



U.S. Department of Energy  
**Office of River Protection**

P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

**OCT 01 2007**

07-ESQ-154

Mr. W. S. Elkins, Project Director  
Bechtel National, Inc.  
2435 Stevens Center Place  
Richland, Washington 99354

Dear Mr. Elkins:

CONTRACT NO. DE-AC27-01RV14136 – ASSESSMENT REPORT A-07-ESQ-RPPWTP-009  
– WASTE TREATMENT AND IMMOBILIZATION PLANT (WTP) CORRECTIVE ACTION  
MANAGEMENT PROGRAM (CAMP) - JUNE 11 THROUGH JUNE 22, 2007

This letter transmits the results of the U.S. Department of Energy (DOE), Office of River Protection assessment of the Bechtel National, Inc. (BNI) implementation of the CAMP for construction of the WTP. The assessment was performed from June 11 through June 22, 2007. Subsequent to completion of the field work in June 2007, a number of meetings were conducted in July 2007 and August 2007 with BNI to clarify our understanding of the BNI CAMP. The purpose of the assessment was to determine effective implementation of 10 Code of Federal Regulations 830, Subpart A, "Quality Assurance" (QA Rule), DOE O 414.1, "Quality Assurance" (QA Order), and 24590-WTP-QAM-01-001, "Bechtel National, Inc. Quality Assurance Manual" (QAM).

The Assessment Team determined that BNI is implementing a CAMP that meets the requirements of the QA Rule, the QA Order, and the BNI QAM. The Team identified an issue with the scope of the CAMP as it relates to processes associated with the determination of quality or safety affecting items. This Observation is the most significant issue identified during the assessment. Subsequent to the assessment field work, discussions with the BNI Quality Assurance Director provided a description of the CAMP more in line with DOE expectations. A complete understanding of this description by the management team and implementors of the CAMP is essential. Additionally, the Team identified instances where BNI did not comply with implementing procedures resulting in three findings. In addition, seven observations were issued to identify opportunities for improvement of the BNI CAMP. BNI is not required to provide responses for the observations discussed in the attached report with the exception of **A-07-ESQ-RPPWTP-009-001**.

All findings and observations are discussed in detail within the attached report and the three findings and one observation are briefly summarized below:

**OCT 01 2007**

**A-07-ESQ-RPPWTP-009-F01:** Instances were noted in which BNI did not process Deficiency Reports/Corrective Action Reports in accordance with established procedures for cause analysis, corrective actions, or closure activity.

**A-07-ESQ-RPPWTP-009-F02:** Instances were noted in which BNI did not resolve potential adverse trends in accordance with established procedures and did not review quality information to identify processes needing improvement.

**A-07-ESQ-RPPWTP-009-F03:** Minor instances were noted in which BNI did not process Project Issue Evaluation Reports in accordance with established procedures, did not identify some issues as Condition Reports, and did not identify a cause code on one item.

**A-07-ESQ-RPPWTP-009-O01:** Opportunity for improving the description of the CAMP in the BNI QAM Policy Q-16.1, "Corrective Action," to reflect a broader scope and application of the program to be more in line with the QA Rule, the QA Order, and DOE O 226.1a.

Within 30 days of receipt of this letter, BNI should respond to the assessment findings. The response should include:

- The cause of the issues.
- The corrective actions taken to control or remove any adverse impact to identified noncompliance situations (remedial action) and the results achieved.
- The corrective actions taken or that will be taken to prevent similar issues in the future. This should also include the results of an extent of condition review.
- The date by when all corrective actions are to be completed, verified, and compliance to applicable requirements is achieved.

Within 30 days of receipt of this letter, BNI should respond to the assessment Observation A-07-ESQ-RPPWTP-009-O01. The response should include:

- The corrective actions taken to address the observation.
- The date by when all corrective actions are to be completed and verified.


OCT 01 2007

Mr. W. S. Elkins  
07-ESQ-154

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If you have any questions, please contact me, or your staff may contact William J. Taylor, Assistant Manager, Office of Environmental Safety and Quality, (509) 376-7851.

Sincerely,



Shirley J. Olinger, Acting Manager  
Office of River Protection

ESQ:PRH

Attachment

cc w/attach:

D. E. Gergely, BNI

D. J. Jantosik, BNI

D. E. Kammenzind, BNI

BNI Correspondence

Attachment  
07-ESQ-154

Assessment A-07-ESQ-RPPWTP-009  
“Bechtel National Inc. Waste Treatment and Immobilization Plant  
Corrective Action Management Program”

U.S. DEPARTMENT OF ENERGY  
Office of River Protection  
Environmental Safety and Quality

ASSESSMENT: Bechtel National, Inc., Waste Treatment and Immobilization Plant  
Corrective Action Management Program

REPORT: A-07-ESQ-RPPWTP-009

FACILITY: Waste Treatment and Immobilization Plant Construction

LOCATION: Richland, Washington

DATES: June 11 through June 22, 2007

ASSESSORS Paul R. Hernandez, Assessment Team Leader  
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Verification and Confirmation Official

## EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), Office of River Protection (ORP), conducted an assessment of the Bechtel National, Inc. (BNI) Corrective Action Management Program (CAMP) from June 11 through June 22, 2007. The purpose of the assessment was to determine effective implementation of 10 Code of Federal Regulations 830 Subpart A, "Quality Assurance" (QA Rule), DOE O 414.1c, "Quality Assurance" (QA Order), DOE O 226.1a, "Implementation of DOE Oversight Policy", and 24590-WTP-QAM-01-001, BNI Quality Assurance Manual (QAM).

