel Procedure WPP/QCI 12.4 and Ebasco Procedure ASP-5. When the color-coded embeds are received by field activities the material color is verified by Ebasco QC prior to the placement of concrete. The QC inspector also verifies the presence of the designator "Q" or "NQ" stamped on the embed, adjacent to the existing piece mark, which indicated that the embed is to be used for safety-related or nonsafety-related application. For field fabrication of embeds, the traceability of the material is similarly established by the color-code and is verified by Ebasco QC in accordance with Procedure QCP 10.7.

This item is closed.

#### 4. Allegations Followup

A former STP employee met with a member of the Region IV investigation staff and expressed concern over several events that occurred onsite during his

period of employment. Two of these were forwarded to the SRI for further evaluation.

a. Reportability of Item

The alleged stated that an item he thought was reportable to the NRC under the provisions of 10 CFR Part 50.55(e) was not reported. During the hydrostatic testing of a section of essential cooling water (ECW) piping, a test plug failed and the pipe was thrown from its temporary supports onto the ground. The alleged feels that this should have been formally reported.

It must be noted that the failure of a temporary pipe plug does not constitute a failure of the item under test. Following the plug failure, the pipe was replaced on its temporary supports and engineering was notified. It was determined by engineering that this was not reportable as 10 CFR Part 50.55(e) states, in part, that "the holder of the construction permit shall notify the NRC of each deficiency found in design and construction, which, were it to have remained uncorrected could have affected adversely the safety of operations of the Nuclear Power Plant." Part of the immediate engineering action was to request a dimensional and liquid penetrant examination of the pipe ends and all welds on this pipe section. This section of pipe was successfully hydrostatically tested and welded into place following these inspections. Because these inspections did not reveal any deficiencies which met the above criterion, this item was not formally reported.

b. Rigging Practice

The alleged further stated that he has concerns about the rigging practice utilized in the installation and alignment of the reactor coolant system (RCS) loop piping. He states that he reported to his supervisor that the crossover piping sections to connect the RCS pumps to the steam generators were lifted into place using the steam generator legs as lift points. He states no actions were taken for 3 weeks after he notified his supervisor.

Westinghouse Electric Corporation (Westinghouse) installation instructions for the RCS piping does not state specific requirements for the movement and placement of the piping but does state that it should be done in accordance with good rigging practices. The NRC inspector found that this incident was noted by licensee QA personnel as it was being done and "hold" tags were applied the same day. A review of the Westinghouse specification did not indicate that this was a violation of any requirements but the lift points were relocated prior to lifting the pipe from the floor into its installed position.

Based on the above findings, the NRC inspector plans no additional action at this time.

5. Backfill Placement Activities

An inspection was conducted of ongoing backfill placement activities east of the Unit 2 Auxiliary Building. One in-place density test was witnessed. Through discussions with contractor and laboratory personnel present, it was determined that continuous QC inspection during the placement of backfill does not occur. Ebasco's QC procedure for the inspection of backfill, QCP-10.10, only requires the QC inspector to, "monitor the operation on a daily basis during the actual placing of structural backfill." Through discussions with QC personnel and from a review of available records it was determined that such an inspection frequency requirement has the potential for the placing of backfill without adequate QC inspection. The number of in-place density tests which had to be re-run indicated that there has not been as good a control over the compaction process as possible. Since the NRC inspector's review of this matter was limited in scope, this matter will remain unresolved pending further review. (8324-01)

During the review of laboratory test results of relative density determinations it was determined that Bechtel, by letter dated April 6, 1983, directed PTL to modify their test procedure to implement the scoop in lieu of the required pouring device. ASTM D2049-69, "Relative Density of Cohesionless Soils," Table 2, requires that a funnel pouring device be used in the minimum density test for soil samples having a maximum size of soil particle of 3/8". The material used at STP meets this requirement. The change to the scoop results in lower values of minimum density which in turn makes it easier to satisfy the field requirement for minimum percent compaction. This is in violation of the requirements of the ASTM Standard Test Method. (8324-02)

6. Unresolved Item

An unresolved item is a matter about more information is required in order to determine whether it is an acceptable item, a violation, or a deviation. One unresolved item is discussed in paragraph 5 of this report.

7. Management Meetings

Meetings were held periodically with licensee management personnel during the course of his inspection to discuss inspection scope and findings.