

- The program had a high level of managerial involvement and support.
- The identification, analysis, tracking, and reporting of nuclear safety noncompliances were performed well.
- The trending and analysis of nonreportable noncompliances were formally established and performed well.
- Causal analyses of reportable noncompliances were performed well; and causal analyses were evaluated by the Corrective Action Review Board staffed, in part, by senior management.
- Corrective actions were tracked and their closure was evaluated by trending. Furthermore, this process was found to be part of CHG's performance indicators.
- The audit, surveillance, and assessment programs were well constructed and performed: assessments were conducted through a peer review rather than by the "owner" of the assessed function.
- The PAAA program had its own self-assessment process.

No reply to this program review or letter is required. Please contact Steven Zobel of my staff at (301) 903-2615 if you have any questions.

Sincerely,

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Enclosure: PAAA Program Review

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Price-Anderson Amendments Act Program Review CH2M Hill Hanford Group, Inc.

I. Introduction

The Department of Energy (DOE) Office of Price-Anderson Enforcement (OE) conducted a review of the Price-Anderson Amendments Act (PAAA) Program implemented by CH2M Hill Hanford Group (CHG), Inc., at the Hanford Site Tank Farm. OE staff performed the review in accordance with DOE Enforcement Guidance Supplement 00-02, "Price-Anderson Amendment Act Program Reviews." This review evaluated (1) CHG's PAAA program pertaining to the identification and screening of nuclear safety noncompliances, (2) the method for determining a noncompliance's reportability to the DOE Noncompliance Tracking System (NTS), and (3) the causal determination process for a noncompliance reported to the onsite tracking system and, possibly, the NTS, and corrective action implementation and closure. OE staff also reviewed CHG procedures and other documents, in addition to interviewing CHG personnel during March 11-12, 2003.

Approximately two years ago, new CHG management undertook a revision of how CHG identified and resolved work-related deficiencies at the tank farm site. This incorporated a "zero threshold" policy and resulted in a system where any employee could request an evaluation of an apparent deficiency through the site's intranet. Management furthermore decided to integrate its PAAA program into the overall Problem Evaluation Request (PER) process. Therefore, given the extensive revision of CHG's PAAA and related processes, this review evaluated the revised PAAA program's performance.

II. General PAAA Program Implementation

The CHG PAAA program was formally established by and described in the following documents:

- TFC-PLN-02, "Quality Assurance Program Description," revision A, dated November 27, 2002.
- TFC-ESHQ-PAAA-C-01, "Price Anderson Amendment Act Evaluation and Reporting," revision A, dated June 18, 2002.
- TFC-ESHQ-PAAA-D-04, "PAAA Review and Closure of Noncompliance Tracking System Packages," revision A, drafted January 2, 2003.

- Training Document 351001, “Qualification Card and Guide for Price Anderson Amendment Act Evaluator,” revision 0a.

TFC-PLN-02, “Quality Assurance Program Description,” CHG’s top level quality assurance document, established in Section 2.1.8, “Price Anderson Amendment Act (PAAA),” the PAAA program as a quality assurance function as well as defined its responsibilities with respect to identifying and correcting nuclear safety noncompliances in accordance with OE’s Operational Procedures. This document stated that the PAAA program is directly matrixed to the president’s office. Section 3.3.4.1, “Management of CH2M Hill Organizations,” further stated the PAAA program is responsible for reporting certain noncompliances to DOE’s NTS.

TFC-ESHQ-PAAA-C-01, “Price Anderson Amendment Act Evaluation and Reporting,” established the process for the identification, evaluation, reporting, and tracking of noncompliances as well as associated corrective actions. This document furthermore defined the responsibilities of employees who have access to CHG’s PER system with respect to the quality and completeness of information provided in a PER that may involve a noncompliance, and for the PAAA program staff who processed PERs. TFC-ESHQ-PAAA-C-01 also established training and qualification requirements for PAAA program staff, and these requirements were further described in Training Document 351001, “Qualification Card and Guide for Price Anderson Amendment Act Evaluator.”