Additionally, this assessment was to evaluate BNI's recent implementation of the Project Issues Evaluation Reporting (PIER) system. This is the first ORP review of the new PIER process which was implemented to ensure that the BNI CAMP meets the corrective action system requirements of DOE O 226.1a. The scope of the assessment was to ensure that the BNI Quality Assurance (QA) program elements and implementing procedures adequately address the DOE QA program requirements in the areas of identification and resolution of issues identified through trending analysis, feedback and improvement, and assessment activities to confirm compliance with contractual requirements.

The Team determined that BNI's CAMP meets the requirements of the QA Rule, the QA Order, and the BNI QAM. The Team identified an issue with the scope of the CAMP as it relates to processes associated with the determination of quality or safety affecting items. This observation is the most significant issue identified during the assessment. Subsequent to the assessment field work, discussions with the BNI QA Director provided a description of the CAMP more in line with DOE expectations. A complete understanding of this description by the management team and implementors of the CAMP is essential. The Assessment Team also identified instances where BNI did not comply with implementing procedures resulting in three findings and seven observations. The findings and most significant observation are listed below. All findings and observations are discussed in detail within the report.

**A-07-ESQ-RPPWTP-009-F01:** Instances were noted in which BNI did not process Deficiency Reports/Corrective Action Report in accordance with established procedures for cause analysis, corrective actions, or closure activity.

**A-07-ESQ-RPPWTP-009-F02:** Instances were noted in which BNI did not resolve potential adverse trends in accordance with established procedures and did not review quality information to identify processes needing improvement.

**A-07-ESQ-RPPWTP-009-F03:** Minor instances were noted in which BNI did not process Project Issue Evaluation Reports in accordance with established procedures, did not identify some issues as Condition Reports, and did not identify a cause code on one item.

**A-07-ESQ-RPPWTP-009-001:** Opportunity for improving the description of the CAMP in the BNI QAM Policy Q-16.1, “Corrective Action,” to reflect a broader scope and application of the program to be more in line with the QA Rule, the QA Order, and DOE O 226.1a.

**Bechtel National, Inc. (BNI)**  
**Corrective Action Management Program (CAMP)**

**1. Details**

The U.S. Department of Energy (DOE), Office of River Protection (ORP) conducted an assessment of the BNI CAMP from June 11 through June 22, 2007. The purpose of the assessment was to determine effective implementation of 10 Code of Federal Regulations (CFR) 830, Subpart A, "Quality Assurance" (QA Rule), DOE O 414.1c, "Quality Assurance" (QA Order), DOE O 226.1a, "Implementation of DOE Oversight Policy", and 24590-WTP-QAM-01-001, "Bechtel National, Inc. Quality Assurance Manual" (QAM).

Additionally, this assessment was to evaluate BNI's recent implementation of the Project Issues Evaluation Reporting (PIER) system. This is the first ORP review of the new PIER process which was implemented in part to ensure that the BNI CAMP met the corrective action system requirements of DOE O 226.1a. The scope of the assessment was to ensure that the BNI Quality Assurance (QA) program elements and implementing procedures adequately address the DOE QA program requirements in the areas of identification and resolution of quality performance analysis, feedback and improvement, and assessment activities to confirm compliance with contractual requirements.

The Team determined that BNI is implementing a CAMP that, for the most part, meets the requirements of the QA Rule, the QA Order, and the BNI QAM. However, the Team identified a fundamental issue with the identification of the scope of the CAMP as it relates to processes associated with the determination of quality or safety affecting items. The Assessment Team also identified instances where BNI did not comply with implementing procedures resulting in three findings and seven observations.

**2. Program Overview**

The QAM, Policy Q-16.1, "Corrective Action," states in Section 1, Purpose and Applicability, that the Policy applies to conditions adverse to safety, health, operations, quality, security, and the environment. However, in Section 2, Implementation Strategy, the language associated with the requirements shifts to that generally associated with an NQA-1 nuclear QA program [e.g., conditions adverse to "quality," significant conditions adverse to "quality," follow-up and closure for conditions adverse to "quality (emphasis added)"]. Section 3, Policy includes sections that cover the broader Safety and Health programs, however, even these discussions do not cover environmental and security issues.

The CAMP, as described by 24590-WTP-CASP-MGT-06-001, "WTP Assurance Program Description," Section 10.0, Issues Management, and the implementation of the PIER, Deficiency Report (DR), Corrective Action Report (CAR), and Significant CAR processes suggests a broader scope of the CAMP more in line with the QA Rule and QA Order. For example, the Team found that cause is determined, in a graded approach,



during the processing of PIERs, DRs, CARs, and Significant CARs. This level of analysis would not be expected for a 10 CFR 50, Appendix B, or NQA-1 nuclear QA program. In addition, the Team noted that issues associated with the typical non-quality issues such as safety, health, injury, illness, events, occurrences, etc., are included within the scope of the CAMP.

However, in initial discussions with BNI QA Management, it was noted that the QA organization considers that the CAMP includes the activities associated with Corrected on-the-Spot (COTS), DRs, CARs, and Significant CARs. The activity of the PIER Review Committee to determine if an issue should be dealt with as a condition report or as a PIER is not considered part of the corrective action management system. BNI further stated that items managed and closed through the PIER category were only recommendations and as such, were also not part of the CAMP.

