

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION IV

Report No. 50-498/79-01; 50-499/79-01

Docket No. 50-498; 50-499

Category A2

Licensee: Houston Lighting and Power Company
Post Office Box 1700
Houston, Texas 77001

Facility Name: South Texas Project, Units 1 and 2

Investigation at: South Texas Project, Matagorda County, Texas

Investigation conducted: January 23-26 and January 30 - February 2, 1979

Inspectors: *W. Crossman*
for W. G. Hubacek, Reactor Inspector, Projects Section
(Paragraphs 1, 2 & 3)

2/13/79
Date

R. E. Hall
R. E. Hall, Chief, Engineering Support Section
(Paragraph 2)

2/13/79
Date

John J. Ward
J. J. Ward, Investigation Specialist
(Paragraph 2)

2/13/79
Date

Approved: *W. Crossman*
W. A. Crossman, Chief, Projects Section

2/13/79
Date

R. E. Hall
R. E. Hall, Chief, Engineering Support Section

2/13/79
Date

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Investigation Summary:

Investigation on January 23-26, 1979, and January 30 - February 2, 1979
(Report No. 50-498/79-01; 50-499/79-01)

Areas Inspected: Special, unannounced investigation of allegations regarding nonconforming construction practices and insufficient quality control programs involved in construction at the South Texas Project. The investigation involved forty inspector-hours by three NRC inspectors.

Results: Investigation of the allegations resulted in one identified item of noncompliance (deficiency - failure to provide procedures for a quality control activity - paragraph 2.a).

INTRODUCTION

The South Texas Project, Units No. 1 and 2, are under construction in Matagorda County, Texas near the town of Wadsworth, Texas. Houston Lighting and Power Company is the Construction Permit holder. Brown and Root, Incorporated is both Architect Engineer and Constructor for the plant.

REASON FOR INVESTIGATION

The Region IV Chief, Projects Section, Reactor Construction Branch received telephone calls on January 13, 19 and 22, 1979, from an individual who alleged irregularities in the STP Civil Construction and Quality Assurance programs. Additional information concerning these allegations was received from the alleger on January 25, 1979.

SUMMARY OF FACTS

On January 13, 19 and 22, 1979, the Region IV Chief, Projects Section, Reactor Construction Branch received telephone calls from an individual who made allegations in regard to the South Texas Project. The alleger provided additional information concerning the allegations on January 25, 1979. The individual expressed the following specific allegations relating to the South Texas construction and Quality Assurance programs:

1. Original Cadweld Examination Checklists (ECs) prepared by field QC inspectors were being changed before sending the ECs to the document storage vault. The lead QC inspector has copied ECs over and written in the field inspector's initials.
2. Problems identified by field inspectors and identified on "dirty copies of ECs" are not transferred to record copies.
3. As-building of Cadweld location is behind schedule.
4. For Cadwelds identified as 51V181 and 32H687 to 32H698, there had been no preignition inspection performed; however, the records indicate that one was performed and that the field inspector's initials had been forged.

5. Cadweld records are all "screwed up" and there is much "whiting out" and signing off of ECs and as-built drawings.
6. Cadweld 27BV418 was accepted although QC inspection records indicated the existence of excess voids in the filler metal.

CONCLUSIONS

1. The allegation concerning copying over of Cadweld Examination Checklists (ECs) was substantiated. It was determined that the field inspector's initials were entered on the record copy of the EC by another person; however, in the absence of a procedure, the involved individual considered this to be an acceptable practice.
2. The allegation that problems identified on field copies were not always transferred to the record copy could not be substantiated.
3. The allegation regarding the timeliness of entering Cadweld locations on drawings could not be substantiated.
4. The allegation of falsified preignition inspections for specific Cadwelds could not be substantiated since record ECs did not indicate that preignition inspection had been performed for the specified Cadwelds.
5. The allegation regarding the quality of the EC records could not be substantiated since inspection of the records did not reveal unacceptable data recording practices.
6. The allegation that Cadweld 27BV418 was accepted even though it contained a void in excess of acceptance criteria requirements was substantiated; however, acceptance was based on an evaluation described in a Field Request for Engineering Action which is an accepted method of resolving such matters.

