

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Report: 50-498/82-14
50-499/82-14

Dockets: 50-498; 50-499

Category: A2

Licensee: Houston Lighting and Power Company
P. O. Box 1700
Houston, TX 77001

Facility Name: South Texas Project, Units 1 and 2

Inspection At: South Texas Project, Matagorda County, Texas

Inspection Conducted: August 23-27, 1982

Inspectors:

for *S.E. Martin*
W. A. Crossman, Chief
Reactor Project Section B (Par. 3) 9/24/82
Date

for *S.E. Martin*
W. M. Hill, Senior Resident Inspector
(Par. 5) 9/24/82
Date

J.R. Boardman
J. R. Boardman, Reactor Inspector
Reactor Project Section B (Par. 4) 9/24/82
Date

for *S.E. Martin*
W. G. Hubacek, S/P Coordinator
(Pars. 1, 2, 5, & 6) 9/24/82
Date

Approved:

for *S.E. Martin*
W. A. Crossman, Chief
Reactor Project Section B 9/24/82
Date

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Inspection Summary

Inspection Conducted During the Period of August 23-27, 1982
(Report 50-498/82-14; 50-499/82-14)

Areas Inspected: QA program development and implementation by the licensee, Bechtel Power Corporation (Bechtel), and Ebasco Services, Inc. (Ebasco), in the areas of design, engineering, procurement, and construction. The inspection involved 100 inspector-hours by four NRC inspectors.

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

Details1. Persons ContactedPrincipal Licensee Employees

H. Walker, Project QA Manager
 *D. Keating, Project QA General Supervisor
 *J. Williams, Site Manager
 *J. Estella, Supervisor, Quality Systems
 *J. Barker, Supervising Project Engineer
 D. Bednarczyk, Project QA Supervisor - Civil/Structural
 F. Alkov, Site Purchasing Supervisor

Other PersonnelBechtel Power Corporation (Bechtel)

*B. McCullough, Construction Manager
 *J. Downs, Deputy Construction Manager
 *L. Hurst, Project QA Manager
 *H. Reuter, Resident Project Engineer
 R. Carter, Assistant Project Field Engineer
 M. Alexander, Field Procurement Supervisor
 D. Dubose, Site Supplier Quality Representative
 R. Cantrell, Lead Auditor

Ebasco Services, Inc. (Ebasco)

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

*Denotes those persons attending the exit meeting on August 27, 1982.

2. General

The NRC inspectors reviewed QA program implementing procedures of the licensee and major contractors (Bechtel and Ebasco) in the areas of design, procurement, and construction to ascertain whether the development of the procedures was consistent with the status of the project and regulatory requirements. A detailed review of QA program descriptions and QA manuals was performed during a previous inspection in April 1982 and was documented in NRC Inspection Report 50-498/82-06; 50-499/82-06.

The NRC inspector observed that a list had been prepared which delineated site QA/QC and construction procedures required for performance of scheduled construction activities. The scope of the procedures listed and the scheduled issue dates appeared to be consistent with the licensee's schedule for resumption of safety-related construction activities. Procedures for performance of emergency cooling water (ECW) piping and other safety-related activities in progress at the time of this inspection were observed to be in place. A detailed review of ECW piping activity procedures and their implementation was conducted in August 1982 and was documented in NRC Inspection Report 50-498/82-13; 50-499/82-13.

The NRC inspectors also reviewed the licensee and major contractors' site organization to ascertain whether the staffing levels were consistent with the status of the project. The staffing levels of the licensee, Bechtel, and Ebasco QA/QC organizations were 26, 41, and 41 professionals, respectively. The total site manpower level was approximately 1,380, including QA/QC personnel. The staffing levels appeared consistent with project activities.

3. Engineering and Design

a. Engineering and Design - Bechtel

The NRC inspector continued the review of the Bechtel engineering and design quality assurance program as addressed in Section 3 (17.1.3) "Design Control," of Bechtel Topical Report BQ-TOP-1, Rev. 3A, October 1980, and "Bechtel Quality Assurance Program for Nuclear Power Plants" with modifications and additions contained in the Quality Assurance Program Description (QAPD), Part B, Rev. 3, March 9, 1982.