This logic did not meet QA Rule expectations. Specifically, 10 CFR 830.122(c)(2) establishes the expectation that the Contractor should identify, control, and correct items, services, and processes that do not meet established requirements. BNI Procedure 24590-WTP-GPP-MGT-022, "Project Issue Evaluation Reporting," provides the criteria for Significance Type Definition and Determination in Appendix 3. The Criteria is based on "adverse conditions." The Appendix provides the following guidance: "Is every error an adverse condition? No. An error is an adverse condition when it causes an item or product to be noncompliant or renders its quality to be indeterminate." The QA Rule is based on not meeting established requirements as opposed to a product that is noncompliant or renders its quality to be indeterminate. A procedure noncompliance may not cause the product to be noncompliant but the act of not complying with the procedure is a QA Rule issue.

QA Rule, 10 CFR 830.122(c)(4), further states that the contractor should review item characteristics, process implementation, and other quality related information to identify items, services, and processes needing improvement. The Assessment Team agrees that a specific recommendation may not be QA Rule driven, however, the process by which the PIER program is administered is QA Rule driven.

Based on the above, the Team believes there is an opportunity for improving the description of the corrective action management program contained in the QAM to reflect the broader scope and application of the program currently in place to be more in line with the QA Rule, the QA Order, and DOE O 226.1a. Observation A-07-ESQ-RPPWTP-009-001 documents this opportunity for improvement.

As a follow on to PIERs discussed in the report that were closed to a plan for documentation and tracking of actions to address the issue, the Team evaluated BNI's procedure for the use of formal plans for Condition Report (CR) closure. Procedure 24590-WTP-GPP-QA-208, "Management of Corrective Action," provides direction for a process that allows use of formal plans for CR closure. The Assessment Team evaluated the formality of the process to ensure it meets the requirements of DOE O 226.1a. The Team determined that formal plans are being effectively used to track, complete, and

validate closure of corrective actions that have long lead times and do not affect safety, quality, and health of the work force. This process is only used for Engineering and has only eleven active plans. The Team also determined that QA is active in the approval, monitoring, and closure of the plans. The above procedure only addresses CR's. Closure of PIERs to a plan for action is discussed in the findings and observation section of the report.

### **3. Findings and Observations:**

**A-07-ESQ-RPPWTP-009-F01: Instances were noted in which BNI did not process DRs/CARs in accordance with BNI procedures for cause analysis, corrective actions, or closure activity.**

#### **Requirements:**

- A. 10 CFR 830.120(c), "Quality Improvement," and DOE O 414.1C, 4.b.(c), Criterion 3, "Quality Improvement," require, among other things:
  - 1. Establish and implement procedures to detect and prevent quality problems.
  - 2. Identify, control, and correct items, services, and processes that do not meet established requirements.
  - 3. Identify the causes of problems and work to prevent recurrence as a part of correcting the problem.
- B. 10 CFR 830.122 (d) Criterion 4, "Documents and Records," and DOE O 414.1C, 4.b.(4), Criterion 4, "Documents and Records," require, among other things:
  - 1. Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design.
- C. 24590-WTP-GPP-QA-208, Revision 2, "Management of Corrective Action," requires, among other things:
  - 1. Section 3.5 states that if the issue is a deficiency, resolve in accordance with Section 3.6.1, DRs and if it is a CAR, resolve in accordance with Section 3.6.2, CARs.

#### **Discussion:**

Contrary to the above requirements, the Assessment Team's review of twelve CAR/DRs identified that in three of the cases, there were questionable entries for cause analysis, actions, or closure activity used to address the issue. Specifically:

- CRPT-QA-07-141, "Vendor Submittals Requirements for Maintenance and Storage of Equipment," did not indicate that it was closed on its due date of May 29, 2007. This issue is related to improper closure activity.
- CRPT-QA-07-139, "Correspondence and Meeting Minutes Improperly Used to Implement Design Change." The listing of this as a DR is questionable. The

cause code is listed as inattention to detail. This appears to be a noncompliance to the engineering procedures for use of Engineering Change Notices to execute design change. Because of the DR designation, an extent of condition was not performed to determine if this is an isolated case or is it more prevalent. Without the extent of condition it can not be determined that this is an isolated case. This issue is related to improper cause analysis and corrective action.

- CPRT-QA-07-135, “Lack of extent of condition.” The cause does not identify why the extent of condition for the original PIER/CAR was not performed. Corrective actions were not assigned to address why the extent of condition was not properly performed. This issue is related to improper cause analysis and corrective action.

The relative small sampling with a number of issues warrants a broader look at how causes and actions for DRs and CARs are determined and closed.

