APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report. 50-498/88-40
50-499/88-40

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

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 (STP)

Inspection At: STP, Matagorda County, Texas

Inspection Conducted: June 13-15 and 27-29, 1988

Inspectors: James L. Milhoan
J. E. Johnson, Reactor Inspector, Plant Systems Section, Division of Reactor Safety
7-14-88
Date

Approved: James L. Milhoan
R. E. Ireland, Acting Chief, Plant Systems Section, Division of Reactor Safety
7-14-88
Date

Inspection Summary

Inspection Conducted June 13-15 and 27-29, 1988 (Report 50-498/88-40)

Areas Inspected: No inspection of Unit 1 was conducted.

Results: Not applicable.

Inspection Conducted June 13-15 and 27-29, 1988 (Report 50-499/88-40)

Areas Inspected: Routine, unannounced inspection including followup of previous identified findings, review of licensee responses to Inspection and Enforcement Bulletin 85-03 concerning motor operated valve switch settings, and review of the licensee's system for installation of pipe supports and restraints.

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

DETAILS

1. Persons Contacted

HL&P

*J. T. Westermeier, Project Manager
S. D. Phillips, Project Compliance Engineer
*D. C. King, Construction Manager
M. Duke, Engineering
W. Trujillo, Nuclear Assurance Supervisor
*M. Pollishak, Project Compliance Supervisor
*K. O'Gara, Project Compliance Engineer
R. Whittey, Quality Assurance
*J. Johnson, Quality Assurance Lead
*M. E. Powell, Project Compliance/Licensing Supervisor

Bechtel Power Corporation (Bechtel)

R. Parekk, Principal Engineer
A. Franco, Engineering
E. Folley, Engineering Group Supervisor
R. Yelamouchi, Engineering Group Lead

Ebasco Service Inc. (Ebasco)

B. Higby, Quality Control, Supervisor
J. Elliott, Quality Control

NRC

*D. L. Garrison, Resident Inspector

*Denotes those attending the exit interview.

2. Licensee Action on Previously Identified Inspection Findings

(Open) Unresolved Item 499/8826-01 - The concern was identified during the review of Standard Site Procedure (SSP) 9, Revision 4, "Pipe Support Installation." It was noticed that paragraph 5.6.6.8 had been modified by Interim Change Notice (ICN) No. 31, dated April 7, 1988. The original paragraph for liquid filled piping, after hydrotesting, required that all travel stops "shall" remain installed when the system was to be drained. ICN No. 31 modified the "shall be installed" to "should be installed" prior to draining.

The concern was that if quality control (QC) on startup failed to install these travel stops prior to draining the system, would these supports be

damaged, and would there be any additional stresses added to the piping system? ICN 34 was issued on May 23, 1988, by the licensee to reflect the original wording. This item is considered open until the NRC inspector can verify that no supports were damaged, or pipe overstressed, while ICN No. 31 was in effect.

3. IE Bulletin 85-03 (Closed)

IEB 85-03, "Motor Operated Valve Common Mode Failure During Plant Transients Due to Improper Switch Settings," was issued as a result of two events in 1985, and a number of earlier events, during which motor-operated valves failed on demand, in a common mode, due to improper switch settings. IEB 85-03 requested licensees to develop and implement a program to ensure the operability of valve operator switches on motor-operated valves in the high pressure coolant injection, core spray and emergency feedwater systems for pressurized water reactors that are required to be tested for operational readiness in accordance with 10 CFR 50.55a(g). The licensee had made several submittals on this subject to the NRC. The latest submittal was dated June 10, 1988.

The purpose of this inspection was to perform a followup on the licensee's action taken in response to IEB 85-03 for Unit 2. Temporary Instruction (TI) 2515/73 was used by the NRC inspector as a guide in reviewing the licensee's program.

a. Procedure Review

The licensee's program in response to IEB 85-03 included 24 valves for Unit 2. These valves are in the Safety Injection (SI) and Auxiliary Feedwater (AFW) systems. The STP program was implemented by procedures, elementary diagrams, and manufacturer's instruction manuals for valves and valve operators.

The NRC inspector reviewed licensee Procedure SG-E-09, Revision 5, "Generic Prerequisite Test Procedure for Motor Operated Valves and Dampers." This procedure gave instructions on statically adjusting valve operator switches, and on properly documenting the as-found, specified, and actual torque switch settings. The procedure required that a check for excessive valve backseating be made during the verification of limit switch settings. The procedure also specified that the opening and closing torque switch settings be adjusted to the index setting specified by both the operator and valve manufacturers. This setting is related to thrust required to close, or open, the respective valves at the design pressure.

