OMB

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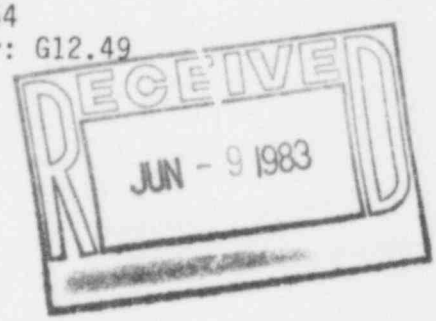

Mr. John T. Collins
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Dr., Suite 100
Arlington, Texas 76012

Dear Mr. Collins:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Final Report Concerning the Breakdown
in the Quality Program - Procurement
Cycle of Purchased Materials

On June 13, 1980, pursuant to 10CFR50.55(e), Houston Lighting & Power Company (HL&P), notified your office of an item concerning a breakdown in the quality program for the procurement cycle of purchased materials. Attached is our final report concerning this item.

If you should have any questions concerning this item, please contact Mr. Michael E. Powell at (713) 877-3281.

Very truly yours,

J. H. Goldberg for

G. W. Oprea, Jr.
Executive Vice President

MEP/mg
Attachment

IE-27

1/1

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Final Report Concerning The Breakdown In The Quality Program Procurement Cycle Of Purchased Material

GENERAL

This is the final report for the Vendor Control Program activities relative to a reported breakdown in the Brown & Root (B&R) Quality Assurance Vendor Surveillance Program for safety-related equipment and material. Events leading to the establishment of a Vendor Control Program, its operation and current program status are described in subsequent sections of this report.

DESCRIPTION OF DEFICIENCY

On January 4, 1980, Houston Lighting & Power Co. (HL&P) submitted a report to the Director of Region IV of the Nuclear Regulatory Commission (NRC) describing a breakdown in the B&R Quality Assurance Vendor Surveillance Program in which the program failed to detect inadequate documentation records of welder certification at a Category I steel supplier's facility. As a result of this deficiency, B&R initiated a Vendor Control Program (VCP) to study the effectiveness of prior vendor coordination and surveillance activities. The Vendor Control Program reviewed seven (7) Purchase Orders (POs), engineering and purchasing interfaces, quality inspections, vendor documentation and records, material release at vendors, and site receiving inspections. The findings of these reviews identified nine (9) generic areas of concern with the quality programs related to the overall procurement cycle of purchased materials and equipment for the South Texas Project. On June 13, 1980, HL&P in accordance with 10CFR50.55(e), notified the NRC of a potentially reportable deficiency regarding the findings of the Vendor Control Program.

The generic areas of concern in the procurement cycle which were identified from the Vendor Control Program are:

1. Review of vendor's Quality Assurance Programs prior to award of contracts was not, in all cases, properly documented in accordance with project procedures.

2. Approved design change documents were being utilized by vendors prior to or without issuance of a Purchase Order Change Notice making them contractually binding.

3. Interface agreements used to define the communication link between the South Texas Project (STP) and a vendor and to identify the processing requirements of vendor-related documents were not, in all cases, imposed or strictly followed.

4. Approved Supplier Deviation Requests (SDRs) were apparently utilized to make generic changes to design specifications without the issuance of required Document Change Notices (DCNs) to those specifications.

5. Vendor documentation requirements for retention at their facilities and submittal to the project for review and approval were not, in all cases, adequately defined and/or implemented.

6. Trending of vendor audit deficiencies and nonconformances to identify repetitive deficiencies/discrepancies, evaluate root causes and implement corrective action to prevent recurrence was not being effectively accomplished.

7. Planned vendor surveillance inspection activities were not being performed nor did documented evidence exist to substantiate the acceptability of deviating from these planned activities.

8. Verification of personnel certification for individuals performing vendor surveillance activities was not, in all cases, adequately documented.

9. Materials received at Site reflected shipment from vendor's facilities other than those locations which had been approved by the project.

Due to the apparent failure to develop and/or implement a totally effective quality program during the procurement cycle, the quality status of purchased safety-related materials and equipment had to be re-established. A verification program task force review of vendor-related activities and records was initiated under the direction of Quality Assurance Engineering with specific attention being directed toward the nine (9) generic areas of concern identified from the Vendor Control Program. B&R engaged the services of the NUS Corp. to perform an independent, third-party investigation of the procurement cycle for all safety-related material and equipment.