**A-07-ESQ-RPPWTP-009-F02: Instances were noted in which BNI did not resolve potential adverse trends in accordance with established procedures and did not review quality information to identify processes needing improvement.**

**Requirements:**

- A. 10 CFR 830.122 (c) Criterion 3, “Quality Improvement,” and DOE O 414.1C, 4.b.(3), Criterion 3, “Quality Improvement,” requires, among other things:
  1. Establish and implement processes to detect and prevent quality problems.
  2. Identify, control, and correct items, services, and processes that do not meet established requirements.
  3. Identify the causes of problems and work to prevent recurrence as a part of correcting the problem.
  4. Review item characteristics, processes implementation, and other quality related information to identify items, services, and processes needing improvement.
- B. BNI Procedure 24590-WTP-GPP-QA-204, Quality Trending, requires, among other things, that upon discovery of a potential adverse trend, a PIER shall be initiated recommending that responsible management analyze the data to determine what further steps or additional analyses need to be performed OR justify not taking any action. (3.3.2.3)
- C. BNI Procedure 24590-WTP-GPP-MGT-022, Project Issue Evaluation Reporting, requires, among other things, that the Responsible Manager and/or Responsible Employee is to complete the closure comments section, including the identification of any related documents demonstrating completion of the actions, or if no action is appropriate, provide justification in the closure section. (3.7)

## **Discussion:**

Quality Trending is governed by BNI Procedure 24590-WTP-GPP-QA-204 and describes the process for the review and analysis of PIERs, DRs, CARs, Significant CARs, and Nonconformance Reports (NCR) for tracking and trending quality-related performance metrics at the Waste Treatment and Immobilization Plant (WTP). As of March of this year, Construction Deficiency Reports (CDR) are now within the scope of the NCR procedure and are included in the trend analysis. The procedure requires issuance of a PIER upon discovery of a potential adverse trend. Eight QA Trend Reports from Second Quarter (2Q) Calendar Year (CY) 2005 to Fourth Quarter CY 2006 were reviewed and found to provide some performance indicator analysis and trending. However, contrary to the requirements, negative trends were not consistently identified, evaluated and resolved in accordance with BNI procedures. Examples of this include:

- The 2Q 2005 and Third Quarter 2005 trend reports, although identifying potential adverse trends, did not issue PIERs to provide for further investigation of the potential adverse trend as required by 24590-WTP-GPP-QA-204. This issue is related to noncompliance with an established procedure and not reviewing information to identify processes needing improvement.
- The subsequent six trend reports resulted in the issue of 12 PIERs or Recommendation and Issues Tracking System (RITS) indicating a more aggressive approach in identifying potential adverse trends for further investigation. However, of the 12 PIERs/RITS issued for follow-up investigation only two recommended corrective action to resolve the adverse trend and for one of these, there is no documentation referenced by the RITS/Correspondence Control Number (CCN) to support that the recommended corrective action was completed. In general, in the 10 instances where no additional corrective actions were identified for the potential adverse trends, the responders took credit for process improvements that had taken place or were in-progress instead of evaluating the overall negative trend. This issue is related to not reviewing information to identify processes needing improvement.
- The 2Q 2006 trend report (CCN 143163) raised concerns regarding timely corrective action completion and initiated PIER MGT-06-0181 to evaluate the issue. The respondent (Engineering) for the trend PIER did not provide a basis for not taking corrective action. The justification for closure merely stated that sections of the 2Q 2006 Trend Report were reviewed. This issue is related to noncompliance with an established procedure.

Based on the above, the Quality Trending program is not as effective as it could be in obtaining substantive quality improvement actions.

**A-07-ESQ-RPPWTP-009-F03: Minor instances were noted in which BNI did not process PIERs in accordance with established procedures, did not identify some issues as CRs, and did not identify a cause code on one item.**

**Requirements:**

- A. 10 CFR 830.122 (c) Criterion 3, “Quality Improvement,” and DOE O 414.1C, 4.b.(3), Criterion 3, “Quality Improvement,” require, among other things:
  - 1. Establish and implement procedures to detect and prevent quality problems.
  - 2. Identify, control, and correct items, services, and processes that do not meet established requirements.
  - 3. Identify the causes of problems and work to prevent recurrence as a part of correcting the problem.
  
- B. 10 CFR 830.122 (d) Criterion 4, “Documents and Records,” and DOE O 414.1C, 4.b.(4), Criterion 4, “Documents and Records,” require, among other things:
  - 1. Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design.
  
- C. BNI Procedure 24590-WTP-GPP-MGT-022, “Project Issue Evaluation Reporting,” requires, among other things, that:
  - 1. The PIER Review Committee (PRC) Meeting quorum consists of the Deputy Manager, Operation & Assurance, or alternate, as the Chairman, and four members or alternates, one of whom must be a representative from QA. (3.1)
  - 2. The Responsible Manager for any PIER is to identify actions to address the recommendations or issue and assign personnel to complete and document closure of the assigned actions. (3.3.6 & 3.3.7)
  - 3. The Responsible Manager for PIERs resolved in another process, is to provide cross reference numbers in both documents and for issues that remain PIERs, is to identify by document number any related documents demonstrating completion of actions in the closure comments section of the PIER. (3.3.6.1 & 3.3.6.2).
  - 4. The Responsible Manager and/or Responsible Employee is to complete the closure comments section, including the identification of any related documents demonstrating completion of the actions by referencing the document number, or if no action is appropriate, provide justification in the closure section. (3.7)
  - 5. PIER adverse conditions be typed or categorized as a COTS, DR, CAR or Significant CAR. (3.2 & 3.5)
  - 6. PIER COTS conditions shall be assigned a cause code. (3.2, P/GCN A)

**Discussion:**

A sample of over 70 PIERs, from a population of over 300 PIERs issued between the period of April 1, 2007, to June 1, 2007, were evaluated for compliance with the QA Rule, the DOE Order and BNI Procedure 24590-WTP-GPP-MGT-022 relative to corrective action management.

