

50-498/499 02

CCANP 106

I-CCANP-106  
8/1/85**The Light  
company**DOCKETED  
USAC

Houston Lighting &amp; Power

P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

October 4, 1984

ST-HS-YQ-01050  
File No.: Q16.4Mr. L. W. Hurst  
Project QA Manager  
Bechtel Energy Corp.  
P.O. Box 15  
Bay City, Texas 77414SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION  
PROJECT AUDIT REPORT C11-401

Dear Mr. Hurst:

Attached is the Project Audit Report for Ebasco Civil/Structural Activities, Audit Number C11-401, conducted on August 27 through September 6, 1984.

The results are summarized as follows:

No. of Items Reviewed:	1338
No. of Deficiencies:	23
No. of Concerns:	7
No. of CARs:	10
No. of DNS:	8

All concerns identified require a response. Please submit your responses to me by November 2, 1984, and transmit a copy of your concern response to A. C. Von Nyvenheim on the same date. If you have any comments or require additional information, please contact A. C. Von Nyvenheim at extension 2415.

8510290105 850801  
PDR ADOCK 05000498  
G PDR

Sincerely,

*TJ Jordan*T. J. Jordan  
Project QA Manager  
South Texas Project

NUCLEAR REGULATORY COMMISSION

Docket No. STN 50-49801 Official Ex. No. CCANP #106  
In the matter of \_\_\_\_\_TJJ/JWE/BSN:ar  
Attachment

Applicant	IDENTIFIED	✓
Intervenor	RECEIVED	✓
Com'g Off'r	REJECTED	
Contractor	DATE	8/1/85
Other	Witness	
Reporter	TATE	

Houston Lighting & Power Company

Mr. L. W. Hurst

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cc: G. W. Oprea, Jr.  
J. H. Goldberg  
J. G. Dewease  
L. B. Horrigan, Jr.  
A. R. Beavers  
J. E. Geiger  
S. M. Dew  
E. W. Dotson  
R. L. Ulrey  
J. W. Williams  
J. L. Barker  
D. J. Marlowe  
A. C. Von Nyvenheim  
R. G. Holloway  
D. W. Halligan (BEC)  
D. T. Krishna (BPC)  
B. L. Lex (BEC)  
K. R. Dotterer (BEC)  
A. K. Priest (BEC)  
R. W. Miller (BEC)  
C. L. Hawn (ESI)  
Audit File C11-401  
STP-RMS (w/o attachment)  
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# SOUTH TEXAS PROJECT AUDIT REPORT

Page 1 of 8

AUDIT: No. C11-401  
ESI Civil/Structural  
Activities

AUDIT DATES: August 27, 1984 -  
September 6, 1984

AUDITED ORGANIZATION:  
Ebasco Services, Inc.  
P.O. Box 1647  
Bay City, Texas 77414

AUDIT TEAM:  
A. C. Von Nyvenheim (Team Leader)  
T. H. McGriff (Auditor)  
C. L. Grover (Auditor)  
T. K. Logan (Auditor)

A. Clark Von Nyvenheim 10-3-84  
Lead Auditor Date

David F. Bednarek 10-3-84  
Responsible Supervisor Date

## PERSONNEL CONTACTED:

Name	Title	Pre-Audit	During Audit	Post-Audit
R. G. Peck	ESI QA Site Supervisor	X	X	X
R. P. Grippardi	ESI QC Site Supervisor	X		
R. S. Morrow	ESI Engineer	X	X	X
R. L. Polly	ESI QA Engineer	X	X	X
J. R. Narron	ESI Lead QA Engineer	X		X
P. E. Morley	ESI Lead Civil Engineer		X	X
G. G. Hudak	ESI QA Engineer		X	X
F. Williamson	ESI Lead QC Engineer			X
G. W. Morgan	BEC QA Engineer	X	X	X
D. L. Ranstrom	GAI Observer	X	X	X
P. Shah	ESI QC Supervisor		X	
M. A. Kelly	ESI Records Clerk		X	
M. Boston	ESI Records Specialist		X	
M. Bayes	ESI QC Level II		X	
J. Swenning	ESI QC Supervisor		X	
J. Blas	ESI QC Level II		X	
C. Sist	ESI QC Supervisor		X	
G. White	ESI QC Level II		X	
R. Pulvermacher	ESI QC Level II		X	
H. Hardy	ESI QC Level II		X	
D. Bradley	ESI QC Level II		X	
J. Hinton	ESI QC Level II		X	
N. Donlick	ESI QC Engineer		X	
P. Young	ESI Records Specialist		X	
J. Cercu	ESI QC Level II		X	
J. Stevens	ESI QC BOP Supervisor		X	
T. McDonnal	ESI QC Supervisor		X	
B. Pybus	ESI QC Supervisor		X	
B. Shaw	ESI Unit 2 Superintendent		X	