B&R VENDOR CONTROL PROGRAM BASELINE PROCUREMENT PACKAGES

During the performance of Vendor Control Program activities, B&R developed a Baseline Procurement Package for each purchase order under review. Development of the package included:

1. Under the direction of the Vendor Control Program Task Force (VCPTF), Engineering and Quality Assurance (QA) Engineering concurrently performed detailed reviews of all procurement documents and referenced standards pertinent to each purchase order.

2. Engineering performed an in-depth review to trace technically-based quality commitments from the Final Safety Analysis Report (FSAR) through the existing purchase specification.

3. QA Engineering performed an in-depth review to ensure that the quality assurance commitments from the South Texas Project QA Program were included, if applicable to the purchase order being reviewed. They also defined the vendor documentation necessary to meet or substantiate identified quality commitments.

The reviews yielded the following:

1. Determination of the technical and quality requirements necessary to support quality commitments that were initially contained in the purchase order.

2. Determination of the changes in requirements necessary to support quality commitments that have been made during the life of the purchase order through the initial review date.

3. Determination if quality commitments are supported by appropriate requirements in the present purchase order package.

4. Identification of revisions necessary to support the stated quality commitments and preparation of provisional documents to reflect them.

Engineering and QA Engineering combined the results of their individual development activities to compile the Baseline Procurement Package. This package became the B&R Vendor Control Program Task Force turnover package to Bechtel. The previously described B&R activities resulted in the transmittal to Bechtel of a turnover package consisting of 164 final reports with each identified VCPTF action item statused as open or closed. Combined with related procurement documentation, it allowed Bechtel to proceed with continuing action to satisfy technical and quality assurance concerns for safety-related equipment and material. Elements of the package included:

1. The Open Item Master Log which was generated to identify and logically group all conditions that required subsequent action for closure. These open items originated from four sources:

   A. Recommended changes that were identified during development of the Baseline Procurement Packages.

   B. Unsatisfactory conditions identified during the NUS Corp. review of the Vendors' QA Programs.

   C. Discrepancies identified during the NUS Corp. review of the Vendors' QA Programs.

   D. Discrepancies identified during the NUS Corp. review of the Vendor's documentation.

2. The B&R VCPTF (Engineering and QA Engineering) performed closure actions for all dispositions where closure within the Task Force was feasible. The descriptions of VCPTF closure action were defined and documented with sufficient justification.

   Closure action indicated that the VCPTF had provided a recommended disposition for a given action item; however, where further action was still required by others, many of the proposed disposition activities had not yet been completed.

3. All dispositions that could not feasibly be completed by B&R VCPTF personnel were fully defined and documented on a "Grouping Matrix for Remaining Open Items.

All Open Items are traceable to their source with all past investigative steps identified and retrievable.

B&R advised HL&P on May 11, 1982, that the VCPTF activities had been completed. Final reports on 164 purchase orders investigated were transmitted to Bechtel. No discrepancies were identified which, in B&R's judgement, would be expected to disqualify any safety-related materials or equipment for use on the STP.

SUBSEQUENT ACTIVITIES

Bechtel established a Vendor Control Program Completion Group (VCPCG) to summarize the B&R VCPTF evaluations, confirm disposition of closed items, review remaining open items for closure and resolve any Bechtel-identified items. The VCPCG identified action items that required further work for resolution and monitored the status of open items.

Upon receipt of the VCPTF reports, as part of the Transition Program, Bechtel undertook an assessment of 164 purchase orders, and grouped the orders into 103 sub-work packages. This assessment activity, identified as Compliance Package EN-630, consisted of the following activities.

1. Review of each VCPTF package and related information by Bechtel quality and discipline engineers.

2. Evaluate each item. (No differentiation as to whether the item was open or closed was made during the initial evaluation.)

3. Comparison with Bechtel Quality Assurance Program requirements and resolutions of differences.

4. A detailed review of quality verification documentation for approximately 20% of the purchase orders to substantiate the results of the VCPTF activities.

5. Preparation of recommendations

6. Acceptance by HL&P.

The statusing effort of EN-630 provided for final resolution of all remaining open items to be consistent with actual construction requirements. As indicated in the Restart Program, it is the combined responsibility of Bechtel's Engineering, Construction Management and Procurement Departments for appropriate disposition of remaining open items.

Scheduling for release of approved material was already an integral part of the Transition Program work package effort and requirements of the Construction Restart Program dictated the resolution sequence. Bechtel has put in place a program for release of materials, services and equipment which uses proven Bechtel techniques to assure that requirements will be met. While EN-630 is only part of the overall program, output from that effort is to be considered prior to material release.