Contrary to the requirements, several minor issues were identified with how the PIER process was implemented. For example:

1. Three PIERs were not properly categorized as conditions adverse and as such were not identified as COTS, DR, CAR, or Significant CAR. Specifically:
  - PIER-MGT-07-0435 documented that a weld record was not completed in accordance with the weld manual.
  - PIER-MGT-07-0442 documented that a permit review was not checked on Plant Design Change Request when required.
  - PIER-MGT-06-0340, Revision 1 documented that running clearances for High-Level Waste cranes did not meet Occupational Safety and Health Administration (OSHA) requirements. The manner in which this PIER was handled is questionable. For example, the PIER does not list this as an Industrial Safety and Health issue even though the OSHA requirements are listed in the title. The PIER does not address design issues that allowed two conflicting tolerances to exist in the same space which resulted in an unacceptable tolerance. There is significant dialogue between BNI, ORP, and Headquarters regarding the issue; however, the PIER was closed to a CCN where actions are still being performed instead of to a CAR to determine the cause of the issue, extent of condition, and actions that will address this specific issue as well as establishing long lasting corrective actions for design work involving moving equipment.
2. A PIER, MGT-07-0422, Impact Evaluation & Resolution Record Form not properly completed, was categorized as COTS and was not assigned a cause code as required by 24590-WTP-GPP-MGT-022.
3. A review of 19 sets of PRC meeting minutes identified that based on the minutes, 2 of the 19 meetings were not chaired by the Deputy Manager, Ops & Assurance, or a designated alternate and 4 of 19 meetings were not attended by a designated QA representative as required by 24590-WTP-GPP-MGT-022.
4. 24590-WTP-GPP-MGT-022 requires that the responsible manager identify actions to address the PIER concerns and assign a responsible engineer to complete and document closure of the actions. Fifteen PIERs included “boiler plate” actions assigned by the manager that were not completed. The “boiler plate” actions require that the actionee “review, assess, determine cause, extent of condition, and develop corrective actions; contact the originator and assure the intent of the PIER is properly captured; and discuss final disposition of the PIER with the originator prior to closing the overall PIER.” This “boiler plate” appeared verbatim in 15 of the 70 PIERs reviewed. The closure documentation contained in these PIERs did not support completion of all or part of the required action. The Assessment Team is not taking issue with the assigned actions, only that the actions were not completed. (PIERs MGT-07-0408, -0412, -0416, -0426, -0429, -0430, -0435, -0444, -0486, -0488, -0489, -0491, -0497, -0500, & -0501).

5. PIER closure documentation for three PIERs are incomplete and/or inadequate:

- PIER MGT-07-0446 listed that documentation to support a requirement crosswalk review by QA was not available. The PIER was closed by sending the requirement crosswalk to QA; however, the PIER did not document that QA reviewed the crosswalk which was the original issue identified during the QA audit.
- PIER-MGT-07-0412 documented inconsistent specification requirements as to whether or not work/inspection procedures required review by BNI QA personnel. The PIER resolution did not indicate if specifications were revised to resolve the inconsistency.
- The First Quarter 2006 trend report (CCN: 138826) raised concerns regarding industrial safety issues representing a high percentage of Construction CRs. RITS QAIS-06-577, issued to Construction to evaluate the Industrial Safety issues, referenced Safety Assurance's evaluation of the concerns (CCN: 142444) which identifies problems with regards to identifying problems, performance of extent of conditions, and corrective action and recommends training be conducted in Extent of Conditions, Quality Assurance Information System (QAIS), etc. to resolve the issues. However, there is no indication in the RITS such as a CCN documenting that the training was accomplished as required. While QA was able to locate documentation that the training was accomplished, the lack of linkage from RITS to action does not provide clear traceability and transparency with regards to the completion of corrective actions.

**A-07-ESQ-RPPWTP-009-001: Opportunity for improving the description of the CAMP in the BNI QAM Policy Q-16.1, "Corrective Action," to reflect a broader scope and application of the program to be more in line with the QA Rule, the QA Order, and DOE O 226.1.**

BNI QAM, Policy Q-16.1, "Corrective Action," states in Section 1, "Purpose and Applicability," that the Policy applies to conditions adverse to safety, health, operations, quality, security, and the environment. However, in Section 2, "Implementation Strategy," the language associated with the requirements shifts to that generally associated with a 10 CFR 50, Appendix B, or NQA-1 nuclear QA program [e.g., conditions adverse to "quality," significant conditions adverse to "quality," follow-up and closure for conditions adverse to "quality (emphasis added)"]. Section 3, "Policy," includes sections that cover the broader Safety and Health programs, however, even these discussions do not cover environmental and security issues.

The BNI CAMP, as described by 24590-WTP-CASP-MGT-06-001, "WTP Assurance Program Description," Section 2.0, "Scope," indicates "This document describes how the WTP safety and assurance processes are applied to ... environment, safety, and health; safeguards and security; emergency management; cyber security; business operations..." Section 10.0, "Issues Management," indicates "... PIERs are reviewed and evaluated by

senior personnel assigned by functional management to determine the management process most appropriate to assess and resolve the issue. These management processes include corrective action management; lessons learned; safety, security, or cyber security incident reporting; nonconformance reporting; and construction deficiency reporting.” Additionally, the actual practice of implementation of the PIERs, DR, CAR, and Significant CAR processes suggests a much broader scope of the BNI CAMP and one that is more in line with 10 CFR 830.122. For example, the Team found that cause is determined, in a graded approach, during the processing of PIERs, DRs, CARs, and Significant CARs, which would not be expected for a 10 CFR 50, Appendix B, or NQA-1 nuclear QA program. In addition, the Team noted that issues associated with the typical non-quality issues such as safety, health, injury, illness, events, occurrences, etc., are included within the scope of the CAMP.