## PERSONNEL CONTACTED: (CONT)

<u>Name</u>	<u>Title</u>	<u>Pre-Audit</u>	<u>During Audit</u>	<u>Post-Audit</u>
T. W. Jenkins	ESI Unit 2 Assistant Superintendent		X	
F. R. Banker	ESI Unit 2 PFE		X	
W. Kent	ESI HVAC Superintendent Unit 2		X	
G. Robert	ESI Unit 2 Assistant Superintendent		X	
D. White	ESI Unit 1 Superintendent		X	
C. H. powell	ESI HVAC Superintendent Unit 1		X	
B. O. Smith	ESI Unit 1 Foreman		X	
G. Koekler	ESI Unit 1 Superintendent		X	
B. Ritterhous	ESI Unit 1 Superintendent		X	
M. Shannon	ESI Unit 1 Superintendent		X	
N. Strawbridge	ESI Unit 2 Assistant Superintendent		X	
A. Scott	ESI Unit 2 General Craft Supervisor		X	
S. Christy	ESI Unit 2 Superintendent		X	
B. W. Johnson	ESI Unit 2 Superintendent		X	

OBJECTIVE OF THE AUDIT:

To verify proper procedural implementation of ESI's civil/structural activities.

## AUDIT SUMMARY:

The overall effectiveness of ESI's civil/structural activities, in the areas audited, was marginally adequate. However there are three (3) specific areas where ESI's quality organization is not performing adequately. They are:

- 1) Procedural/Inspection Report inadequacies, specifically, specification requirement omissions in procedures, and/or procedural requirement omissions on inspection reports. (Previously identified in audit C11-302, performed November, 1983). See CARs G-504, G-506, G-508 and G-511.
- 2) ESI QC is not meeting clearly established procedural requirements. See CARs G-503, G-509, and G-512. Additionally, none of the audited QC procedures list or signify "mandatory hold points" as required by the QAPD Part C. See CAR G-507.
- 3) Problems related to expansion anchor installation and inspection activities confirm ESI's need to upgrade and effectively implement the respective installation and inspection procedures. (Previously identified in Audit C11-302 performed November, 1983). See CARs G-509, G-510, G-511 and DNs 215, 217, 218.

AUDIT SUMMARY: (CONT)

Deficiencies 1, 2, 3, 4, 6, 9, and 10 are considered of major importance.

- Deficiency 1: ESI QC is procedurally required to verify proper operation of the impact wrench. No objective evidence exists to support the claim that this verification is being performed. Additionally, one group of inspectors states that the verification is not performed. This condition is not considered to adversely affect the installed connections, but this requirement is a project commitment.
- Deficiencies 2, 4, 6, and 9: Of the four deficiencies identified, no one deficiency in itself is considered of major importance; however, the types of problems identified in the four deficiencies have been previously identified and are indicative of a lack of in-depth review by the ESI and BEC quality organizations with respect to translation of specification and procedural requirements into inspection reports.
- Deficiency 3: Although this deficiency may not adversely affect the hardware, it is considered indicative of inconsistent interpretation of requirements (i.e. in-process vs final inspection) which seems to point to a need for training of QC personnel to ensure consistent interpretations. This is further evidenced in deficiencies 1, 4, and 10. Additionally, the practice described does not allow for a true representation of deficiencies required for the trending program.
- Deficiency 10: The project has expended a great deal of time and effort to establish systems that will prevent comingling, and will provide for traceability of material; this is in response to a NRC finding. Quality Control's practice of not actually verifying or witnessing the transfer of material markings is inconsistent with the project's commitments, and is another example where the lack of detail in ESI's QC procedures has created a problem.

