



U.S. Department of Energy
Office of River Protection

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

SEP 17 2012

12-WTP-0291

Mr. Frank Russo, Project Director
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Dear Mr. Russo:

CONTRACT NO. DE-AC27-01RV14136 – AWARD FEE DETERMINATION FOR PERIOD
2012-A

- References: 1. Contract No. DE-AC27-01RV14136 – Section B.7 Award Fee Administration.
2. Performance Evaluation and Measurement Plan (PEMP) for Award Fee Period
2012-A, Revision 2.

In accordance with Reference 1, under the subject Contract for Award Fee Period 2012-A,
covering January 1, 2012 through June 30, 2012, the U.S. Department of Energy (DOE), Office
of River Protection (ORP), determined your Award Fee as follows:

Incentive B.1 – Award Fee-Project Management

Total Available Fee	\$3,150,000
Award Fee Rating (Numerical)	49.9
Total B.1 Award Fee for 2012-A	<u>\$1,571,850</u>

Incentive B.2 – Award Fee-Cost

Total Available Fee	\$3,150,000
Award Fee Rating (Numerical)	49.2
Total B.2 Award Fee for 2012-A	<u>\$1,549,800</u>

<u>Total Award Fee – Period 2012-A</u>	<u>\$3,121,650</u>
	49.6%*

* Figure reflects minor rounding.

In making this determination, I fully considered your Self-Assessment and the attached
Executive Summary. In addition, I utilized my own independent judgment and evaluation based
on my own personal knowledge of your Contract performance.

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My fee determination fully adopts the Performance Evaluation Board's (PEB) recommendations as outlined in the attached Executive Summary. The PEB's evaluation fully complied with the Reference 2 PEMP and gave due consideration to your Self-Assessment.

During this fee evaluation period, Bechtel National, Inc. (BNI) continued its strong performance in Safety and Health, and took positive steps in Nuclear Safety and Quality Culture performance. However, ORP noted significant performance declines in Engineering Technical Performance, Quality Management, Contract and Business System Management, and Procurement Technical Performance, compared with the 2011-B rating period. ORP is particularly concerned with BNI's Engineering Technical Performance, which ORP rated at 5 on a scale of 0 to 100. While the numerical rating for Engineering Technical Performance equates to an adjectival rating of "Satisfactory" (per the definition in the Federal Acquisition Regulation), ORP's numerical rating reflects the severity of the issues identified by ORP, and BNI's less than adequate responses to the Level 1 Findings and Systemic Integrated Management Performance concern.

In B.2 Cost, BNI effectively adjusted to project funding reductions. However, in cost and schedule performance, ORP noted weaknesses in completing tasks on schedule, some craft performance, and plant equipment deliveries. Also, BNI's management reserve declined by \$39 million. In Risk Management, while BNI improved risk processes, no new opportunities were added and the percentage of risk mitigating actions completed was still short of the 90% goal.

ORP's adjectival ratings and BNI's Self-Assessment adjectival ratings diverge in some of the areas noted above. In B.1 Project Management, ORP's ratings are one adjectival rating lower than BNI's Self-Assessment in the following areas: Contract and Business System Management, Procurement, Quality Management, Startup and Commissioning, Nuclear Safety, and Nuclear Safety and Quality Culture. In B.2 Cost, ORP's overall "Satisfactory" rating is two adjectival ratings lower than BNI's Self-Assessment rating of "Very Good".

ORP acknowledges BNI's Self-Assessment Opportunities for Improvement. The PEB has summarized BNI's evaluated strengths and weaknesses in the attached Executive Summary. Identification of strengths and weaknesses forms a basis for continuous performance improvement and will maximize the mutual benefits of the award fee process.

In closing, I would like to thank your staff, all of whom worked with their ORP counterpart to ensure that all available performance information was readily shared and that the process was equitable.

Mr. Frank Russo
12-WTP-0291

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If you have any questions, please contact me, (509) 376-8830.