However, in discussions with BNI QA Management, it was noted that the QA organization considers that the CAMP only includes the activities associated with COTS, DRs, CARs, and Supplier Corrective Action Reports (SCAR). The activity of the PIERs Review Committee to determine if an issue should be dealt with as a condition report or as a PIERs is not considered part of the corrective action management system. BNI further stated that items managed and closed through the PIERs category were only recommendations and as such, were also not part of the CAMP.

This logic does not meet the QA Rule expectations. Specifically, 10 CFR 830.122(c)(2) establishes the expectation that the Contractor should identify, control, and correct items, services, and processes that do not meet established requirements. BNI procedure, 24590-WTP-GPP-MGT-022, “Project Issue Evaluation Reporting,” provides the criteria for Significance Type Definition and Determination in Appendix 3. The Criteria is based on “adverse conditions.” The Appendix provides the following guidance: “Is every error an adverse condition? No. An error is an adverse condition when it causes an item or product to be noncompliant or renders its quality to be indeterminate.” The QA Rule is based on not meeting established requirements as opposed to a product that is noncompliant or renders its quality to be indeterminate. A procedure violation may not cause the product to be noncompliant but the act of violating the procedure is a QA Rule issue.

Criterion (c)(4) further states that the Contractor should review item characteristics, process implementation, and other quality related information to identify items, services, and processes needing improvement. The Assessment Team agrees that a specific recommendation may not be QA Rule driven, however, the process by which the PIERs program is administered is QA Rule driven.

Based on the above, the Team believes there is an opportunity for improving the description of the CAMP contained in the QAM to reflect the broader scope and application of the program currently in place to be more in line with the QA Rule, the QA Order, and DOE O 226.1.



**A-07-ESQ-RPPWTP-009-O02: The Assessment Team identified an opportunity for improving the operation of the PRC.**

The PRC dialogue associated with the disposition of each PIER is not documented by either the PIERs reports themselves or in a summary level fashion by PRC meeting minutes.

This results in the basis for the PRC judgment and decision not being captured in the overall issues reporting process established by BNI. The current PRC practice does not document the attributes deemed to be more important by the PRC during its initial classification and categorization discussion associated with a PIERs. The current practice only documents the final PRC decision based on:

- Being assigned for processing as a PIERs
- Being closed as a COTS
- Being elevated to the level of a CAR or DR
- The composition of the PRC at the PRC Meeting when the PIERs was considered

Additionally, this practice does not capture the basis or rationale for PRC issue classification decisions, including those decisions which consider: a) specific technical attributes; or b) individual event- or condition-related characteristics which describe the basis for PRC decisions. Therefore, the basis for the PRC's judgment, when categorizing and characterizing whether or not an issue input as a PIERs should be dispositioned as a PIERs or be elevated to a higher level (e.g., DR, CAR, Significant CAR) is not captured.

**A-07-ESQ-RPPWTP-009-O03: A review of the processing of PIERs identified opportunities for improvement.**

BNI Procedure 24590-WTP-GPP-MGT-022, "Project Issue Evaluation Reporting," establishes requirements for the processing of PIERs. The procedure and/or its implementation could be enhanced to improve the process. Specific opportunities for improvement are identified below.

1. GPP-MGT-022 does not address feedback and/or interface with PIERs originator to assure the issue is properly identified and corrected. Review of over 70 PIERs determined that discussion with originator is documented in the PIERs four times and two of these were because the originator was assigned to develop corrective action. Interviews with BNI WTP personnel indicated that actual practice is to communicate PIERs status and closure, including closure via CR, to originators via e-mail. In addition, many PIERs originators were noted to track their status via the QAIS.
2. GPP-MGT-022 establishes training requirements (i.e., complete and document required reading of 10 procedures, one of which has been deleted) for PRC Members

and alternates. PRC Members are WTP Functional Managers that have broad experience and perspective. Considering that training requirements are minimal for all PRC Members, when alternates are assigned to the PRC there may be a significant reduction in the qualification and experience level of the PRC. A similar issue regarding the qualification of PRC alternate members was identified in October 2006 (PIER-MGT-06-0408) and remains unresolved.

3. Additional issues regarding excessive time to complete PIERs corrective actions were noted during the review of the Management Assessment Report 24590-WTP-MAR-QA-06-0004, 2006 Annual Quality Assurance Management Assessment (External). The assessment focused on the BNI corrective action program from January through September 2006. The assessment determined that BNI was implementing a regulatory compliant CAMP, however, 14 PIERs were initiated as a result of the assessment to require further evaluation of recommended quality improvements.

The correction actions for a number of issues identified during this management assessment have not been completed properly and in some cases, have not been completed in a timely manner. The following summarizes the issues associated with the processing of the PIERs associated with this management assessment:

- Corrective action for 6 of the 14 PIERs remains incomplete at the time of this assessment, nearly 8 months since the 2006 assessment was completed.
- Actions associated with 3 of the PIERs have not been completed and have been in progress for over 8 months and one of the actions has an Estimated Completion Date (ECD) of August 31, 2007.
- Three of the PIERs were closed based on expectations of corrective action and the corrective action has not been completed as of the date of the assessment and 1 action has an ECD of December 31, 2007.
- During the performance of surveillances to verify completion of corrective actions a recurring theme of assignment of actions in the QAIS to people no longer on the project was noted and no corrective action document was initiated to identify and address this recurring problem.
- The subject of one of the PIERs that is still open (qualification of PRC alternate members) was identified as an issue during the performance of this assessment.