DEFICIENCIES:

1. ESI QC is either not performing or not documenting QCP-10.5 requirements related to verifying proper operation of the impact wrench.  
  
CAR G-503 issued.
2. Inspection Reports do not reflect procedurally required verifications as per QCP-10.5 and QCP-10.7.  
  
CAR G-504 issued.
3. During the audit, ESI QC inspectors told auditors that all inspections are considered "in-process" until material passes inspection or construction refuses to correct deficiencies; therefore, deficiencies do not appear on inspection reports, or on deficiency documentation. In support of this information, a review of all inspection reports related to QCPs 10.6 and 10.7 issued at the Fab Shop since April 10,

DEFICIENCIES: (CONT):

1983 revealed that no NCRs or DNs had been issued.

CAR G-505 issued.

4. Specification 3A010SS0030 requires testing of welded studs in accordance with AWS D-1.1. Contrary to this, QCP-10.6 does not address production testing of non-shear studs.

CAR G-506 issued.

5. The QAPD, Part C, Section QA-III-11 requires mandatory hold points to be indicated on the inspection documents. None of the QCPs related to this audit designate hold points.

CAR G-507 issued.

6. Specification 3Y069YS0043, Rev. 9, paragraph 7.3.7.2 states that "Removal of backfill within three (3) feet of the ECW Pipe and between the top of the pipe and the springline, the final elevation difference, just prior to backfilling, shall not be more than four (4) inches." This requirement is not reflected in QCP-10.10, Rev. 2.

CAR G-508 issued.

7. QCP-10.19, Rev. 4 including PCR 4 requires a 10% random surveillance of all holes drilled for cut rebar. Contrary to this, Unit 1 QC was unable to demonstrate that the above required inspections and frequencies have been fulfilled.

CAR G-509 issued.

8. Omissions and/or errors related to listing required drawings/details on "Expansion Anchor/Rock Bolts Inspection Reports", related to QCP-10.19.

CAR G-510 issued.

9. Inspection Reports for QCP-10.19 do not reflect procedurally required verifications. Specifically, Section 8.2 and 8.5 requirements for verification that "All components of the anchor shall be present and correctly assembled."

10. ASP-5, Rev. 4, paragraph 8.03.02.02, requires QC to witness transfer of markings in accordance with the applicable QCP. QCP-10.7, rev. 3 requires QC to verify that items that have their material identification removed by the fabrication process (i.e., all threading, etc), or by subdivision into smaller pieces, are properly identified in accordance with the requirements of ASP-5 prior to release to the field.

CAR G-511 issued.



## DEFICIENCIES: (CONT):

- Contrary to this, QC's practice, observed during the audit, is to log the stamps out, and to check the transferred marks after construction checks the stamp back in. Therefore, the QC inspector does not have a method to verify that all pieces were from the same material, or to detect that other pieces away from that location were marked in error. The inspector indicated that this was a common practice.

CAR G-512 issued.

- 11. ICP-1 to CSP-10's revision is marked as Revision "2" instead of Revision "3". Also, sequence No. 6.3 in CSP-10, Rev. 3 refers to sequence Nos. 6.1 and 6.2 in error. These should be sequence Nos. 5.1 and 5.2.

DN-213 issued.

- 12. Five (5) Inspection Reports were identified as not showing the following QAPD Part C, Section QA-III-11 requirements:

"Inspection documents shall specify or reference as a minimum. . . , by whom activities are performed,. . .". Also, "Inspection Reports shall indicate the acceptability status of items or services inspected. . .".

DN-214 issued.

- 13. Three (3) of five (5) Inspection Reports for proof loading of maxi-bolts were found to have "N/A" for pressure gauge ID numbers, contrary to the requirements of QCP-10.19, Rev. 4, Section 10.6.

DN-215 issued.