Sincerely,



Scott L. Samuelson, Manager
Office of River Protection
Fee Determination Official

AMD:GFC
Attachment

Attachment
to
12-WTP-0291

Fee Determination Official – Executive Summary
WTP Award Fee Period 2012-A

(Total number of pages, including coversheet 18)

**FEE DETERMINATION OFFICIAL - EXECUTIVE SUMMARY –
WTP AWARD FEE PERIOD 2012-A**

WTP Contract No. DE-AC27-01RV14136 Award Fee Summary - Period 2012-A

Award Fee Incentive		Total Fee Available	Bechtel National, Inc.		Department of Energy		
			Adjectival Rating	Num. Rating	Adjectival Rating	Num. Rating	Fee Determination
B.1 Proj. Mgmt.		\$3,150,000	N/A	N/A	Satisfactory	49.9	\$ 1,571,850
B.2 Cost		\$3,150,000	Very Good	76-90	Satisfactory	49.2	\$ 1,549,800
Total		\$6,300,000			Satisfactory	49.6	\$ 3,121,650

Background. Beginning with Modification No. A143 on January 16, 2009, the total available fee under the Contract includes an Award Fee component. The Award Fee periods are six-months each from CY 2009-2019 (the first period is five months only – Feb 2009 to Jun 2009). Approximately \$6.6M of Award Fee was available in periods 2009-A and 2009-B, and \$6,300,000 is available for each of the remaining periods. The Award Fee component contains no base fee, i.e., all fee is at risk.

Performance Period. The current Award Fee period (2012-A) covers January 1, 2012 to June 30, 2012. *Performance and events subsequent to June 30, 2012 will be evaluated in Period 2012-B.* Award Fee is administered as set forth in the Performance Evaluation and Measurement Plan (PEMP). The PEMP establishes performance objectives, elements, and measures; and describes the evaluation methods and processes used to evaluate performance and determine fee earnings.

Objective. Award Fee targets specific acquisition objectives by motivating contractor performance not otherwise emphasized by other incentives; and to promote contractor efficiency and effectiveness. The award fee amount earned is determined by the Government’s judgmental evaluation of the contractor’s performance in terms of the criteria stated in the PEMP. Determining the award fee is a **unilateral decision** solely at the discretion of the Government. The Manager, Office of River Protection, is the Fee Determination Official.

Award Fee Specifics. The Award Fee has two top-level Performance Objectives – B.1 Project Management and B.2 Cost. B.1 Project Management targets performance elements related to contract and business system management, construction and procurement technical performance, safety and health, quality management, engineering technical performance, startup and commissioning technical performance, nuclear safety technical performance, and nuclear safety and quality culture. B.2 Cost evaluates the Government’s confidence the Contract will be completed at or below the Total Estimated Contract Cost (TECC), and provides the cost incentive/constraint required for a multiple incentive contract per Federal Acquisition Regulation (FAR) 16.402-4(b). It focuses on evaluating the interrelated components of cost performance, schedule performance (to the extent it will affect cost), management reserve, variance analysis,

estimate at completion (EAC), and risk management. This attachment to ORP Letter 12-WTP-0291 summarizes the basis for the Fee Determination Official's (FDO) fee determination for Period 2012-A.

FDO Fee Determination for Performance Objective B.1 – Award Fee Project Management Period 2012-A