A summary of the PIERs associated with this assessment that remain unresolved is provided below:

- MGT-06-0432, Construction and QA should evaluate Construction QAIS system training needs.

The PIER corrective action required the evaluation of the Construction QAIS system training needs to ensure the construction staff is adequately trained to understand and use the tools offered by the QAIS to more effectively manage corrective action. The PIER was closed on January 22, 2007, based on development of a QA Plan for this effort, 24590-WTP-PL-QA-07-0001. The plan is in the final review and approval phase and excerpts from the plan provided by Safety Assurance require the development of a training module to address the training needs. Since the plan is not yet approved and the training module not yet developed, it is anticipated that this action will take over one year to complete since the problem was identified.

- MGT-06-0408, Senior Management should determine the appropriate PRC member delegation levels and revise the procedure to reflect the levels expected.

The PIER corrective action is to determine what action is necessary. This PIER is still open and the issue remains unresolved for approximately eight months. This issue is similar to Item No. 3 above.

- MGT-06-0426, The metric for self-identification of issues affecting quality should be analyzed by QA management to establish that issues are being properly compared between organizations and whether more challenging metrics should be established.

The PIER corrective action resulted in the QA Manager, the QA Programs Manager and the QA Programs staff meeting to discuss the issue and the group determined that self-identification rates of NCRs/CDRs will be tracked/trended as this metric is more suitable for Construction. The recommendation regarding the self-identification rate value used was tabled until the 2008 Integrated Safety Management System Performance Objective, Measures, and Commitments are established. The PIER is still open.

- MGT-06-0433, Project Management should commission the Six Sigma group to review the effectiveness of the corrective actions taken on the Process Improvement Project (PIP) process to improve the Nuclear Safety and Quality Culture at WTP as it pertains to Construction corrective action and self-identification of issues.

The PIER corrective action was to review the effectiveness of the corrective actions taken on the PIP process to improve the Nuclear Safety and Quality Culture at WTP as it pertains to Construction corrective action and self-identification of issues. The PIER was closed on March 22, 2007, based on the recommendation to perform a Super PIP on the issue of corrective action management. A copy of the PIP and super PIP were requested several times during the assessment but were not provided. As such, it appears that the PIER was closed and assigned action was not completed.

- MGT-06-0428, QA should assess whether the follow-up had been performed on closed CARs older than some date and establish whether the QAIS system accurately reflects the follow-up completion.

The PIER corrective action required the performance of surveillances to verify CAR effectiveness follow-ups were being performed and to verify that the QAIS accurately reflected the completion status of CARs. Surveillances QA-07-016, -019, -021, -023, & -024 are referenced and used as a basis for closure of the PIER on January 24, 2007. SV-QA-07-016 & -019 found that CARs had been assigned to people that were no longer on the project, therefore, the effectiveness review of the CARs had not been accomplished. However subsequent surveillances SV-QA-07-187 & -188 confirmed the CARs associated with SV-QA-07-016 & -019 had received effectiveness reviews. SV-QA-07-021 was reviewed and found to verify that the closed status of CARs in the QAIS was correct. SV-QA-07-023 found that CARs had been assigned to people that were no longer on the project, therefore, the effectiveness review of the CARs had not been accomplished. A follow-up Surveillance of this area (SV-QA-07-144) determined that the effectiveness reviews had not been accomplished. A PIER (MGT-07-0542) was written to document this problem, which was escalated to a DR (CRPT-QA-07-157) by the PRC. The corrective action for the DR is to complete the effectiveness evaluation, which as of June 4, 2007, has not been completed and has an ECD of December 31, 2007. It should be noted that all effectiveness follow-ups have not completed at this time, well over five months since PIER MGT-06-0428 was closed on January 24, 2007, based on the performance of SV-QA-07-023 and eight months from when the problem was first identified. SV-QA-07-024 determined that the CAR effectiveness review had been assigned to people no longer on the project and PIER MGT-07-0050 was written to document this problem. The corrective action to this PIER documented that the effectiveness review had been completed. The assignment of actions to people no longer on the project appears to be a recurring event that warrants corrective action.

- MGT-06-0430, Senior Management should establish goals and/or requirements for the CR responses, target dates, target completion dates, and the procedure should be revised to reflect management's expectations.

The PIER corrective action is for the senior management team to discuss the issue and determine if changes are warranted. The PIER is still open with an ECD of August 31, 2007, with 10 months to a decision. It is the Team's opinion that 10 months to make this decision is excessive.

**A-07-ESQ-RPPWTP-009-004: Opportunity for improving the Occurrence Reporting and Processing System (ORPS) and Injury/Illness procedures.**

BNI Procedure 24590-WTP-GPP-MGT-022, "Project Issues Evaluation Reporting," indicates that occurrences controlled in accordance with 24590-WTP-GPP-SIND-001,

“Reporting Occurrences in Accordance with DOE M 231.1.-2,” and injuries and illnesses controlled in accordance with 24590-WTP-GPP-SIND-023, “Illness/Injury Notification, Investigation and Reporting,” are reported secondarily as PIERs.