Conditional release of materials, services and equipment is allowed with varying degrees of quality verification documentation completion and the release was accomplished in accordance with approved procedures. The conditional release mechanism incorporates remaining open items through the use of Bechtel issued Nonconformance Reports (NCRs) and where applicable the use of Hold Tag application.

As part of the transition effort, and during the subsequent Engineering/Procurement efforts, the remaining open items associated with material already installed were given high priority for resolution. This effort was intended to minimize the need for rework.

There were a total of 6332 VCPTF items. 5772 were satisfactorily closed out in 1982 leaving a balance of 560 open items. Of this number, 148 apply to both a Unit 1 and a Unit 2 "twin" PO, further reducing the number to 412 separate actions required to close all of the B&R identified items. A small number of VCP Task Force remaining open items were found to be related to questions relative to equipment qualification documentation. Because STP has a separate program to provide a detailed evaluation and disposition for all equipment qualification documents, these few action items were transferred for final closure as part of that activity.

There were no items that adversely affect safety or the functional operability of equipment or materials, or that would preclude installation in the STP. No deficiencies were uncovered during the review that would require reportability under 10CFR50.55(e) or 10CFR21. If any of the remaining open items do reveal a significant problem they will be evaluated for reportability.

In a limited number of cases (10 POs or subcontracts), it was not readily apparent from the procurement documents that vendors had been advised of the applicability of 10CFR21. Rather than perform an exhaustive search of vendor correspondence files, these suppliers or subcontractors were notified by Bechtel.

Field Subcontracts personnel advised subcontractors regarding 10CFR21 applicability in those cases where it was uncertain whether the subcontractors had previously been notified. Procurement advised vendors of 10CFR21 applicability for those POs where it was not certain that the vendor had previously been notified.

The responsible engineering discipline dispositioned action items involving possible specification revisions (e.g., invoking ANSI daughter standards), evaluating code case applicability and issuing FSAR change notices. The above items are only typical of the action items that required evaluation and disposition by the responsible engineering discipline. In those cases where specification revision was considered, the scope of the PO and status of completed fabrication were of prime consideration.

Completion Activities

1. The Vendor Control Program Completion Group has completed identification and preparation of specific action items for all actions required to close out all open items. The status of this work as of 5-27-83 is that

135 action items remain open. This represents approximately 2.1 % of the total number of items originally identified by the VCP Task Force.

The action items remaining open are basically minor documentation discrepancies which are being resolved by a search through existing records or being requested from the suppliers. These actions are presently being tracked to provide assurance of completion.

2. Bechtel Procurement Supplier Quality (PSQ) Group selected 32 purchase orders (20% of total in the VCP review) at random based on the following rationale:

   a. Commodity spread: to provide a cross-sectional review of various commodities.

   b. Bechtel rating on the Evaluated Supplier List (ESL): to examine suppliers with a documented history of quality problems on other Bechtel projects.

   c. Project schedule: to review certain high priority orders needed to support the construction schedule.

These purchase orders were to be reviewed for the adequacy of quality verification documentation (QVD). The adequacy review criteria included checks for completeness, traceability and legibility of the documents in order to substantiate the results of the VCP Task Force reviews. In addition, this PSQ review included an evaluation of the technical adequacy of the QVDs. This technical adequacy assessment was not a part of the VCPTF substantiation effort. Its purpose was to support the ongoing activities associated with closing out concerns identified as part of the Show Cause effort. Upon reviewing the 32 POs, it was determined that seven (7) purchase orders had no QVDs because no material or equipment in their scope had been shipped prior to the termination of the VCPTF activities. Two of the purchase orders were sent to the Bechtel Field Contracts Group for evaluation. The remaining 23 POs were evaluated by the jobsite QA/QC groups and the engineering disciplines. It should be noted that these evaluations covered a substantial number of all QVDs currently received by the project. The magnitude of QVDs thus reviewed in detail provides adequate assurance that the VCPTF results could be assessed and properly substantiated. The Bechtel review based upon both microfilm records and hard copy at the jobsite revealed similar types of discrepancies as those found during the NUS review. Based on these conclusions, Bechtel is continuing to close the findings reported in the VCPTF turnover packages.

