5P-498/4990L A-78 8/9/85

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

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File 5400 NLD/RMS

NOV 23 1984

In Reply Refer To:
Dockets: 50-498/84-12
50-499/84-12

Houston Lighting & Power Company
ATTN: G. W. Oprea, Jr.
Executive Vice President
P. O. Box 1700
Houston, Texas 77001

Gentlemen:

This refers to the inspection conducted under the Resident Inspection Program by Messers. D. P. Tomlinson, D. R. Carpenter, and L. E. Ellershaw of this office during the period August 1 - September 30, 1984, of activities authorized by NRC Construction Permits CPPR-128 and 129 for the South Texas Project, Units 1 and 2, and to the discussion of our findings with members of your staff at the conclusion of the inspection.

Areas examined during the inspection included a review of previously identified inspection findings, site tours, IE Bulletin followup, and allegation followup. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the NRC inspectors. These findings are documented in the enclosed inspection report.

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

One unresolved item is identified in paragraph 4 of the enclosed inspection report.

We have also examined actions you have taken with regard to previously identified inspection findings. The status of these items is identified in paragraph 3 of the enclosed inspection report.

NUCLEAR REGULATORY COMMISSION
Docket No. STN 50-498 OL Official Exh. No. APP #78
In the matter of
Staff — IDENTIFIED ✓
Applicant — RECEIVED ✓
Intervenor — REJECTED
Cont'g Off'r
Contractor — DATE 8/9/85
Off'r — Witness
Reporter TATE

APP #78

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

for E. H. Johnson, Chief
Reactor Project Branch 1

Enclosure:
1. Appendix - NRC Inspection Report 50-498/84-12
50-499/84-12

cc w/enclosures:
Houston Lighting & Power Company
ATTN: J. H. Goldberg, Vice President
Nuclear Engineering and Construction
P. O. Box 1700
Houston, Texas 77001

Brian Berwick, Esq.
Asst. Attorney General
Environmental Protection Div.
P. O. Box 12548, Capitol Station
Austin, Texas 78711

Mr. Lanny Sinkin
114 West 7th, Suite 220
Austin, Texas 70701

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-498/84-12
50-499/84-12

Dockets: 50-498; 50-499

Construction Permits: CPPR-128
CPPR-129

Licensee: Houston Lighting & Power Company
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: August 1 - September 30, 1984

Inspectors: _____ 11/13/84
D. P. Tomlinson, Senior Resident Inspector Date
(pars. 1, 2, 3, 5, 6, and 7)

_____ 11/13/84
D. R. Carpenter, Resident Inspector Date
(pars. 2, 6, and 7)

_____ 11/13/84
L. E. Ellershaw, Reactor Inspector Date
(pars. 2, 4, 6, and 7)

Approved: _____ 11/13/84
J. Gaudon, Chief, Project Section A Date
Reactor Project Section 1

Inspection Summary

Inspection Conducted: August 1 - September 30, 1984 (Report 50-498/84-12; 50-499/84-12)

Areas Inspected: Routine, announced inspection of previously identified inspection findings; site tours; IE Bulletin followup; and allegation followup. The inspection involved 282 inspector-hours onsite by three NRC inspectors.

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

DETAILS

1. Persons Contacted

Principal Licensee Employees

*D. Bednarczyk, Project QA Supervisor-Civil/Structural
D. Bonhner, Project QA Supervisor-Electrical
*J. Estella, Supervisor, Quality Systems
J. Goldberg, Vice President, Nuclear Engineering and Construction
S. Hubbard, Senior QA Specialist
*T. Jordan, Project QA Manager
*D. Keating, Project QA General Supervisor
G. Oprea, Executive Vice President
J. Williams, Site Manager
C. Wright, Project QA Supervisor-Mechanical/NDE

Other Personnel

Bechtel Power Corporation (Bechtel)

J. Downs, Deputy Manager of Construction
*L. Hurst, Project QA Manager
*A. Priest, Project Manager of Construction
*R. Miller, Deputy Project QA Manager

Ebasco, Services, Inc. (Ebasco)

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

Storage areas, including the warehouses, laydown areas, and the welding fabrication shop.

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

a. Safety-related and storage areas were [illegible] tions of trash, refuse, and debris.

b. Work areas were clean and orderly.

c. Tools, equipment, and materials were returned to their proper storage locations when no longer in use.