DETAILS

1. Persons Contacted

Principal Licensee Employees

- *T. R. Alford, Site Manager
- +*F. D. Asbeck, Construction Supervisor
- *R. A. Frazar, Manager, Quality Assurance
- *W. N. Phillips, Projects QA Manager
- +*T. D. Stanley, QA Supervisor
- +*L. D. Wilson, Site QA Supervisor
- +*D. G. Long, Lead Engineer
- +*T. J. Jordan, Lead Engineer
- +M. H. Smith, Plant QA Supervisor

Brown & Root Employees

- *C. W. Vincent, Project QA Manager
- *G. T. Warnick, Site QA Manager
- +R. Bass, Assistant to QA Manager
- +T. B. Schreeder, Site QC Supervisor
- +*J. Salvitti, Assistant Project Manager
- +S. A. Rasnick, Construction Chief Engineer
- +*A. Smith, Chief Construction Quality Engineer
- C. M. Singleton, Civil Inspector
- A. Hammons, Supervisor, Site Civil QC
- A. Schlaifer, Lead Cadweld Inspector
- G. Ewert, Internal Surveillance Supervisor
- J. Curci, QA Turnover Civil Records Specialist
- J. McFarland, Civil Quality Engineer
- J. Murphy, Civil Quality Engineer
- J. G. Zipen, Cadweld Inspector
- M. J. Ewald, Cadweld Inspector

The IE inspectors also interviewed other licensee and contractor employees including members of the QA/QC and engineering staffs.

*denotes those attending the exit interview on January 26, 1979.

+denotes those attending the exit interview on February 2, 1979.

2. Investigation Details

The following specific allegations were investigated during this investigation. Resultant findings of the NRC Investigation Team are indicated below:

- a. Allegation: Original Cadweld Examination Checklists (ECs) prepared by field QC inspectors were being changed before sending the ECs to the document storage vault. The lead QC inspector has copied ECs over and written in the field inspector's initials.

Investigation Finding: The investigation team reviewed record copies of ECs for the period from November 1978, to January 8, 1979. Numerous cases of apparent inscribing of field inspector's initials by another person were noted; both in the "Inspected By" column and to a lesser degree in the "Plotted-FSQ By" column. Record copies of QC inspector initials were reviewed which likewise indicated that the noted initials were not always those of the field inspector whom they represented.

The investigation team interviewed the lead Cadweld inspector, who freely admitted that the ECs were frequently prepared by himself or other day shift personnel, based in some cases on "dirty copies" or "field notes" of the field inspector; and if the inspector was not immediately available, he would scribe the initials of the field inspector in the "Inspected By" column. He indicated in his opinion that the column was only an indication of "who did the inspection," and not an attestation to the performance of the indicated QC inspection.

It was determined that the use of the Examination Checklist (front page of the form only) was provided for in site procedure AO40KPCCP-11, "Reinforcing Steel Mechanical Splicing (Cadwelds)"; however, a recent change to the form to record supporting information on Cadweld inspection on the reverse side of the EC has not as yet been covered procedurally. A draft of Brown and Root Site Work Instruction for Cadwelders, SWI-007-A, draft dated January 24, 1979, was reviewed. This procedure specifies in paragraph 1.5, item j that the Cadweld field inspector shall indicate "completion of the above items by initialing in the 'Inspected By' column for each Cadweld."

Inquiries by the NRC investigation team could not locate any other procedure which would have permitted the practice of entering the initials of other persons during the review process by persons other than the inspector. Likewise, no other procedure could be identified applicable to the records entered on the reverse of the EC forms.

Criterion V to Appendix B of 10 CFR 50 requires that quality related work activities be performed in accordance with written procedures. Since no such procedures were in effect governing the EC form completion (back side) and since this resulted in the above noted practice, this is considered an item of non-compliance.

This allegation was substantiated and resulted in the above noted item of noncompliance.

- b. Allegation: Problems identified by field inspectors and identified on "dirty copies of ECs" are not transferred to record copies.