RECURRENCE CONTROL

The nine generic areas of concern in the procurement cycle originally identified by B&R have been evaluated to determine the status of control procedures currently in place to prevent recurrence. These are addressed individually below:

1. Review of vendor's Quality Assurance Programs prior to award of contracts was not, in all cases, properly documented in accordance with project procedures.

Bechtel procedures provide for review of Vendor Quality Assurance Programs prior to award and during Bid Evaluation. The procedures provide for QA

review to assure that the Vendor QA program meets the requirements or commits to revision prior to beginning work. In addition Bechtel procedures provide for review of vendor programs after award and acceptance by Bechtel before permission to proceed with activities associated with the issued purchase order is granted.

2. Approved design change documents were being utilized by vendors prior to or without issuance of a Purchase Order Change Notice making them contractually binding.

Bechtel procedures provide that supplier surveillance and/or receipt inspection are performed only to approved procurement documents.

3. Interface agreements used to define the communication link between the STP and a vendor and to identify the processing requirements of vendor-related documents were not, in all cases, imposed or strictly followed.

Bechtel does not in general have a separate interface type agreement with the supplier but Bechtel procedures and Procurement documents establish contractural binding interface requirements for submittal of documents, buyers right of access, etc. to assure that appropriate interface considerations are met.

4. Approved Supplier Deviation Requests (SDRs) were apparently utilized to make generic changes to design specifications without the issuance of required Document Change Notices (DCNs) to those specifications.

Bechtel Engineering, Procurement, QA and QC procedures provide for incorporation of generic type changes to technical specifications which are incorporated in these documents prior to complete closure of the Bechtel Supplier Deviation Disposition Request in the tracking systems. In addition, until the change is made, the approved request for deviation is a controlling document which is binding on the supplier and is verified by the Supplier Quality Representative or upon receipt inspection.

5. Vendor documentation requirements for retention at their facilities and submittal to the project for review and approval were not, in all cases, adequately defined and/or implemented.

Bechtel Engineering procedures clearly establish the documentation submittal requirements and procurement documents provide direction to suppliers with regard to records submittal and control during the purchase order period.

6. Trending of vendor audit deficiencies and nonconformances to identify repetitive deficiencies/discrepancies, evaluate root causes and implement corrective action to prevent recurrences was not being effectively accomplished.

Bechtel procedures provide for review and trending of supplier problems.

7. Planned vendor surveillance inspection activities were not being performed nor did documented evidence exist to substantiate the acceptability of deviating from these planned activities.

Bechtel Procurement procedures provide for planned vendor surveillance and methods to deviate from these planned activities in a controlled, documented manner.

8. Verification of personnel certification for individuals performing vendor surveillance activities was not, in all cases, adequately documented.

Bechtel Procurement procedures provide for qualification and certification of Supplier Quality Representatives (vendor surveillance individuals) in accordance with ANSI N45.2.6.

9. Materials received at Site reflected shipment from vendor's facilities other than those locations which had been approved by the project.

Bechtel procedures and procurement documents provide for control of shipments and receipt and provide a method for suppliers to request deviations from previously accepted shipment points.

SUMMARY

In summary, Bechtel has determined through the activities of the VCP Completion Group that the majority of the 6332 action items identified by the VCP Task Force fall into two general categories:

(a) B&R had developed a new QA program baseline as a basis for the VCP Task Force evaluation. This baseline added additional programmatic requirements for the purpose of the review, but did not retroactively impose these requirements on the vendors. Thus, any newly identified requirements were immediately found to be deficient.

(b) Further searches for documentation by Bechtel has resulted in finding many of the documents identified by the VCPTF as missing.

Bechtel's final evaluation of the conditions reported under the scope of this concern was based upon two primary guidelines:

(a) By comparing the scope of supply and services for each evaluated purchase order against Bechtel Standard Specification requirements, determine which technical and quality program requirements are pertinent, and therefore which program elements and what documents are required.

(b) Search for evidence of these required elements and documentation by utilizing all available resources, including contacts with the affected vendors, where needed.

The net result of applying the guidelines, reviewing the purchase orders, and dispositioning the VCPTF findings is that the vast majority of the action items were founded upon the imposition of overly stringent requirements and/or left open due to the limited extent of the documentation search.

Based on the completed evaluations discussed above and the results of these evaluations, HL&P has determined that no deficiencies have been identified that indicate a significant safety hazard. Therefore, it has been determined

that this item does not meet the criteria for reportability pursuant to 10CFR50.55(e) or 10CFR21. If any of the remaining open items do reveal a significant problem they will be evaluated for reportability.