Some areas requiring additional attention relative to housekeeping and cleanliness were pointed out to the licensee. These areas were attended to within a reasonable time and the NRC inspector had no further questions concerning site tours.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (498/499-8316-03) Failure to Identify Required Standards; Possible Nonconforming Installation. During a review of the requirements placed on subcontractors providing material and services for South Texas Project (STP), the NRC inspector noted that the American Institute for Steel Construction (AISC) specification for the bolting of high strength materials had not been directly invoked. In particular he was concerned with the AISC prohibition on the reuse or retorquing of galvanized A-325 bolts. This was considered to be an unresolved item pending further review.

A further review revealed that the contractor in question, Bostrum-Bergen, was awarded the contract to supply various steel parts and assemblies on July 30, 1976. At this time the document in effect was the 7th Edition of the AISC specification for bolting. The prohibition on the reuse or retorquing of galvanized A-325 bolting material first appeared in the AISC 8th Edition, issued in 1980. This ban was introduced to avoid the questionable tightening that could result when bolts with relatively rough thread surfaces are subjected to successive cycles of forceful torquing. Although the prohibition on retorquing was not specifically invoked, it was included in the ordering data by reference.

The galvanized bolts as well as all other bolts furnished by this supplier were not shop assembled and tightened as permanent bolted connections. Therefore, the galvanized bolts were not subject to tightening on the part of the supplier. The subsequent onsite torquing and use of these bolts does not appear to violate the AISC specification or present a potential deficiency within the suppliers scope of operations.

This item is closed.

(Closed) Violation (498/499-8216-01) Failure to Meet Record Retention Requirements. During a review of quality assurance records in the licensee's site Quality Assurance (QA) records storage room, the NRC inspector noted that records were being removed from metal file cabinets and were being stored in binders and folders on open shelving. If open storage is utilized, the storage room, including the door, must have a 4-hour fire rating. The NRC inspector also noted that the exterior walls of the site record storage room were pierced by ventilation supply and return ducts. This precludes the area from meeting the requirements of National Fire Protection Association (NFPA) 232, "Standard for the Protection of Records" for a 2-hour or 4-hour fire rating. This discrepancy violated the licensee's Quality Assurance Program Description (QAPD) Section 17.0 and ANSI N45.2.9 Section 5.6. In a 2-hour rated fire resisant file room storage is allowed provided that the records are stored in fully enclosed metal cabinets.

Houston Lighting & Power Company (HL&P) responded to this violation by agreeing that the QA records storage room did not meet the requirements of ANSI N45.2.9 with respect to a 4 hour-fire rating. HL&P did not agree that the records were stored improperly with respect to the open shelving. Prior to the issuance of this violation HL&P requested from the American Society of Mechanical Engineers (ASME) a clarification of the term "loose records" and a determination of what constitutes acceptable "shelving" and "containers." This clarification was sought for the terms as used specifically in ANSI 45.2.9, paragraph 5.4. After reviewing the ASME definitions of the terms the NRC inspector agreed that the storage of records in binders and folders on open shelving was not in violation of the intent of ANSI N-45.2.9.

As corrective action for wall-piercing ventilation ducts HL&P has modified the record storage structure by the installation of two additional Underwriters Laboratory (UL) listed 3-hour fire dampers installed in series in the ducts. These are combination heating, ventilating, and air condition (HVAC) ducts. This modification has now afforded the records storage room with the equivalent protection of a NFPA Class A 4-hour rated facility. HL&P forwarded drawings and a description of the modifications to American Nuclear Insurers for evaluation. The American Nuclear Insurers response to this request, dated December 21, 1982, acknowledged receipt of the information and stated that the facility was found acceptable for insurance purposes as a 4-hour fire rated facility, subject to final inspection. Following his review of the corrective action taken and a tour of the records storage room, the NRC inspector had no further questions.

This item is closed.

(Closed) Violation (498/499-8202-01) Failure to Report Design or Construction Deficiencies Within the Required Time. While conducting an investigation at STP, the NRC inspector noted an apparent violation of the timely reporting requirements of 10 CFR 50.55(e). This regulation requires that the holder of a construction permit notify the appropriate NRC Regional Office, within 24 hours of discovery, of any

deficiency found in design or construction, which, if uncorrected, could adversely affect the safety of plant operations.

Contrary to this, two deficiencies were found by the applicant on or about November 1980 and January 1981, respectively, but were not reported to the NRC Region IV Office within the required 24 hours. The original notification for each was received on May 8, 1981, after a delay of approximately 4 months. This violation and the two specific examples are detailed in Investigation Report 498/499-8202.

