## APPENDIX B

## U.S. NUCLEAR REGULATORY COMMISSION REGION IV

NRC Inspection Report: 50-498/87-41 Construction Permits: CPPR-128 50-499/87-41 CPPR-129 Dockets: 50-498 Category: A2 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 (STP) Inspection At: STP, Matagorda County, Texas Inspection Conducted: June 15 through July 2, 1987 Inspector: McNeill, Reactor Inspector, Project Section A, Reactor Projects Branch 8-/13/87 Data

Approved:

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Constable, Chief, Project Section C Reactor Projects Branch

Inspection Summary

Inspection Conducted June 15 through July 2, 1987 (Report 50-498/87-41; 50-499/87-41)

Areas Inspected: Routine, announced inspection of followup on allegations and maintenance program.

Results: Within the areas inspected, one deviation was identified (failure of the maintenance program to meet the FSAR quality requirements, paragraph 3).

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# DETAILS

### 1. Persons Contacted

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#### Principal Licensee Personnel

W. S. Blair, Maintenance Support Supervisor M. H. Carnley, Instrument & Control (I&C) Supervisor \*J. E. Geiger, General Manager, Nuclear Assurance \*J. Green, Operations Quality Assurance (QA) \*I. L. Guthrie, SAFETEAM Manager \*B. D. Hall, Department Manager, SAFETEAM R. D. Hall, Lead Maintenance Specialist A. W. Harrison, Supervisor, Project Engineering \*S. M. Head, Lead Project Compliance Engineer S. E. Hill, Maintenance Supervisor, Technical/Support T. Jenkins, Start Up Engineer T. J. Jordan, Project QA Manager \*W. H. Kinsey, STP Plant Manager \*M. A. Ludwig, Maintenance Manager D. W. Morgan, I&C Foreman G. Morrow, Start Up Engineer V. P. Portell, QA Specialist P. B. Travis, I&C Technical Supervisor C. M. Turner, Fire Protection Staff Engineer F. L. Wiens, Maintenance Supervisor \*M. R. Wisenburg, Deputy Project Manager

Bechtel Power Corporation

A. O. Guidry, Fire Protection Group Leader R. W. Miller, Site Project QA Engineer J. O'Hair, Operation Plant Services Project Engineer

Ebasco Service Inc.

K. Gilkerson, QA Engineer R. E. Powe, Lead QA Engineer Systems J. H. Smith, Lead Mechanical Supervisor

\*Denotes those individuals attending an exit interview with the NRC inspector.

2. Followup on Allegations

(Technically Closed) Allegation 4-87-A-038: This allegation was that Quality Control (QC) controls had broken down in that construction personnel had dismantled Class III instruments and tubing of Diesel Generator No. 13 (Bay C) without QC coverage and further that QC decided to have the lines reconnected and then disassembled with QC witness. The allegation had not been addressed as a SAFETEAM concern. There was a SAFETEAM concern somewhat similar in regard to QC inspection points on a startup work request (SWR). That concern, No. 11344, was substantiated.

The NRC inspector found that after turnover of equipment to operations, work on equipment is controlled by SWRs or temporary alteration tags. In regard to temporary alterations, there are no QC requirements specified in general by nature of the type of activity in question (nonpermanent). In the Record Management System (RMS), a file is maintained of SWRs and their associated work packages by equipment or component. Based on the identification supplied by the alleger, the file for Diesel No. 13 was reviewed by the NRC inspector. From that review, a list of inspectors involved in SWRs and their work packages was established. These inspection personnel were interviewed in regard to missed inspection points. From the event description supplied by the alleger, the time frame in question and the identification of personnel involved supplied by the alleger, these inspectors confirmed that the event in question did indeed occur; however, it was on Diesel No. 12 in Bay B. The hold points on SWR No. 17032 and its associated Work Package No. 1DG0216078 were violated. The violation of hold points was documented in Nonconformance Report (NCR) No. SJ-03564 dated May 23, 1987. As corrective action, a pipefitter, who was the cause of the violation, was suspended for 3 days and the 13 associated personnel were retrained on the requirements in question. The allegation was substantiated; however, the problem was self-identified, acceptable corrective action was taken prior to this NRC inspection, and the problem appears to be of no consequence.

(Technically Closed) Allegation 4-87-A-041: This allegation was that there were welding discrepancies on the saddles of the main steam headers. This allegation was not addressed to SAFETEAM. Based on a review of SAFETEAM files, it appears there was not a concern of a similar nature registered.

