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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

before the

ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of)	Docket Nos. 50-445-OL
)	50-446-OL
TEXAS UTILITIES GENERATING COMPANY et al.)	
(Comanche Peak Steam Electric Station, Units 1 and 2))	(Application for an Operating License)

ANSWERS TO BOARD'S 14 QUESTIONS
(Memo: Proposed Memo of April 14, 1986)
Regarding Action Plan Results Report V.b

In accordance with the Board's Memorandum: Proposed Memorandum and Order of April 14, 1986, the Applicants submit the answers of the Comanche Peak Response Team ("CPRT") to the 14 questions posed by the Board, with respect to the Results Report published by the CPRT in respect of CPRT Action Plan V.b, "Shortening of Anchor Bolts."

Opening Request:

Produce copies of any CPRT-generated checklists that were used during the conduct of the action plan.

Response:

No checklists were generated or used by the CPRT during the conduct of the action plan.

Question No. 1:

1. Describe the problem areas addressed in the report. Prior to undertaking to address those areas through sampling, what did Applicants do to define the problem areas further? How did it believe the problems arose? What did it discover about the QA/QC documentation for those areas? How extensive did it believe the problems were?

Response:

ISAP V.b addressed improper shortening of bolts at the Steam Generator Upper Lateral Restraint (SGUL) connections and the consequent inadequate thread engagement of these bolts. It also addressed problem areas involving improper installation of the SGULs and the consequent damage to the threads in the embedment holes, inadequate QC installation inspection records, inadequate design of the SGUL connections and the lack of supporting calculations, and discrepancies in the loads specified in the steam generator compartment analyses.

In order to define the problem further and to assist in determining the root cause and generic implications of the improper bolt shortening and observed thread damage in the SGUL connections, a number of tasks were performed as part of this ISAP, described as follows:

- (1) The fabrication and installation of the SGULs were reviewed to identify the aspects of the fabrication and installation process that might have directly or indirectly contributed to the thread engagement and thread damage on the SGUL connections.

(2) The process by which thread engagement requirements for bolting were specified in the design and in the inspection requirements were reviewed.

(3) Two populations of threaded connections, Richmond inserts and structural connections with a drilled and tapped blind hole, were inspected on a sampling basis for thread engagement adequacy.

(4) The process for installing the fifteen different types of bolted connections that constitute the total population of drill and tap blind connections was evaluated to address the possibility of generic applicability of the thread damage problem discovered in the SGUL connections.

The initial concern about improper shortening of the SGUL bolts resulted from an allegation by a former Brown & Root employee. Section 5.8 of the Results Report contains a detailed discussion of how and why the problem arose.

No documentation could be located to confirm QC inspection of the SGUL connections at the time of installation. Other related QC documentation was available, such as Receiving Inspection Records for the SGUL components and Inspection Records of placement of the SGUL embedments before the concrete pour.

The problem with the SGUL connections was resolved by revising the design, fabricating new bolts and shims, and reassembling the connections in accordance with the revised design. No discrepancies were identified in measurements of

thread engagement of the sample of bolts in the drill and tap blind connections. Richmond insert inspections and inspection results are discussed in Appendix 33 of the ISAP VII.c Results Report.

Question No. 2:

2. Provide any procedures or other internal documents that are necessary to understand how the checklists should be interpreted or applied.

Response:

No checklists were generated or used by the CPRT during implementation of this Action Plan.

Question No. 3:

3. Explain any deviation of checklists from the inspection report documents initially used in inspecting the same attributes.

Response:

This question is not applicable by reason of the response to question 2.

Question No. 4:

4. Explain the extent to which the checklists contain fewer attributes than are required for conformance to codes to which Applicants are committed to conform.

Response:

This question is not applicable by reason of the response to question 2.

Question No. 5:

5. (Answer Question 5 only if the answer to Question 4 is that the checklists do contain fewer attributes.) Explain the engineering basis, if any, for believing that the safety margin for components (and the plant) has not been degraded by using checklists that contain fewer attributes than are required for conformance to codes.