The licensee agreed that there was a failure to report one of the items but determined that the second was not reportable pursuant to 10 CFR 50.55(e). This actual significance of the second item did not become apparent until the detailed findings of the Quadrex Report became available on May 7, 1981. HL&P formally notified the NRC Region IV Office on May 8, 1981, the day following their receipt of the information necessary to fully evaluate the reportability.

As a result of this violation the deficiency reporting procedures have been revised and employees have been retrained in order to reduce the potential for a failure to comply with these reporting requirements. Procedure PEP-4.01 was rewritten and reissued as PLP-02, "Reporting Design and Construction Deficiencies to the NRC," dated May 18, 1982. PLP-02 now clearly state the requirements for reporting and change the lead responsibility for initial notification of all deficiencies solely to the Team Leader, Nuclear Licensing. It also removed the distinction between site and home office handling of deficiencies and clarified the role of engineering in the evaluation process.

The NRC inspector has reviewed procedure PLP-02 and subsequent revisions to determine its adequacy and clarity. The NRC inspector made a random selection of eight deficiency notifications received subsequent to this violation and verified that each had been promptly reported. Three of these were originally reported as "potentially reportable" items and were later determined to be reportable. Following these reviews the NRC inspector had no further questions.

This item is closed.

(Closed) Unresolved Item (498/499-8209-04). Structural Plates and Bars and Flat Washers for Reactor Coolant System (RCS) Supports. The NRC inspector noted an apparent conflict between the requirements of the STP FSAR and the Brown and Root (B&R) specifications for materials used in the RCS supports. The conflict in requirements was identified when FSAR Section 3.8.3.6.5.1 was compared to B&R Specification 1C119SS035E/DCN dated June 2, 1977. The STP FSAR specified that materials for RCS supports, structural plates, shapes and bars were to be ASTM A588 corrosion resistant, high strength, low alloy steel. The FSAR, in the same section, also specified that flat washers were to be quenched and tempered carbon steel. B&R Specification 1C119SS035E/DCN dated June 2, 1977, however, specifies the use of ASTM A36 material for thicknesses greater

than 8 inches in this application. A second discrepancy was noted wherein the B&R specification allows the use of ASTM A36 material for use as flat washers.

The response to this item stated that it is not a requirement that the FSAR reflect all materials and processes used on the project. It is the intent of the project that the FSAR identify only the basic materials and processes used. The response stated that an SAR change notice had been initiated to clarify this position and to identify the basic materials and processes which are being used.

The NRC inspector reviewed Section 3.8 of the STP FSAR and found that Revision 40 incorporated several approved changes. The material to be used for RCS supports is now clearly stated as ASTM A588. Section 3.8.3.6.4.1 has also been changed to allow the use of either quenched and tempered carbon steel or ASTM A36 material for flat washers used in the RCS supports.

The NRC inspector had no further questions following his review of SAR Revision 40.

This item is closed.

(Closed) Unresolved Item (498/499-8322-04) B&R Calibration and Control of Gages and Other Inspection and Test Tools Requiring Calibration. During a review of records in the calibration laboratory, the NRC inspector reviewed a number of recalibration records where the calibration status of the equipment, as received for recalibration, was not recorded, precluding determination that the equipment was within calibration when returned. The identification numbers of seven gages and/or tools were listed as examples. This item was considered as unresolved pending further review of calibration procedures and implementation.

The NRC inspector reviewed the calibration records of the specific tools and gages listed in the inspection. This review revealed that six of the seven items were "Go-No-Go" thread ring gages and the seventh was a crimping tool. Instrument Engineering Instruction IEI-42 did not require an entry in the "Data as Received" and "Data After" sections of the calibration record since these data sections are not applicable to ring gages. The seventh item, a crimping tool, was placed in a "hold" status on May 14, 1980, and has never been issued for use. In these instances the calibration lab was correct in not entering data in the "as received" sections.

This item is closed.

(Closed) Unresolved Item (498/499-8213-04) Records. During a review of records and procedures, the NRC inspector determined that the procedure "Quality Assurance Records" had been written and approved but the implementing procedure for administration of the Ebasco

Records Office was still being progressed through the review cycle prior to issuance. An Ebasco staff member stated that interior guidance would be provided to personnel handling records until the procedure is fully implemented (end of September 1982). Because of the small number of documents being processed at the time of this inspection, the response was acceptable to the NRC inspector, pending his further review following the procedure issuance.

The NRC inspector has reviewed QAI-016, "Control of Site Quality Records", as issued for use on September 13, 1982. Based upon the issuance and implementation of this procedure within the specified time, the NRC inspector had no further questions.

This item is closed.