PEMP Table B.1.B - Award Fee - Project Management Incentive Ratings

Performance Elements:	Available	Bechtel National, Inc.			Dept. of Energy		
	Wtg	Adjectival Rating	Num Rtg	Wgtd Sum	Adjectival Rating	Num Rtg	Wgtd Sum
B.1.1 Contract&BusSystems;Constr;Procurement	10%	Good	51-75	*	Good	64.0	6.4%
B.1.2 Safety & Health Performance	5%	Very Good	76-90	*	Very Good	85.0	4.3%
B.1.3 Quality Management	5%	Good	51-75	*	Satisfactory	50.0	2.5%
B.1.4 Engineering Technical Performance	20%	Satisfactory	01-50	*	Satisfactory	5.0	1.0%
B.1.5 Startup & Commissioning Technical Perf.	15%	Excellent	91-100	*	Good	70.0	10.5%
B.1.6 Nuclear Safety Technical Performance	20%	Good	51-75	*	Satisfactory	45.0	9.0%
B.1.7 Nuclear Safety & Quality Culture	25%	Very Good	76-90	*	Good	65.0	16.3%
Total	100%	Not Provided	N/A	*	Satisfactory		49.9%
Total Available Fee	<u>\$ 3,150,000</u>						
Total Earned Fee - B.1 PM Fee Determination	<u>\$ 1,571,850</u>						

* BNI's Self-Assessment did not provide specific numerical ratings

DOE rated BNI's overall project management performance at 49.9%, which equates to a "Satisfactory" rating in Table B.1.A of the 2012-A PEMP and Subpart 16.4 of the FAR. BNI's Self-Assessment did not provide an overall rating for this Performance Objective.

B.1.1 Contract and Business System Management, Construction, Procurement

The ratings for each of the three Performance Measures in this Performance Element were as follows:

- B.1.1.1 Contract and Business System Management – Satisfactory (50)
- B.1.1.2 Construction Technical Performance – Very Good (81)
- B.1.1.3 Procurement Technical Performance – Good (60)

B.1.1.1 Contract and Business System Management

BNI has been effective in documenting procurement and subcontract files, and complying with its B-Card procedures. However, DOE noted numerous weaknesses in the Contract Change Proposal (CCP) process, and a lack of timely submittal of payroll records.

CCP Process: BNI struggled to develop and submit adequate CCPs with the initial submittals and by the required due dates. In addition, BNI continued to have difficulty executing Certificates of Current Cost or Price Data in a timely fashion. Also, BNI did not provide timely responses to data requests. BNI's integration and cooperative behavior decreased from previous periods and most specifically was demonstrated by its overall lack of communication, lack of timely and proactive communication, and untimely submittal of data.

Strengths (B.1.1.1):

- 54 of 57 (94.7%) of the procurement/subcontract files reviewed by DOE contained no discrepancies.
- Of 1308 B-Card transactions reviewed, DOE found only one discrepancy.
- In January 2012, BNI implemented a process to provide email notification to DOE whenever there are changes in BNI's procurement and subcontract procedures. The process has been working efficiently and effectively by providing timely notification and a brief description of each change in the notification.

Weaknesses (B.1.1.1):

- Request for Equitable Adjustment (REA) 2011-009 (LSIT Phase II): The initial proposal did not contain adequate cost data and DOE discovered data inaccuracies. BNI was slow to address DOE's issues with regard to the cost proposal. The same inadequacy noted in the 2020 Vision One System proposal existed for REA 2011-009, and subsequently BNI supplemented the proposal with an updated table which corrected the inadequacy. The proposal was not rejected, but a notice of inadequacy was forwarded to BNI.
- REA 2011-001 (CNP/CXP Capital Installation): BNI did not provide DOE-requested additional narrative information to support the proposed Management Judgment for approximately one month, impacting timely negotiations. Upon completion of negotiations, BNI informed DOE that it would not be able to certify its proposal until October 2012, four months after negotiations.
- Spec 2, ILAW Product: DOE did not receive BNI's proposal established in the Request for Proposal letter, and BNI didn't request an extension of the due date. Subsequently, BNI requested an extension of 90 days after completion of its review of Interface Control Document 15.