Investigation Finding: The investigation team was initially informed by the lead Cadweld inspector that draft copies of ECs are not retained after record copies have been prepared. The team concluded that implementation of the above noted SWI-007-A would preclude the loss of data during transfer of field data to record copies of ECs since the individual inspector would attest to the record copy.

Subsequently, the licensee located draft copies of ECs referred to specifically in the allegation. An IE inspector compared record copies of the ECs (for November 7, 1978, and November 18, 1978) with existing draft copies of ECs with respect to allegations concerning one Cadweld that was accepted without a lower witness mark and another Cadweld that was initially rejected for lack of an identifying mark.

It was established in the case of the Cadweld without a lower witness mark that, due to extreme congestion of rebar in the area, it was impossible to apply a lower witness mark; however, the Cadweld inspector was informed of the situation by construction personnel and personally inspected the entire Cadwelding procedure from preparation to firing, and accepted the Cadweld on the basis of his inspection of preparation and the final inspection.

In the case of the Cadweld alleged to have been initially rejected for lack of an identifying mark, it was established by discussions with the Cadweld inspector and the lead Cadweld inspector that the Cadweld was initially rejected on November 7, 1978, for lack of an identification mark but was accepted on November 8, 1978, after the lead Cadweld inspector determined its identification by consulting with the Cadweld inspector and construction personnel who produced the Cadweld.

This allegation could not be substantiated in that approved procedures for acceptance of Cadwelds and resolution of inspector findings were followed.

- c. Allegation: As-building of Cadweld location is behind schedule.

Investigation Finding: ECs for the period up to two weeks before the investigation were found to be in the document control center. These ECs reflected Cadweld location verification by Brown & Root QC field inspectors. Later ECs observed in the field QC office were in the process of being completed; none observed predated the investigation by more than two weeks.

An in-progress concrete placement, CII-W45B, West Pressurizer Walls from +20' to +35'3", was also inspected. It was observed that FSQ-0076 was complete, indicating Cadweld locations within the placement.

This allegation could not be substantiated.

- d. Allegation: For Cadwelds identified as 51V181, and 32H687 to 32H698, there had been no preignition inspection performed; however, the records indicate that one was performed, and that the field inspectors' initials had been forged.

Investigation Finding: Review of ECs for the noted Cadwelds revealed that none had been indicated as having been inspected prior to firing. All record entries on the record copies of the ECs showed that each was noted as "N" (not inspected) in the prefiring column. Comparison of the initials showed that the field inspector identified had indicated his post firing inspection of the noted Cadwelds as required.

This allegation was not substantiated.

- e. Allegation: Cadweld records are all "screwed up" and there is much "whiting out" and signing off of ECs and as-built drawings.

Investigation Finding: Inspection of ECs from November 1978, to January 8, 1979, Cadweld qualification records for Cadwelders 5 and 32, and Cadweld qualification summary records failed to identify any problems of the type alluded to in the allegation.

This allegation could not be substantiated.

- f. Allegation: Cadweld 27BV418 was accepted although QC inspection records indicated the existence of excess void in the filler metal.

Investigation Finding: Discussions with cognizant licensee representatives revealed that Cadweld 27BV418 was initially rejected by a QC inspector due to excess void but was later accepted based on an evaluation documented in a Field Request for Engineering Action (FREA). The investigation team observed that a Cadweld inspection book dated March 22, 1978, indicated that Cadweld 27BV418 was rejected due to excess void in the sleeve end. An FREA requesting disposition of the Cadweld 27BV418 void stated that 27BV418 was a repair sleeve that was welded to previously rejected sleeve 14BV834 which was attached to the base liner plate of the Unit 2 Reactor Containment Building. The FREA, which was approved on March 28, 1978, stated that the recommended disposition, "accept as is," was acceptable.

This allegation was substantiated; however, acceptance of 27BV418 was based on an evaluation documented in an approved Field Request for Engineering Action, which is an accepted method of resolving such matters.

3. Exit Interview

The IE inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the investigation on January 16, 1979, and February 2, 1979. The IE inspectors summarized the purpose and scope of the investigation, reviewed the allegations and the findings, and discussed the item of noncompliance.