4. IE Bulletin Followup

The NRC inspector reviewed the available documentation pertaining to the IE Bulletin (IEB) listed below, to assure that the licensee management had received the bulletin, that a review for applicability was performed, and, if applicable, that the required actions had been taken; i.e., conducting an evaluation to demonstrate that the materials were suitable for intended service, or replacing discrepant materials with materials which have been manufactured in full compliance with Section III of the ASME Code and the applicable procurement specification requirements.

IEB 83-06	Nonconforming Material Supplied by Tube-Line Corporation Facilities at Long Island City, New York; Houston, Texas; and Carol Stream, Illinois.

IEB 83-06, dated July 22, 1983, was received by HL&P, and an investigation was conducted by them and their architect-engineer, Bechtel.

With respect to IEB 83-06, HL&P provided a final response to the NRC in a letter dated April 30, 1984. This response stated, in part, ". . . we have not identified any Tube-Line material that has been supplied to the STP for use in safety-related systems. . . we reviewed the STP purchasing for safety-related pipe fittings and flanges of the type supplied by Tube-Line and identified 35 vendors that could have supplied Tube-Line material to the project. . . Each of the 35 vendors was then provided with the project's purchase order listings and asked to identify any Tube-Line ASME Code Section III material furnished to the project. All 35 vendors have responded, stating that no Tube-Line ASME Code Section III material for use in safety-related systems had been supplied to the STP."

The NRC inspector reviewed copies of the available Bechtel letters and the responses received from 19 vendors. All of the vendors, except one, indicated that they had not provided Tube-Line material to STP.

The response from Guyon Alloys, Inc., stated that several items from Tube-

Line had been furnished to STP; however, the Bechtel purchase orders (PO) had not required processing in accordance with their quality program and only certificates of compliance were required. It was established that the subject PO's were not for safety-related material.

The NRC inspector reviewed 14 documentation packages consisting of PO's, vendor documentation, and receiving inspection reports pertaining to materials provided by Gulfalloy, Inc., 1 of the 19 vendors. The Gulfalloy, Inc., response letter to Bechtel was dated April 13, 1983, and stated, in part, ". . . Gulfalloy has not supplied any materials either manufactured or supplied by Tube-Line for the South Texas Project . . . ."

One of the 14 documentation packages contained a Brown & Root Inc. (the original architect-engineer for STP) PO to Gulfalloy, Inc., No. 35-1197-19432, dated July 18, 1979, for 200 each, 1-1/2", Schedule 40, A-234 WPB, Long Radius, Socket Weld, 90o Elbows.

The PO states, in part, "This is a 'Nuclear Safety-Related' Order . . . Vendor shall furnish . . . Certified Material Test Reports (CMTRs) For Each Heat/Lot of Materials Delivered . . . And Evidence Conformance to the Requirements of ASTM A-234. . . ." Additional documents in the package consisted of a CMTR from Tube-Line, Inc., Long Island City, New York, and a B&R receiving inspection report (RIR). The CMTR is dated July 20, 1979, and shows 200 each, 1-1/2", 90o long radius elbows, of A-234 WPB material. B&R's RIR No. 3558 shows that 200 elbows were received on August 6, 1979, accepted and released. Thus, there is an apparent conflict between the data contained in the documentation package, the Gulfalloy response to Bechtel, and the HL&P bulletin response to the NRC.

In addition, with respect to the Tube-Line CMTR, the ASTM Material Specification A-234 requires that when CMTRs are requested by the purchaser, the manufacturer shall report the results of the chemical analysis, tension test results, and the applicable heat treatment applied to the material and to the test pieces. The Tube-Line CMTR did not address heat treatment.

It should also be noted that this documentation package was reviewed for adequacy by Bechtel on August 16, 1984, and accepted as evidenced by a Bechtel stamp with number.

Another concern pertaining to the HL&P/Bechtel evaluation deals with Bechtel's data accumulation and usage. Prior to the issuance of IEB 83-06 on July 22, 1983, Bechtel received information about potential 10 CFR Part 21 reports filed with the NRC by Capitol Pipe & Steel Products Company and Babcock & Wilcox Company on December 6, 1982, and January 10, 1983, respectively, dealing with Tube-Line, Long Island City, New York. Subsequently, but still prior to the issuance of the bulletin, Bechtel sent letters to certain vendors (Gulfalloy Corporation, Capitol Pipe & Steel Products Company, McJunkin Corporation, and Guyon Alloys, Inc.) requesting confirmation that no Tube-Line material had been supplied to STP. The letters also provided the PO numbers and referenced only 2-inch and under piping materia). This may have limited the vendors'

review to just the 2-inch and under piping material on the specific PO. Further, the responses from these vendors appear to be limited to just Tube-Line, Long Island City, New York.