The NRC inspector found that the main steam lines, as they exit the reactor containment, enter into rooms called the isolation valve cubicles. In the isolation valve cubicles, each main steam line is called a main steam header. From the main steam header, the safety relief valves branch off. These branches, however, do not have saddles associated with them. The type saddles in question are branch connection reenforcement such as identified in ASME Code NC-3643.3.

After contacts with the vendor personnel referred to by the alleger and subsequent contacts with the alleger, it was established that the saddles in question were part of an early design circa 1982. Shortly after project turnover from Brown & Root to Bechtel, the main steam headers were redesigned to a forged header design thus eliminating the need for saddles at the safety relief branch connection. Inspection of the main steam header by the NRC inspector failed to find any saddles of any type as identified by the alleger. Based on interviews of Bechtel and vendor personnel, it was established that there were some discussions of the earlier design and its feasibility. It would appear that the alleger is

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recalling design discussions of the earlier design of the main steam header. This allegation was not substantiated.

(Technically Closed) Allegation 4-87-A-052: This allegation was that SAFETEAM investigations have a narrow focus and as such fail to study root causes and generic implications. An example of a SAFETEAM investigation of harassment and intimidation was given.

The NRC inspector reviewed the SAFETEAM files on the example given, Concern No. 58405. It was established that this concern did establish that harassment and intimidation did occur and that the generic implications such as what others may have been harassed and intimidated were not documented. This concern had been investigated by Ebasco just prior to the implementation of the SAFETEAM program.

The NRC inspector further reviewed all concerns registered to date dealing with harassment and intimidation of QA/QC personnel or others that were investigated by SAFETEAM. Particular attention was paid to 24 concerns where there was some measure of substantiation or a recommendation made as a result of the investigation. Two concerns (Nos. 10375 and 10827) were identified by the NRC inspector that had been investigated by SAFETEAM and were clearly cases of harassment and intimidation. Concern No. 10375 documented harassment and intimidation of an inspector; however, there was no record or recommendation of a generic investigation. The NRC staff review observed that the SAFETEAM charter did not specifically require the SAFETEAM to evaluate root cause or generic implications of substantiated allegations; however, these aspects were considered when technical concerns were identified. Concern No. 10827 documented harassment and intimidation of a pipefitter, and there was a recommendation to review the problem in general. HL&P did review the problem in regard to the quality dimension of the problem. However, the review of the generic aspects the harassment and intimidation dimension performed by Ebasco was not documented. This allegation was substantiated, in that, SAFETEAM records did not consistently reflect that their reviews had been conducted to determine root cause and generic implications.

This is viewed as a program weakness and does not involve a violation of NRC regulations. The overall assessment of the HL&P SAFETEAM program was determined to be acceptable (NRC Inspection Report 50-498;499/87-45). HL&P, in a letter dated July 15, 1987 (Observation No. 23), committed to take appropriate corrective action. These corrective actions are acceptable to the NRC staff.

#### 3. Maintenance Program

The objective of this inspection was to determine whether the licensee has developed and implemented a maintenance program. In particular, the implementation of the preventative maintenance (PM) program in the I&C discipline was inspected. In this regard, the STP FSAR, the Quality Assurance Program Description, Revision 18, dated June 12, 1987, and Procedure No. DPGP03-AM-0002, Preventive Maintenance Program, Revision 9, were reviewed by the NRC inspector.