- REA 2011-003 (Multiple ORR) and REA 2010-021 (CXP/CNP Design): DOE's receipt of BNI's Certificate of Current Cost or Pricing Data was more than 30 days from the conclusion of negotiations.
- REA 2011-010 (2020 Vision One System): The Defense Contract Audit Agency (DCAA) determined BNI's REA inadequate. BNI was unable to support its proposed time-phased costs by cost element summary schedules, with cost element breakdown schedules as required by Federal Acquisition Regulation (FAR) Table 15-2, General Instructions, paragraph D. In addition, BNI was unable to demonstrate that proposed direct labor hours could be reconciled to the basis of estimate as required by FAR Table 15-2, 15-2-II, Cost Elements, paragraph B. BNI subsequently supplemented the proposal with an updated table in which the inadequacy was corrected. The proposal was not rejected, but a notice of inadequacy was forwarded to BNI.
- REA 2012-001 (HLW Tie-Ins): The same inadequacy noted in the 2020 Vision One System and LSIT Phase II proposals existed for REA 2012-001, and subsequently BNI supplemented the proposal with an updated table which corrected the inadequacy. The proposal was rejected; however, the deficiency was corrected and BNI resubmitted its proposal.
- Safety Culture Work Environment Change Order: BNI was non-compliant with specific direction in the contract and Contracting Officer (CO) direction to use Change Order Accounting on all Change Orders and perceived changes.
- Lack of Timely Responses: BNI has not provided timely responses to DOE or DCAA. Both organizations established need-by dates for information; however, in multiple instances, BNI has not met these dates, nor has BNI requested an extension or explanation as to why they would not be able to meet the dates or why they did not meet the dates. In addition, questions arose during discussions in which BNI could have been more proactive in obtaining the information to satisfy inquiries and requests. However, BNI did not do so and the CO was required to formally request the information and ultimately, BNI delayed providing the response and did not meet the established response date.
- BNI did not meet the requirement in FAR 52.222-8 to submit Certified Payroll Records to the CO within seven calendar days after the regular payment date of the payroll week covered. During January and February 2012, a random check of 26 submitted payroll records showed that 35% were submitted late. Additionally, BNI did not meet the requirements in FAR 52.222-11 to submit completed Standard Form (SF) 1413s to the CO within 14 days after award. Of the four SF-1413s received in FY 2012, two were late ranging from 10 to 22 days past the required 14 days. BNI's initial corrective action plan submittal (requested by the CO) was inadequate.

B.1.1.2 Construction Technical Performance

From an overall Construction progress consideration, BNI had planned to be 62.5% complete with Construction; actual complete is 62.1%. Consequently, the Construction phase of the

project is 0.4% behind the plan. Some of the performance is explained by the redirection required by the funding constraints and subsequent reductions in force for both craft and field non-manuals. The differential between the planned complete percentages and the actual complete percentages are increasing.

For the six-month PEMP evaluation period, overall WTP Construction planned to achieve 2.8% of progress, but only achieved 2.1%.

BNI's internal target for Lab substantial completion has slipped, although BNI is expected to meet the December 31, 2012 Tri-Party Agreement (TPA) milestone date.

The above trends should not continue after the work plan is realigned with the work force available to perform the work and the available design and materials required to achieve the progress. Unfortunately, performance in some major disciplines has remained below expectations. In particular, piping (average performance factor of 0.64), structural steel (0.85), and electrical bulks (0.89) were all below the 1.0 parity performance factor.

In summary, BNI is handling transition of the PT and HLW facilities fairly effectively, but BNI's performance in Lab, LAW, and BOF (LBL) are below DOE's expectations.

Strengths (B.1.1.2):

- BNI has effectively managed the workload of the re-baseline/re-plan effort, reduction and relocation of craft, and the need to maintain progress to mitigate construction disruption and issues.
- BNI was proactive in reorganizing field forces, reducing rental equipment, subcontracts, and managing materials issues quickly and efficiently to implement staffing and budget reductions.
- BNI was proactive in managing human resources and resultant force reduction due to funding constraints. Sensitivity to personnel issues was emphasized and management by walking around has been a key component.