TFC-ESHQ-PAAA-D-04, “PAAA Review and Closure of Noncompliance Tracking System Packages,” was provided as a draft that otherwise would have been in effect had there not been unforeseen delays within the organization responsible for maintaining CHG’s operational documents. This document will establish the process for verifying and documenting the completion of NTS report corrective actions.

III. Identification and Screening of Noncompliances

Nearly all submitted documents pertaining to CHG’s Quality Assurance program contained requirements for submitting observed deficiencies to the PER system. All such requests, then, would have been processed in accordance with document TFC-ESHQ_QC-C-01, “Problem Evaluation Request,” revision A-1, dated December 27, 2002. This document defined the responsibilities for certain management staff to implement the PER process, and it provided extensive guidance on the type of problems for which PERs were used, the method used for evaluation and categoriation, and assignment for resolution.

The creation of a PER automatically entered it into the PER database. A PER first underwent a screening for issues that needed immediate attention; those that did not need immediate attention were then evaluated by the PER screening team, which

included a PAAA program employee. Any PER that appeared to involve a nuclear safety issue would have then been forwarded to the PAAA program for further evaluation in accordance with document TFC-ESHQ-PAAA-C-01 and also entered into the PAAA Evaluation Tracking System (PETS). A nuclear safety PER would then have been returned to the screening team to be forwarded to senior management staff for concurrence, after which the PER was issued to the responsible program manager for resolution.

A sampling of the PER database, which contained over 12,000 entries at the time, concluded quality and radiological deficiencies appear to have been adequately captured and screened for PAAA purposes. In addition, the PAAA screening documentation for selected PERs found the documentation was complete and the screening results adequately identified PAAA deficiencies. However, a review of several CHG assessment reports identified several specific areas of weakness in capturing PAAA deficiencies in the PER system:

- A CHG Independent Assessment dated April 29, 2002, of the PAAA program implementation identified (PER 2002-2148) that no employee concerns or subcontractor-related noncompliances were screened during the prior 12 months. Corrective actions were implemented and completed in July 2002. A subsequent PER, 2003-0397, identified that subcontractor and vendor noncompliances were still not being adequately reported. Subsequent corrective actions, then, included a revision to TFC-ESHQ-PAAA-C-01 to better address PAAA requirements for subcontractors, and working with the Contracts and Procurement group to ensure PAAA requirements were in place for indemnified subcontractors, including their reporting requirements to CHG.
- A CHG Management Assessment, dated January 23, 2003, "Environmental, Safety, Health & Quality Management Assessment of Corrective Action Management System," identified an inconsistency in reporting assessment findings into the PER system. Examples included the following: of 106 assessments performed, 27 did not result in relevant or adequate PERs; and 13 of the 106 assessments inappropriately recorded numerous findings into one PER, one reported 37 findings, and another reported 19 findings recorded in one PER. CHG performed an extent of condition assessment and found additional examples. An apparent root cause analysis determined that some personnel performing assessments did not fully understand the PER process. The Assessment Organization thus decided to no longer accept reports that indicated a PER was necessary but had not been initiated; those assessments would be returned to the originator for PER development.

IV. Evaluation for Reportability

PERs forwarded to the PAAA program by the PER screening team were further reviewed to determine if a noncompliance existed and, if so, whether the noncompliance should have been reported to DOE's NTS or tracked internally. This process was described in document TFC-ESHQ-PAAA-C-01. PERs that had been designated as significant or roll-up were reviewed by the PAAA Director to determine if they were NTS reportable. The result of each review was documented in the PETS database. The screening criteria used for NTS reporting was found to be consistent with DOE guidance and expectations.