- 14. One (1) of BEC's acceptance letters for blast cleaned steel panels for surface profile required by specification 3C080AS1001 and ESI's CSP-30, accepts the panel in accordance with ". . . Field coatings specification 3C080CS1001 . . ." in error.

- 15. ESI QC is not meeting the QCP-10.19, Rev. 4, paragraph 12.2 requirement for marking failed expansion anchors with "red flagging".

DN-217 issued.

- 16. ESI QC did not meet the QCP-10.19, Rev. 4, requirement for passed expansion anchor inspection to be ". . . indicated with an approved paint marker, "QC-OK", initials and date for support #2330800 in FHB II.

- 17. CSP-30, Rev. 2, paragraph 5.01 requires the location and design of the paint storage lockers to be submitted to BEC for approval. This has not been accomplished.

DN-219 issued.

DEFICIENCIES: (CONT)

18. QCP-10.8, Rev. 2, paragraph 5.1.6 states in part, "...Quality Control Site Supervisor's designee shall document his witnessing of the qualification test(s) on. . .". This requirement is being met by various Level II coatings inspectors, however, no objective evidence was produced to indicate who the QC Site Supervisor's designees were.  
  
DN-220 issued.
19. BEC Engineering had not signed acknowledgement of three (3) speed memos for density test with over 100% relative density results.  
  
Corrected during the audit.
20. Unit II log entrees were not up to date for the running average of the last 10 soils density tests. Computation had been made, but were not entered in the log.  
  
Corrected during the audit.
21. Unit II Expansion Anchor Logs contained in complete entrees for seven (7) inspection reports for August, 1984.  
  
Corrected during the audit.
22. Unit I Expansion Anchor Log entrees for two (2) partial inspections, did not have a "P" prefix, designating the report as a partial inspection.  
  
Reports and log were corrected during the audit.
23. Coatings Receiving Inspection Report IC-40999 did not list sheet numbers.  
  
Corrected during the audit.

CONCERNS:

1. The list of qualified bolt-up crews for Units I and II, required by paragraph 5.4.7 of QCP-10.5 are not identical, beginning approximately August 9, 1984. This could possibly lead to confusion particularly if construction transfers crafts people between units.  
  
A response to this concern is required.
2. Documentation on stud welding inspection reports is not clear regarding testing of studs. It is not clear whether or not, production and/or inspection testing of studs is accomplished per AWS-D1.1 as only the number of studs tested and number of studs shot is reported.  
  
A response to this concern is required.
3. QCP-10.6, Rev. 1, including PCR #3, Attachment "B", requires the QC inspector to indicate whether studs are "shear" or "non-shear". Of six (6) inspectors questioned by the auditor regarding this item, only



CONCERNS: (CONT)

one (1) inspector was able to differentiate between the shear and non-shear.

A response to this concern is required.

4. Specification 3A01OSS0026 and 3A01OSS0030 have different bending requirements for production testing of studs. Inspectors questioned by the auditor were unsure of which criteria to use.

A response to this concern is required.

5. During the audit, a painter was observed in the Fab Shop touching up fabricated items with zinc-rich paint. He was observed for approximately thirty (30) minutes, during which time he never stirred his paint, this was further evidenced by the fact that the applied paint (red-grey D-6) was thinner and redder than adjacent paint (QC inspection was not procedurally required).

A response to this concern is required.

6. ESI Records Group has not received soils inspection or test report transmittals since 06/21/84. Activities for soils have occurred since that date with inspection and testing performed. In the interim period from report completion to transmittal, these reports are not retained in a designated records storage area. The possibility exists that these records could be lost or misplaced prior to transmittal.

A response to this concern is required.

7. Confusion exists within the Ebasco construction organization regarding the generating and processing of the "Drilled Hole Notification Form". The procedural requirements in CSP-41 state that discipline superintendents shall compile the notification forms and submit a copy to QC weekly for safety-related hole drilling.

Since many "levels" of superintendents exist for each discipline (i.e., Area superintendents, Building superintendents, Unit superintendents, Assistant superintendents, etc.), the disciplines have made independent decisions as to which "level of supervision" will be responsible for this task.