Weaknesses (B.1.1.2):

- Direct Hire craft performance, especially in piping, but also in electrical bulks is below expectations.
- BNI needs to ensure planning tools are updated in a timely manner to ensure construction performance metrics are as accurate as possible.
- BNI needs to improve communication of working meetings and access to tools to facilitate DOE understanding of re-planning/re-baseline activities and assumptions.

B.1.1.3 Procurement Technical Performance

BNI showed marked improvement in providing oversight to deliver Bulk Material purchases to the project when it's needed.

BNI quickly identified the need for additional storage space to support the PT and HLW slow-down and worked hard to identify a cost efficient solution.

During this period, BNI improved planned versus delivery of LAW and LAB facility piping by 32%. BNI also received over 354 major pieces of plant equipment during this period.

BNI continued to struggle with delivering equipment on schedule and in compliance with specifications. For example, because of issues acquiring LBL controls and instrumentation (C&I) on schedule, BNI put a recovery plan in place. Based on that recovery plan, approximately 2250 C&I instruments were to be delivered by June 2012; only about 1700 were actually delivered. In summary, BNI was unable to deliver LBL C&I on schedule and failed to meet its recovery plan.

DOE is concerned with BNI's quality assurance program. For example, the RLD-VSL-00008 vessel arrived from BNI's vendor with incomplete weld inspections and weld defects.

Strengths (B.1.1.3):

- Due to the slowdown in PT and HLW facility construction, there was a need to find additional storage space for Plant Material and Plant Equipment that will not be installed as planned. BNI recognized this need early and began actively working through the procurement process.
- BNI facilitated resolution of a strained relationship between prime and subcontractors. Issues were resolved to minimize delays in the schedule and impacts to cost.
- HLW steel/pipe/joggles were consistent with weekly schedule goals. HLW is almost bought out on bulk materials, freeing up money for other priorities.
- BNI held vendors accountable by back-charging when appropriate or having vendors provide additional support. BNI has set up weekly calls with underperforming vendors to ensure progress is being made per the contract schedule.
- BNI was proactive in identification and management of vendor re-analysis on the LAW Caustic Scrubber and scheduling negotiations with the vendor on the Thermal Catalytic Oxidizer.

Weaknesses (B.1.1.3):

- BNI's Supplier Quality Inspections pertaining to vessels (e.g. RLD-VSL-008) and BNI's ability to manage the quality of key procurements was inadequate.

- For the HLW Rinse Bogie procurement, equipment had to be shipped piece meal to support the construction schedule, increasing supplier quality travel and shipping costs. The HLW Rinse Bogie arrived 12 months late. Electrical components still remain to be inspected and shipped.
- The HLW Melter Transport Vehicle was delivered late, resulting in a \$2 million schedule variance.
- Actual deliveries of LBL C&I instruments continue to move to the right of forecast delivery dates.
- There are significant required-on-site date disconnects between Teamworks, P6 and the Bechtel Purchasing System.

B.1.2 Safety and Health Performance

DOE's rating was based on BNI sustaining total recordable case (TRC) injury rates near performance objective, measure, and commitment (POMC) goals, implementation of event investigation, and efforts to improve WTP Project safety. The TRC rates for the WTP Project met the POMC goals. The construction site experienced 12 recordable injuries calendar year to date, with a TRC rate slightly above the POMC goals. Event investigation and reporting was timely and the quality of occurrence reports was acceptable. Some improvement items were identified with the event investigation processes. BNI management has performed evaluations of work site conditions and has issued the 2012 Safety Impact Plan with improvement plans and actions.