Standard Site Procedure (SSP) 47, Revision 0, "Inspection and Rework of Class 1E MOVs," listed pertinent repair and maintenance instructions for MOVs.

Procedure OPMP05-2E-0300, Revision 3, "Limitorque MOV Motor Inspection and Lube," included those valves in the plant periodic maintenance (PM) program which ensured that switch settings are set and maintained correctly. All licensee procedures reviewed by the NRC inspector were adequate.

b. Observation

The NRC inspector selected four motor operated valves for examination. Attributes reviewed included:

- Rust/moisture in the operator housing
- Valve stem properly lubricated
- Proper torque switch settings
- Cleanliness of torque and limit switch contacts
- Visible damage
- Excess lubrication

The torque switch settings were as specified by the manufacturers' instructions. No visual damage or deterioration was observed during this inspection. Valves inspected included:

- A2SIMOV0012A . . . . Safety Injection (SI)
- A2SIMOV0004A . . . . SI
- A2AFMOV0048 . . . . Auxiliary Feed (AFW)
- A2AFFV7525 . . . . AFW

c. Data Review

Test records and data of the static test were reviewed by the NRC inspector, and results were found to be in compliance with applicable licensee procedures. The NRC inspector also reviewed preoperational test No. 2-SI-P-04. The test included valve checks in the "B" train of the SI system. Open and close times for valves were verified in this test. Five of the valves included in IEB 85-03 were checked in the test.

d. Summary

The licensee's program is implemented and appears to meet the requirements of IEB 85-03. Procedures and instructions were issued. All valves included in IEB 85-03 had been statically and preoperationally tested in Unit 2, except for the AFW valves which had not been preoperationally tested. The licensee had submitted a final response to IEB 85-03 dated June 10, 1988, for review and approval by NRC.

4. Pipe Supports and Restraint Systems (50090)

The objective of this inspection was to determine through direct observation and independent evaluation of work, that the licensee's work

control system was functioning properly and that installation of safety-related pipe support and restraints was in compliance with NRC requirements, licensee commitments, and applicable codes.

a. Observation of Work

The NRC inspector selected nine final design pipe support structural drawings for the Safety Injection System (SI) for examination and comparison with as-built conditions in the field. The following inspection attributes were examined:

- Location and orientation of the support
- Type of support
- Support material
- Identification of support
- Clearances and allowable tolerances
- Pin to pin dimensions
- Rust and excessive damage
- Weld size and visual acceptance of welds
- Bolting material and size

During the inspection, the NRC inspector noted an additional pipe support, No. SI-9106-HL5013, that was not shown on an isometric drawing. The licensee was informed of this finding. The licensee told the NRC inspector that isometric drawings, which he had used, did not always reflect deletion or addition of pipe supports. The licensee indicated that the stress isometric drawings, and Stress Calculation No. RC0Q08, reflected the addition of Support No. SI-9106-HL5013. Review of the stress calculations and the stress isometric by the NRC inspector showed the addition of the extra pipe support.

It appeared that the licensee's inspection program in the area of pipe supports was functioning properly. Discrepancies identified by the licensee's QA/QC organization were documented by nonconformance reports (NCRs), or some other appropriate method was utilized. All field changes were reviewed by engineering and incorporated into the final design drawings.

The NRC inspector also selected pipe anchor locations on the final design drawings for inspection. These anchor locations were visually examined and compared to the design drawings to ensure agreement as to their location and function. The specific items examined are listed below:

Pipe Support	Anchor Location
SI-2106-RR12	MS-2003-HL-5006
SI-2106-SH10	SI-2143-HF-5004
SI-2106-RH0008	SI-2143-HF-5002

SI-2106-RR09	SI-2143-HF-5003
SI-2106-RH06	CS-2107-HF-5012
SI-2106-HL5011	CS-2106-HF-5010
SI-2106-RR0004	CH-2135-HS-5001
SI-2106-RH05	CS-2101-HL-5003

No violations or deviations were identified.

6. Records Review

The NRC inspector reviewed the records of the pipe supports and anchor locations identified in the previous paragraphs.

- Weld identification and location corresponded to respective weld data card.
- The required scope of QA/QC inspections were met.
- Type and classification of pipe support complied with design drawings, specifications, and vendor catalog.
- Location, spacing, and critical clearances met licensee's specifications and had been verified by QC inspections.

Records reviewed were retrievable, accurate and complete. Recorded information met documentation requirements.

No violations or deviations were identified.

5. Exit Interview

The NRC inspector met with the licensee personnel (denoted in paragraph 1) on June 29, 1988, and summarized the scope and findings of this inspection. No information was identified as proprietary.