For this inspection, the effort was directed mainly to engineering and design as it relates to the site. The program description commitments contained in Engineering Department Procedures (EDP) and Work Plan Procedures/Quality Control Instructions (WPP/QCI) were reviewed. For translation of these commitments, the NRC inspector reviewed the following procedures:

EDP 4.23, SAR Change Control, Rev. 0, May 12, 1982

EDP 4.47, Drawing Change Notice, Rev. 0, April 23, 1982

WPP/QCI 6.0, Control of Quality Records, Rev. 1, February 15, 1982

No violations or deviations were identified.

b. Engineering and Design - Ebasco

The NRC inspector continued the review of procedures that translate commitments contained in Ebasco Topical Report ETP-1001, Rev. 10a, "Ebasco Nuclear Quality Assurance Program Manual and Addenda." The following Ebasco Administrative Site Procedures (ASP) were reviewed:

ASP-1, Preparation of Site Procedures, Rev. 1, April 28, 1982

ASP-6, Document Control, Rev. 0, March 16, 1982

ASP-11, Field Change Requests, Rev. 0, August 19, 1982

ASP-16, Corrective Actions, Rev. 0, March 19, 1982

ASP-33, Nonconformances, Rev. 1, June 11, 1982

No violations or deviations were identified.

4. Procurement, Supplier Control, and Material Identification and Control for the Construction Phase

The NRC inspector reviewed the following procedures for compliance with regulatory requirements and licensee commitments:

a. Licensee Project Procurement Procedures (PPP)

<u>PPP No.</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
01	General Procurement	02	May 1, 1982
02	Establishing Bidders List	02	May 1, 1982
03	Site Purchasing	02	May 1, 1982
04	Inquiry Issuance	03	May 1, 1982
05	Proposal Evaluation and Supplier Selection	02	May 1, 1982
06	Purchase Order and Change Order, Preparation, Approval and Issuance	03	May 1, 1982
08	Training	02	September 18, 1980
09	Preparation and Control of Project Procurement Procedures	03	December 30, 1981
10	Procurement File System and File Control	03	May 1, 1982
11	Document Review	03	May 1, 1982
12	Document Control	03	May 1, 1982

13	Processing Purchase Order and Change Order Acknowledgments	03	May 1, 1982
14	Site Material Control	00	May 1, 1982
15	General Subcontract Procurement	00	May 1, 1982

b. Work Plan Procedures (WPP)/Quality Control Instructions (QCI)

<u>WPP/ QCI</u>	<u>Title</u>	<u>Revision/ Procedure Change Notice (PCN)</u>	<u>Date</u>
4.0	Receiving Inspection	Rev. 1/PCN 1	August 13, 1982
5.0	Non-Conforming Materials, Parts, and Components	Rev. 3/PCN 3	July 29, 1982
5.1	Processing of Nonconformance Reports Relating to Westinghouse Electric Cor- poration NSSS Equipment	Rev. 1	August 20, 1982
5.3	Review and Processing of Nonconformance Reports for Deficiency Evaluation Reporting	Rev. 1/PCN 2	June 23, 1982
6.0	Control of Quality Records	Rev. 1/PCN 4	July 23, 1982
8.0	Qualification, Certification and Training of Quality Control Personnel	Rev. 1	June 18, 1982
10	Field Material Requisition Preparation and Approval	Rev. 2/PCN 6	August 20, 1982
12	Storage and Control of Permanent Plant Items	Rev. 2/PCN 2	July 23, 1982
12.1	Identification and Handling of Non-Permanent Plant Material	Rev. 0	May 18, 1982

c. Bechtel Field Procurement Individual Jobsite Instruction (FP IJI-1)

<u>IJI</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
1.0	Field Procurement Responsibilities and Organization	1	June 29, 1982
2.0	Establishment and Approval of Individual Jobsite Instructions (IJI)	2	June 28, 1982
3.0	Indoctrination and Training	1	June 29, 1982
4.0	Purchasing	1	June 29, 1982
5.0	Contracts	1	June 29, 1982
6.0	Expediting	1	June 29, 1982
7.0	Supplier Quality	1	June 29, 1982
8.0	Materials Management	1	June 29, 1982
9.0	Preventative Maintenance Permanent Plant Equipment	0	June 29, 1982
10.0	Document Distribution	1	June 29, 1982
11.0	Files	2	June 29, 1982

d. Comments

- (1) No procedures have been issued to date for the following areas:
- (a) Control of coatings
 - (b) Shelf-life control for permanent plant components and materials (elastomeric products, adhesives, lubricants, coatings, electronic components such as electrolytic capacitors, multi-component systems such as silicone foam fire stop, etc.)
 - (c) A Bechtel procedure, "Control and Storage of Lubricants," for implementation of preventive maintenance had not been issued as of August 19, 1982, but the NRC inspector was told it was prepared and approved and would be issued in the immediate future.