However, GPP-SIND-001 and GPP-SIND-023 do not require that events identified and reported during the implementation of these procedures require additional processing in accordance with GPP-MGT-022. The Team noted that these types of items are being processed in accordance with GPP-MGT-022. To assure that occurrences from ORPS and injury/illnesses continue to be included in the trend analysis program, the procedures that govern ORPS processing (GPP-SIND-001 and GPP-SIND-023) should be revised to ensure that occurrences governed by these procedures result in the issue of PIERs in accordance with GPP-MGT-022.

**A-07-ESQ-RPPWTP-009-O05: Opportunity for improving the Lessons Learned Program.**

Currently there are some basic metrics (e.g., timeliness of processing a Lesson Learned until approval or rejection, timeliness of distribution after approval, number of Lessons Learned generated on the project versus externally generated Lessons Learned, functional disciplines for which the Lessons Learned were determined to be applicable, documentation if an employee acknowledges the use of an approved Lessons Learned, etc.) available from the Lessons Learned Database as described in GPP-MGT-017.

However, Procedure GPP-MGT-017 does not require the generation of periodic trend reports from the metrics that are available. The Assessment Team was not provided with any indications that trend reports were being developed and/or used from the metrics that are available.

**A-07-ESQ-RPPWTP-009-O06: The Assessment Team identified an opportunity for improving documentation of the corrective actions for a management assessment of SCAR.**

24590-WTP-MAR-QA-07-0008, documents a management assessment of SCARs. The assessment evaluated the initiation, documentation, processing and closure of SCARs, including the time required for closure. The report identified concerns with closure of a SCAR with only a supplier commitment to accomplish the action, SCAR closure while corrective action did not address the deficiency, and SCAR closure with incomplete corrective action. However, a PIER was not initiated to investigate these concerns. Based on evaluation of the assessment report documentation, this appears to be a case where an opportunity for improvement (i.e., training auditors in proper SCAR closure techniques) was missed.

During discussion with the Assessor and the Assessor’s supervisor the ORP Assessment Team determined that the assessment report did not correctly characterize the findings. BNI reported that the SCARs were administratively closed because either the organization or the suppliers were no longer active at the WTP and it was determined that

there was no impact due to closure of the SCARs. The additional explanation and basis for the SCAR closure should have been included in the assessment report and documented in the Suppliers' records to clarify the comments related to SCAR closure. This additional information may be useful the next time the vendor is evaluated for placement on the Qualified Supplier List.

**A-07-ESQ-RPPWTP-009-007: BNI did not evaluate issues documented as CDR within the Commercial Material (CM) subset of nuclear items and activities for Price-Anderson Amendments Act (PAAA) application.**

The Team identified during discussions with PAAA that all CDRs were screened out during PAAA screening and were not evaluated by PAAA for rule applicability because of their classification as CM. By not determining if a potential issue was noncompliant, BNI was not able to demonstrate that it had established procedures that detected and prevented quality problems for CDRs that were potentially noncompliant to the QA Rule.

The Assessment Team notes that the basis for the above lack of evaluation is that BNI has two separate documentation systems for potential deficiencies regarding non-conformances for nuclear items and activities. These are NCRs and CDRs. The difference between the two systems is whether or not an item or activity is Safety Class/Safety Significant.

The Assessment Team recognizes that reporting QA Rule noncompliances to DOE is voluntary with the provision that self-reporting can result in partial mitigation of any monetary penalty that might be imposed if reported in a timely manner. The Team also recognizes that timely and effective corrective actions can result in an additional partial mitigation of any monetary penalty. However, by not evaluating an issue for potential noncompliance, BNI is not able to demonstrate that the requirements of the WTP contract and QA Rule have been met and where not met, timely and effective corrective actions in accordance with the QA Rule have been established. In addition to being noncompliant with the QA Rule, BNI could lose the opportunity for any potential mitigation on regulatory based issues subsequently identified by DOE in this area.

10 CFR 820, Appendix A, "General Statement of Enforcement Policy," Section II. Purpose states, "The purpose of the DOE enforcement program is to promote and protect the radiological health and safety of the public and workers at DOE facilities by:

- a. Ensuring compliance by DOE contractors with applicable DOE Nuclear Safety Requirements.
- b. Providing positive incentives for a DOE contractor's:
  1. Timely self-identification of nuclear safety deficiencies
  2. Prompt and complete reporting of such deficiencies to DOE

3. Root cause analyses of nuclear safety deficiencies
  4. Prompt correction of nuclear safety deficiencies in a manner which precludes recurrence
  5. Identification of modifications in practices or facilities that can improve public or worker radiological health and safety
- c. Deterring future violations of DOE requirements by a DOE contractor.
  - d. Encouraging the continuous overall improvement of operations at DOE nuclear facilities.

Appendix A, Section VI, "Severity of Violations," (f) states, "DOE expects contractors to provide full, complete, timely, and accurate information and reports ... A contractor will not normally be cited for a failure to report a condition or event unless the contractor was actually aware, or should have been aware of the condition or event which it failed to report." By screening out the CDRs for further evaluation, BNI may not be able to demonstrate that they were not aware or should have been aware of an event which it failed to report.

Appendix A, Section IX, "Enforcement Actions," 5. "Self-Identification and Tracking Systems," Paragraph b, States in part, "Self-identification of a noncompliance is possibly the single most important factor in considering a reduction in the civil penalty amount ..." Paragraph c, states in part, "For noncompliances that are below the reportability thresholds, DOE will credit contractor self-tracking as representing self-reporting. By not evaluating for potential PAAA applicability, BNI can not demonstrate self-tracking of non-compliances.