A review of noncompliances for potential recurring or programmatic concerns was performed in several steps. The PAAA evaluator performed the initial review during the screening team review. The PAAA evaluator could identify similar deficiencies based upon the trending codes assigned to each problem in the PER database. The evaluator then reviewed deficiencies with similar codes to determine if an adverse trend or recurring condition was apparent. A review of NTS and PER reports found several examples in which this trend review identified an adverse trend, recurring problem, or a programmatic deficiency. The second type of review for trends was a formal Performance Data Analysis process. This process was a requirement in document TFC-PLN-02 that specified procedures governing performance data analysis be developed and the results of those analyses be reported to appropriate levels of management. These reviews evaluated deficiencies, contributing causes, timeliness of corrective actions, and other data for trends.

A review of selected PERs and their associated NTS evaluation forms found NTS reportable noncompliances were appropriately identified. One concern, however, was identification of the practice of adding subsequent noncompliances to an existing NTS report ("rolling up"). This concern focused on issues in which the causal analysis had already been completed and, in one case, the corrective actions had been completed. Report NTS-RP-CHG-TANKFARM-2001-0015 was an example of a subsequent event that was NTS reportable and had been added to this report approximately four months after the causal analysis was performed and all corrective actions were completed. In this instance, though, a new causal analysis was performed on the subsequent event and additional corrective actions added to the report. The concern was that a change to the scope of an existing NTS report would not be as obvious as a new NTS report; thus, any additional reportable event would not have been apparent to DOE. Furthermore, a subsequent event could have represented a Quality Improvement deficiency that would have needed to be addressed separately. Discussion of this practice during the exit briefing led to reconsideration of its continued use.

V. Cause Determination/Corrective Action Closure

CHG established a formal cause determination and corrective action tracking and closure process. Document HNF-IP-0842, "Causal Analysis and Corrective Action Planning," section 2.6, revision 0b, dated October 17, 2002, established instructions for performing causal analysis. It required a formal review and approval of causal analysis and corrective actions of all significant PERs by the Corrective Action Review Board (CARB); the CARB's functions and responsibilities were described in document TFC-CHARTER-05, "Corrective Action Review Board," revision A, dated December 12, 2002. A root cause analysis (RCA) was performed for each PER categorized as significant by the screening team and an apparent cause analysis (APA) was performed for the remaining PERs. CHG also established required training for personnel who participated as RCA team members and for personnel who assigned an APA.

Causal analysis and associated corrective actions for significant PERs were submitted to the CARB for approval. CARB members were senior managers and a PAAA group member was included on the review board. Causal analysis and corrective actions plans were typically presented to the CARB within 30 days of the PER screening team review. The corrective action plan submitted to the CARB was required to also have an End Point Assessment Plan. The End Point Assessment Plan provided an effectiveness review of the corrective action implementation.

Corrective actions were tracked in several separate databases. The Electronic Suspense Tracking and Routing System was the primary database for tracking corrective actions resulting from the PER evaluation process. A separate database, PETS, was used to track corrective actions associated with an NTS report. Corrective actions that resulted from significant PERs and NTS reports were required to have a closure package that provided objective evidence that the corrections were completed. The CARB reviewed all such closure packages and approved closure of the associated PERs/NTSs. Completion of corrective actions within approved schedules was monitored as part of the Performance Data Analysis process discussed above in section IV. Though tracking and management review of corrective action closure trends was relatively recent at CHG, the results indicated significant improvement. Delinquent corrective actions decreased from approximately 45 percent to less than five percent delinquent during the past six months. Completion date changes for corrective actions for NTS reports and significant PERs required CARB approval.

VI. Conclusion

The OE review determined that CHG's PAAA program met DOE expectations and guidance. Specific strengths and several minor weaknesses identified during the

review have been described in sections II-V of this report. The DOE Enforcement Policy (10 CFR 820, Appendix A) has provided positive incentives for contractors who identify, report, and promptly and comprehensively correct nuclear safety noncompliances. The weaknesses identified in this report, if not corrected, could impact the application of enforcement discretion in any future enforcement action.