- (2) WPP 12.1, Rev. 0, "Identification and Handling of Non-permanent Plant Material" covers the control of nonconforming B/R safety-related material used for other than safety-related applications. This procedure requires the unique marking of material, but does not contain a requirement for transfer of marking if material such as plate is cut.

No violations or deviations were identified.

5. Construction

The NRC inspectors reviewed the following Ebasco construction, quality assurance, and quality control procedures for compliance with regulatory requirements and licensee commitments:

a. Quality Assurance Instructions (QAI)

<u>QAI No.</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
001	Site QA Organization and Responsibilities	1	June 19, 1982
004	Issuance and Processing of Nonconformance Reports	1	June 5, 1982
008	Quality Trend Analysis of Nonconformance Report, Deficiency Notices and Audit Findings	0	August 19, 1982
010	Site Quality Assurance Records	0	April 12, 1982
011	Management Corrective Action and Stopwork Authority	0	April 7, 1982
014	Quality Assurance Review of Radiographs	0	August 2, 1982
015	Procedure for the Calibration and Operation of the Radiographic Densitometer	0	August 2, 1982

b. Quality Construction Procedures (QCP)

<u>QCP No.</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
9.1	Weld Inspection (ASME)	0	August 6, 1982
9.2	Request for NDE	0	July 1, 1982

9.4	Verification of Weld Filler Metal Control	0	July 16, 1982
10.2	Preplacement Concrete Inspection	0	August 11, 1982
10.3	Concrete Placement Inspection	0	August 13, 1982
10.4	Post Placement Concrete Inspection	0	August 17, 1982
10.10	Soils Inspection	0	August 11, 1982
10.14	Piping Installation Inspection	0	July 21, 1982
11.1	Hydrostatic and Pneumatic Pressure Test Inspection	0	June 25, 1982
14.1	Status Control	0	April 21, 1982
15.2	Stop Work Order	0	August 16, 1982
17.1	Quality Assurance Records	0	May 24, 1982

c. Construction Site Procedures (CSP)

<u>CSP No.</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
1	Excavation and Backfill	0	August 4, 1982
3	Control of Lifting Apparatus	0	May 20, 1982
16	Pipe Installation	0	August 10, 1982
18	Test Fill Procedure	0	August 10, 1982
20	Construction Surveys	0	June 30, 1982
21	Preparation and Coating of Surfaces Outside the Reactor Containment Building	0	June 11, 1982
31	Piping System Cleanliness	0	August 17, 1982
81	Welder Qualification	1	July 31, 1982
82	AWS D1.1 Structural Welding	0	July 23, 1982
83	General ANSI B 31.1 Welding Requirements for Piping and Hangers	0	July 26, 1982

84	General ASME Section III Welding Requirements for Piping and Hangers	0	August 3, 1982
86	Repair of ASME III and ANSI B 31.1 Piping and Components	1	July 28, 1982
87	Welding Procedure Specification Qualification	0	July 22, 1982
88	Weld Filler Metal Control	1	July 31, 1982
89	Field Welding and Repair of Aluminum Bronze ECW Piping	0	July 26, 1982
90	Welding Documentation	1	July 31, 1982
91	Issuance and Control of Purge Dams	0	June 11, 1982
92	Control of Aluminum Bronze Material for Backing Rings and Welder Qualification Coupons	0	June 9, 1982

c. Nondestructive Examination (NDE) Procedures

<u>NDE No.</u>	<u>Title</u>	<u>Rev.</u>	<u>Date</u>
002-1	Radiographic Standards for Pipe Welds and Components	0	August 4, 1982
005-1	Ultrasonic Examination (Thickness Measurement)	0	August 5, 1982
006-1	Liquid Penetration Examination	0	August 4, 1982

The NRC inspector observed some minor inconsistencies in references to ANSI N45.2.5 contained in procedures QCP 10.3 and 10.4. It was also noted that acceptance/rejection criteria in QCP 10.3 appeared to require further classification to assure uniform application by users of the procedure. An Ebasco representative initiated immediate action to clarify these areas.

The NRC inspector had no further questions related to these procedures at this time.

No violations or deviations were identified.

6. Exit Interview

The NRC inspectors met with licensee representatives denoted in paragraph 1 to discuss the purpose and scope of the inspection and the findings.

The licensee was informed that this inspection was the second of a series of inspections of the licensee's and principal contractors' QA for design, procurement, and construction, and that a future inspection will be scheduled to coincide with further development and implementation of QA program procedures.