This accumulated prebulletin data may have been used to support the HL&P response to the NRC. This could conceivably invalidate their response in that greater than 2-inch piping material and the Tube-Line facilities in Carol Stream, Illinois, and Houston, Texas, appear to have not been included in the reviews conducted by the four above-listed vendors.

This is considered an unresolved item (498/8412-01; 499/8412-01).

5. Allegation Followup

An allegation was received via telephone by the NRC Region IV Office concerning the QA program of a major supplier of steel to the STP site. The alleger stated that Sheffield Steel Corporation was supplying large quantities of structural steel to the STP construction site although the company had no quality program to assure that the material shipped conformed to the PO specifications.

In NRC report 83-21 it was stated that PO 35-1197-6001 was issued to Armco Steel in 1975 to supply all of the concrete reinforcing steel to be used for the construction of STP. Prior to issuing this PO a review was made of the Armco Steel Quality Assurance Manual by HL&P personnel. HL&P comments were incorporated into the manual and the program was accepted as being in compliance with all applicable requirements. When Armco Steel was sold and the name changed to Sheffield Steel, the only change made to the QA Manual was in the name.

The Sheffield Steel QA Manual was reviewed by the NRC inspector and was found to be complete and comprehensive. Personnel responsibilities, document control, program requirements, personnel qualifications, training, audits, nonconformances, corrective action and vendor requirements are delineated in detail. The NRC inspector also reviewed several of the Sheffield Steel procedures utilized in the testing, storage, and shipping of reinforcing steel and all were found to be in compliance with the QA manual. The NRC inspector reviewed a sample of the test records received for various lots of reinforcing steel. Each contained quantitative results for yield, tensile, elongation, and chemical analysis of each heat of material.

The NRC inspector's review of the QA manual, material test records, and quality engineering evaluation of documentation revealed no conditions onsite to indicate that the Sheffield Steel QA program, as stated, was not being fully implemented. Because of the nature of the allegation, it was forwarded to the NRC Region IV Vendor Inspection Branch for further evaluation.

The NRC Region IV Vendor Inspection Branch conducted an inspection of the Sheffield Steel Corporation facility at Sand Springs, Oklahoma, during the period January 30 - February 3, 1984. The report for this inspection

stated that no violations were noted but did identify three nonconformances. A copy of this report was transmitted to HL&P with a request that the three items be acted upon and that records and results of these actions be provided for NRC review.

As a result of this request records were presented to the NRC inspector to document the following:

a. On May 11, 1984, HL&P issued a letter to Bechtel requesting that specific actions be taken and answers provided concerning the quality program at Sheffield Steel.

b. A joint audit of Sheffield Steel was performed by Bechtel and HL&P during the period May 23-29, 1984, which resulted in ten findings. Three stop shipment orders were issued because of these findings.

c. On June 1, 1984, a Nonconformance Report (NCR) BC-00452 was issued. This NCR placed a "Hold" on all questionable reinforcing steel until it could be reinspected.

d. On June 12, 1984, Sheffield Steel reassigned all of their inspectors to the Quality Control (QC) organization rather than production. This was done as a result of the NRC inspection and the finding of the joint audit. On this day Bechtel also removed the stop shipment order based upon the results of the reinspection performed.

e. On June 18, 1984, Bechtel issued a letter to Sheffield Steel listing 13 heat numbers of material which were to be quarantined and permanently barred from shipment to STP.

f. On June 30, 1984, a reaudit of Sheffield Steel was conducted by Bechtel. The results of this reaudit indicated that all previous findings had been adequately addressed and the proper corrective actions taken. Although no additional adverse findings were identified, all of the documentation for each future Sheffield Steel shipment will be reviewed by Bechtel receiving inspection personnel.

Based upon the NRC inspector's review of the audit and inspection findings and of the actions taken, this item appears to have been adequately addressed.

This item is closed.

6. Unresolved Item

An unresolved item is a matter about which 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 4 of this report.

Item Number	Subject
498/8412-01; 499/8412-01	Review of Greater Than 2-inch Piping Material (IE Bulletin 83-06)

7. Exit Interviews

Exit interviews were held periodically with licensee management personnel during the course of this inspection. Those attending one or more of the meetings are denoted in paragraph 1. At these meetings, the scope and findings of the inspection were presented.