Strengths (B.1.2.1):

- TRC and days away, restricted, or on the job transfer (DART) rates for the WTP Project met POMC goals.
- The WTP Project has reached over 12 million hours without a days-away-from-work case.
- There have been no worker exposures above applicable limits in 2012.
- In February 2012, WTP received the Safe-in-Sound Excellence in Hearing Loss Prevention award from the National Institute for Occupational Safety and Health and the National Hearing Conservation Association for its hearing conservation program.
- BNI issued a pocket guide titled "WTP Construction Toolbox" to help bridge the gap between training, procedures and implementation.

Weaknesses (B.1.2.1):

- The Occupational Safety and Health Administration recordable injury rates for the WTP Project and construction site did not meet the annual POMC goals. BNI proactively took various actions to curb the degradation of these safety measures.

- Event Investigation analysis and corrective action implementation needs improvement.
- An event investigation utilizing the critique process was not completed for three DOE events (12-002, 004 and 010). The event descriptions included: frequency control box installed to temporary panel without guarded terminals; diaphragm valve actuator housing cracked while performing maintenance; and work released to perform work on rollup door disconnect without the correct lock-out tag-out controls. These events each appear to have resulted from multiple failures in the work control process. The event investigation and cause analysis process would have benefitted from using the critique process.
- Corrective actions were found by DOE as not effectively completed for one significant occurrence - *An In-Process Weld Failure Results in a 558 Pound Girt to Fall 62 Feet to the Ground.*

B.1.3 Quality Management

BNI's quality assurance (QA) program reflects an overall negative trend during the past six months. This negative trend is reflected in key areas of BNI's QA program. During the past six months, BNI's records indicate that their QA program areas have fluctuated, both increasing and decreasing in effectiveness. However, more of BNI's QA program areas have shown significant weaknesses in effectiveness versus positive trends. Although BNI has self-identified issues, DOE has identified major issues prior to BNI's oversight identifying and addressing issues. BNI QA has not consistently implemented a proactive QA philosophy, resulting in DOE's identification of major issues. This has contributed to a decrease in the overall effectiveness of BNI's QA program. At the end of the PEMP evaluation period, BNI's QA program areas reflecting the greatest weakness/decline in overall effectiveness were Quality Improvement, Design, Management Assessment, and Independent Assessments. The quality metric areas reflecting the greatest weakness/decline in overall effectiveness were M5 (issues related to training), M9 (related to timely resolution of issues), P9 (issues related to software program compliance; acquiring, developing, testing, and controlling software), and A1&A2 (related to the number of project issues evaluation reporting (PIERs) per assessment). Currently, BNI's Quality Management System report reflects a reduction in BNI's overall QA effectiveness since January 2012. This rating decrease is due to issues identified by both DOE and BNI.

Strengths (B.1.3.1):

- Three QA Program elements showed slight increases in effectiveness: Personnel Training and Qualification; Documents and Records; and Inspection and Acceptance Testing.
- Three Metric Elements (specific areas being tracked for improvement) showed moderate increases in effectiveness: M1 (Work Planning/Work Processes); M8 (WTP Find/Correct Issues); and M12 (Document Effectiveness).

Weaknesses (B.1.3.1):

- Four Program QA elements showed a decrease in effectiveness: Quality Improvement; Design; Management Assessment; and Independent Assessment.
- Metric Areas (specific areas being tracked for improvement): Four metric areas showed a significant decrease in effectiveness: M5 (Training Issues); M9 (Timely Resolution of Issues); P9 (Software Program Compliance); and A1&A2 (Number of PIERs per Assessment).

B.1.4 Engineering Technical Performance

During this performance evaluation period, BNI's engineering technical performance declined. Specific weaknesses that showed a continued decline in performance were the ability to overcome technical problems, development of corrective action plans including extent of condition reviews, and resolution of customer comments.