Also, the method of forwarding the notification form to QC differs, (i.e., Case 1 - Building discipline superintendent forwards form directly to QC, Case 2 - Discipline unit superintendent's clerk forwards form to unit superintendent's clerk who, in turn, forwards form to QC, Case 4 - Area superintendent forwards to Building superintendent who forwards to QC).

A response to this concern is required.

RECOMMENDATIONS:

1. The audit team recommends that ESI review all of its inspection procedures to ensure that inspection reports provide a place to document each inspection attribute required by the procedure.
2. The response to concern number 7 (see above), should include, which personnel (level of supervision) are responsible for accumulating the forms, and which personnel are responsible for furnishing the completed forms (copy) to QC.
3. It is also recommended that the use of generic check points be discontinued (i.e., block 24 of Steel Coatings Inspection Report is used to document "...surface to be coated is in conformance with the requirements of this procedure and specification 3C080AS1001 just prior to coating. . .").

ATTACHMENTS:

HL&P CARs G-503 - 512  
HL&P DNs 213 - 220

PGA-042 (07/83)

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION  
HOUSTON LIGHTING & POWER  
QUALITY ASSURANCE  
CORRECTIVE ACTION REPORT

**The Light  
company**

(1) CAR No. G-508(2) REVISION 0

(3) ORGANIZATION ESI QC (4) DEF REQUIRED ☐ YES ☒ NO (5) RESPONSE DUE DATE 10-16-84  
(6) DOCUMENT VIOLATED PQAP REV. 2 PARA 10.3 (Pg. 10-2, 10-3)

(7) DESCRIPTION OF CONDITION ADVERSE TO QUALITY

1 See continuation sheet.(8) INITIATOR T. H. McBriff DATE 9-7-84(9) SUPERVISOR/LEAD AUDITOR [Signature] DATE 9-12-84

(10) REMEDIAL ACTION

2

(11) SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_ (12) EFFECTIVE DATE \_\_\_\_\_

(13) CAUSE OF CONDITION

3

(14) CORRECTIVE ACTION TO PREVENT RECURRENCE

(15) REVIEW AND APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_ (16) EFFECTIVE DATE \_\_\_\_\_

ORIGINAL RESPONSE (17) HL&P INITIATOR ☐ ACCEPT ☐ AMENDED RESPONSE SUPERVISOR/LEAD AUDITOR \_\_\_\_\_ DATE \_\_\_\_\_  
☐ REJECT

AMENDED RESPONSE (18) CORRESPONDENCE NUMBER \_\_\_\_\_  
(19) HL&P INITIATOR ☐ ACCEPT ☐ SAT SUPERVISOR/LEAD AUDITOR \_\_\_\_\_ DATE \_\_\_\_\_  
☐ REJECT ☐ UNSAT

(20) VERIFICATION COMPLETED \_\_\_\_\_ SUPERVISOR/LEAD AUDITOR \_\_\_\_\_ DATE \_\_\_\_\_

4 (21) VERIFICATION ACTIONS TAKEN

(22) HL&amp;P OR CLOSURE (PQAM)

DATE

HLAP QA CORRECTIVE ACTION REPORT CONTINUATION

(1) CAR NO. G-508  
 (2) REVISION φ

BLOCK (7) DESCRIPTION OF CONDITION ADVERSE TO QUALITY: (CONT)

PQAP, Rev. 2, paragraph 10.3 requires that inspection procedures provide for identification of characteristics and activities to be inspected.

Contrary to the above requirement:

~~TCM~~  
 (1) QCP-10.10, Rev. 2, "Soils Inspection" does not require verification of the requirement contained in Specification 3Y069YS0043, Rev. 9, paragraph 7.3.7.2 which states in part, "Removal of backfill within the cells shall be done in a uniform manner. . . Within three feet of the ECW pipe and between the top of the pipe and the spring line, the final elevation difference, just prior to backfilling, shall not be more than 8 inches. Within three feet of the ECW pipe and between the springline and invert, the final elevation difference, just prior to backfilling, shall not be more than four inches."