The NRC inspector found that the current program requires PM on all safety-related equipment and that which is important to safety, such as fire protection, radwaste, post-accident monitoring, and qualified display processing systems, as well as seismic two over one (II/I) supports, containment penetrations, and category II instrumentation. When the NRC inspector attempted to verify the implementation of the above program on these systems important to safety, it was established that not all of the PMs on the fire protection system were treated the same as those that are safety-related. An example of this was PM IC-1-FP-86008940, Revision 0, dated April 15, 1986. The licensee identified that they had identified some 1900 PMs as such. A review of the revision history of the PM procedure by the NRC inspector found that on December 22, 1986, the procedure was revised to clarify the program requirements and add the qualified display processing system and category II instrumentation. At STP, a Bechtel quality classification system of nine levels was used for construction. The nine levels generally break down as follows: levels 1 through 3 correspond to ASME class 1 through 3; level 7 corresponds to important to safety; levels 8 and 9 correspond to nonsafety and nonguality; level 4 is a combination of level 1 through 3 and IEEE class 1E; level 5 is a combination of levels 1 through 4 with levels 7 through 9; level 6 is a combination of levels 7 through 9, level 8 differs from 9 because of equipment history. The fire protection system, as designed and installed at STP, is a system with levels 7 and 9 equipment together in the same system. Prior to December, the PM procedure read such that the level 9 equipment in the fire protection system was not treated like the level 7, meaning the same as safety-related. The NRC inspector also found that the Procedure OPGP03-ZM-0003, Maintenance Work Request (MWR) Program, was also revised at the same time in the same manner. Therefore, prior to the revision in question in December 1986, the PM and MWR procedures failed to comply with the FSAR requirements in Section 3.2 which identified a blanket coverage of the fire protection system with quality requirements. The difference for PMs and MWRs being treated the same as safety-related or not, is whether or not QA approved procedures were used and whether or not OC inspection points were applied.

In addition to the above procedural problem, the revised procedures were not implemented fully because personnel understood that existing PMs and MWRs were grandfathered. The NRC inspector verified that some PMs (IC-EW-86003360, IC-EW-86005078, and IC-1-SH-86003490) and MWRs (FP-87004268 and FP-87005961) were performed without QA/QC involvement after December 1986. As a result, HL&P has identified that across all disciplines (I&C, electrical, and mechanical), approximately 300 MWRs and 460 PMs were performed without QA/QC involvement. Also, approximately 1960 PMs have been written which require revision for QA/QC involvement so that they are treated as safety-related. Most of the above PMs and MWRs were in the I&C discipline. The failure to comply with the FSAR requirements was identified as a deviation (498/8741-01; 499/8741-01). As immediate corrective action, HL&P Maintenance Manager issued instructions to scope the problem, revise all applicable PMs and MWRs prior to their performance, and prohibit the use of any applicable PMs & MWRs issued to date until their review and revision is complete. As preventative action, additional retraining was to be performed for the personnel involved. In addition, in that above deviation deals with an operations phase problems, HL&P issued a memo to NRC (ST-HL-2293) dealing with the construction phase. This memo described the duel levels of quality used in the construction phase of design, procurement, and installation of the fire protection system and the logic rules used to establish the different quality levels. The NRC has accepted this position statement.

The same revisions of December 1986 also added that PMs and MWRs on environmentally qualified (EQ) equipment be identified on their respective forms. A Special EQ Masterfile listing and Special EQ Maintenance book were found which identify any EQ-related requirements for equipment. To date, some 1850 I&C PMs have been drafted and require rereview to meet this requirement. Only one of these PMs was issued; however, it is not yet implemented.

A sample of records of 10 PM activities were reviewed by the NRC inspector. Most PM activities were found to be performed with procedures cross-referenced on the PM check sheet. The exceptions were inspection of cleanliness of electrical cabinets which had the instructions documented on the PM check sheet itself. PM check sheets referenced procedures including revision status. The program procedure requires the latest revision to be used. Only the latest revisions were issued by the document control center as working copies. Based on the sample of PM activities review, the latest revision was indeed used even when the PM check sheet may have been referenced in an earlier revision.

In review of the above sample, it was found by the NRC inspector that procedure changes are implemented by Field Change Requests (FCRs) as documented in Procedure No. OPGP03-ZA-0002. A review was performed by the NRC inspector of PM procedures in ZI series. Six procedures were found to have FCRs issued against them. Further review by the NRC inspector established that one procedure (OPMPO8-ZI-0001) had an FCR against it which expired and had been replaced by another FCR. However, before the issuance of the replacement FCR, the document control center had issued working copies of the procedure. In addition, three other procedures (23, 28, and 33) were found where the FCRs had expired, no replacement FCRs had been issued, and working copies of the procedure had been issued subsequently by document control. The nature of the changes was reviewed by the NRC inspector with HL&P personnel and the changes were found to be administrative and enhancing in character, such as the addition of steps stating "if required." Although the changes were not incorporated, this did comply with the procedure change methods of HL&P program. FCRs are now tracked after PORC review and automatically added to a new revised procedure.

# 4. Exit Interview

The NRC inspector met with Messrs. J. E. Geiger and W. H. Kinsey on July 1, 1987, and the licensee personnel denoted in paragraph 1. At the meeting, the scope and findings of the inspection were summarized.