Response:

This question is not applicable by reason of the response to question 4.

Question No. 6:

6. Set forth any changes in checklists while they were in use, including the dates of the changes.

Response:

This question is not applicable by reason of the response to question 2.

Question No. 7:

7. Set forth the duration of training in the use of checklists and a summary of the content of that training, including field training or other practical training. If the training has changed or retraining occurred, explain the reason for the changes or retraining and set forth changes in duration or content.

Response:

This question is not applicable by reason of the response to question 2.

Question No. 8:

8. Provide any information in Applicants' possession concerning the accuracy of use of the checklists (or the inter-observer reliability in using the checklists). Were there any time periods in which checklists were used with questionable training or QA/QC supervision? If applicable, are problems of inter-observer reliability addressed statistically?

Response:

This question is not applicable by reason of the response to question 2.

Question No. 9:

9. Summarize all audits or supervisory reviews (including reviews by employees or consultants) of training or of use

of the checklists. Provide the factual basis for believing that the audit and review activity was adequate and that each concern of the audit and review teams has been resolved in a way that is consistent with the validity of conclusions.

Response:

No checklists were used, and therefore no audits of training or of the use of checklists were appropriate. No audits were performed on the overall implementation of this action plan.

Question No. 10:

10. Report any instances in which draft reports were modified in an important substantive way as the result of management action. Be sure to explain any change that was objected to (including by an employee, supervisor, or consultant) in writing or in a meeting in which at least one supervisory or management official or NRC employee was present. Explain what the earlier drafts said and why they were modified. Explain how dissenting views were resolved.

Response:

No substantive modifications were made to the Results Report as a result of management action.

Question No. 11:

11. Set forth any unexpected difficulties that were encountered in completing the work of each task force and that would be helpful to the Board in understanding the process by which conclusions were reached. How were each of these unexpected difficulties resolved?

Response:

In the course of the investigation of the ISAP, problems were determined to exist with design of the SGUL connections, as well as with installation and bolt thread engagement.

To correct the design problem, Westinghouse redesigned the connections based on more conservative loads established in a

revised compartment analysis prepared by G&H and on its own inspection and evaluation of the embedments. The redesign involved using bolts with a minimum 2-1/8 inches thread engagement and with sufficient pretensioning to assure a friction connection.

Question No. 12:

12. Explain any ambiguities or open items in the Results Report.

Response:

To the best of our knowledge, no ambiguities or open items are left in the Results Report. Ongoing activities are identified in Section 7.0 of the Results Report.

Question No. 13:

13. Explain the extent to which there are actual or apparent conflicts of interest, including whether a worker or supervisor was reviewing or evaluating his own work or supervising any aspect of the review or evaluation of his own work or the work of those he previously supervised.

Response:

No actual or apparent conflicts of interest existed. Investigatory activities not performed by third-party personnel were closely monitored by third-party personnel.

Question No. 14:

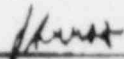
14. Examine the report to see that it adequately discloses the thinking and analysis used. If the language is ambiguous or the discussion gives rise to obvious questions, resolve the ambiguities and anticipate and resolve the questions.

Response:

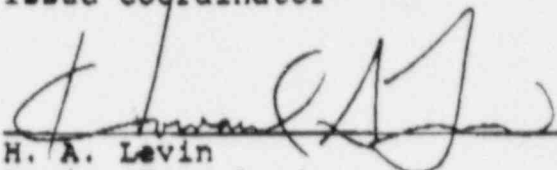
The Issue Coordinator and others who aided in the preparation and approval of the Results Report have reviewed and

checked the Results Report for clarity and believe that no ambiguities exist.

Respectfully submitted,



J. K. Arros
Action Plan V.b
Issue Coordinator



H. A. Levin
Review Team Leader

The CPRT Senior Review Team has reviewed the foregoing responses and concurs in them.

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)

CERTIFICATE OF SERVICE

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Dated: January 20, 1988