DOE identified nine weaknesses and four strengths. The most significant issues identified by DOE during this period were the Systemic Integrated Management Performance concern and the Level 1 Finding for a lack of a Design and Safety Management program. Per DOE's request, BNI provided a draft response and briefings to DOE in June on BNI's causal analysis and corrective action plans. The briefings and responses to the Level 1 Findings on Erosion/Corrosion (previously identified and transmitted to BNI) and Margin Management, and the Systemic Integrated Management Performance concern did not meet DOE expectations for what the project and BNI specifically need to adequately address the performance problems. The causal analyses did not result in root causes or sufficient recommendations needed to fully address the issues leading to the findings.

DOE has observed positive areas of performance during this monitoring period. Specifically, the Vessel Completion Team (VCT), has maintained good communications with its DOE counterparts, and both are working together to resolve the issues for design verification on both Newtonian and non-Newtonian vessels. DOE has also observed prompt turnaround times on requests for information for public meetings and various external review teams.

Overall, DOE finds BNI's technical performance during this period at the low end of "satisfactory" based on the potential risk to the project, the severity of the issues identified, and BNI's less than adequate responses to the Level 1 Findings and Systemic Integrated Management Performance concern. BNI has acknowledged that significant issues exist for which causes and detailed corrective actions must be developed moving forward.

Strengths (B.1.4.1):

- BNI has aligned engineering activities with re-baseline efforts.
- BNI has provided Technical Issue Sheets to DOE with sufficient time to support review and concurrence.

- There has been effective communication between the BNI VCT and DOE.
- BNI has effectively responded to urgent requests for information.

Weaknesses (B.1.4.1):

- There has been a lack of resolution of major technical issues needed for project progression.
- BNI has not adequately met dates for Technical Issue Sheet actions.
- BNI has not adequately self-identified inherent technical issues.
- BNI has not developed corrective action plans for significant issues in a timely manner.
- BNI has not adequately resolved issues once identified, including conducting extent of condition reviews.
- The VCT has not adequately developed quality documents (e.g. prevention of re-work through first time quality).
- BNI has not adequately coordinated engineering resources for meetings with external stakeholders.
- BNI has not adequately communicated with the DOE on urgent document reviews.
- BNI has not applied lessons learned to preparation of engineering issue resolution plans.

B.1.5 Startup and Commissioning Technical Performance

Startup: BNI developed and maintained Level 5 schedules to allow planning turnover and testing activities. Development of these schedules has led to identification of interferences among activities. The interferences were not acted upon in a timely manner to prevent impact to the testing schedule (Distributed Control System for BOF).

A certification and qualification program was developed for Levels I, II, and III Startup Testing Personnel. Existing Startup Test Engineers were qualified.

Generic test procedures supporting testing of systems to be turned over in Building 87 (Switchgear building) were prepared and datasheet development was begun to support the three week turnover walk down of each system. Preparation of test procedures for Building 87 systems was started.

BNI issued the Startup Plan document following review and resolution of DOE comments.

BNI completed a Teamworks coding process allowing cross-walk and tracking of required tests against components. BNI expanded the tool to make System Descriptions, subcontract numbers, and other additional information accessible from Teamworks/Setroute. BNI committed to prepare test indices for approval by the Joint Test Group.

Turnover planning and preparation continued and included walk downs, work-to-go lists, punchlists and plan-of-the-day meetings and compilation of a test index. However, reliance on deliverables being completed just prior to their need-by dates created unnecessary risk, both for BNI and for DOE.

Integration: The One System Integrated Project Team was launched, began the process of defining its scope, and significantly enhanced communications between BNI and the Tank Farms Operating Contractor (TOC). The team was effective in coordinating BNI and TOC efforts to address technical issues, for example, by holding an Options workshop. However, the team struggled to complete self-assigned actions in a timely manner and was hampered by a scope definition that was not fully mature.

The Interface Management Program was revitalized and its effectiveness significantly increased compared to CY2011. It completed most interface control document (ICD) revisions on time and with adequate quality and completeness to serve project needs at this stage.

To support the WTP waste qualification program, BNI collaborated with subject matter experts at Savannah River National Laboratory to select appropriate analytical methodologies or approaches.

Of the four open items related to determination of the waste acceptance criteria data quality objectives (WAC DQO) that BNI targeted for closure during the evaluation period, only one was successfully closed. Because several remaining open items had open-ended closure dates, it's unclear when BNI will be able to issue a WAC DQO of sufficient quality and completeness to support operations.

Strengths (B.1.5.1):

- BNI completed a Teamworks coding process, allowing cross-walk and tracking of required tests against components. BNI expanded the tool to make System Descriptions, subcontract numbers, and other additional information accessible from Teamworks/Setroute. Teamworks coding exceeded DOE's expectations.
- The One System IPT was chartered and commenced formal meetings, providing a forum for resolution of technical and interface issues that crosscut the TOC and WTP organizations. Communications were enhanced by improvements in mutual access to email directories and technical documents.

- The One System Risk Management Team kicked off, and a charter was drafted and issued. Decisions were made on how to define, populate, and develop the One System risk register to support collaborative management of risks of mutual concern.
- The interface management program was revitalized after an extended period of inactivity. BNI undertook a joint commitment with the TOC to update all ICDs except ICD-19 (which is dependent on completion of testing) by the end of calendar year 2012. Six ICDs were updated and judged by DOE to have the quality and completeness required by the WTP Project at this stage. Communication between ICD partners improved significantly.
- Meetings were initiated by BNI in which selected commissioning and integration topics were presented to DOE personnel and discussed, enhancing communications and providing an opportunity for joint brainstorming.
- A collaborative effort between BNI and TOC identified an alternative method using olivine to cut risers into waste tank domes for introduction of new retrieval technologies while lessening the risk of erosion within WTP vessels.
- Joint BNI/TOC workshops were held in which draft replacement text was developed for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2010-2 Implementation Plan. BNI Environmental and Nuclear Safety (ENS) and VCT representatives participated to support integration of large scale integrated testing with Documented Safety Analysis development.

Weaknesses (B.1.5.1):

- Reliance on deliverables being completed just prior to their need-by dates created unnecessary risk.
- Interfering activities that may impact BNI's ability to complete testing as scheduled were recognized by BNI Startup personnel early enough for mitigating actions to be taken, but the timeliness of BNI Project Management mitigating actions was a concern and late action may result in testing delays.
- A number of integration activities and actions are being managed by informal means such as spreadsheets rather than formal action tracking systems. Such methods are cumbersome, not continuously accessible, do not support configuration control, and make it difficult to track the history of any particular issue.
- The One System Integrated Project Team (IPT) struggled to complete self-assigned actions by their original forecast dates. Examples include the One System Project Execution Plan, Labor Services Agreement, and Communications Plan. The IPT was hampered by an immature and evolving definition of its scope and by numerous legal reviews required before documents could be issued.

- Large Scale Integrated Testing milestones defined in the original Implementation Plan for DNFSB Recommendation 2010-2 were not logically tied to the schedule for Documented Safety Analysis (DSA) development, reducing confidence that the testing program can support timely decision-making on the safety strategy for controlling vessel mixing.
- BNI failed to meet its own target dates for closure of three WAC DQO open items. One item was expected to close on June 30, 2012 but slipped, and two more were pushed out to beyond January 1, 2013.

B.1.6 Nuclear Safety Technical Performance

The overall rating reflects ongoing challenges that are being worked to address the integration of nuclear safety into the WTP design, needed improvements in Engineering interfaces, and progress being made on a broad range of technical integration issues that remain to be resolved in order to achieve WTP operations supported by DOE-approved DSA. Routine activities, to include submissions of Level 1 Safety Evaluation Screenings, as well as routine correspondence and comment resolutions on Justifications for Continued Design, Procurement, and Installation; and Authorization Basis Amendment Requests, have met expectations.

Strengths (B.1.6.1):

- Ongoing efforts by ENS to achieve implementation of the BNI-defined “*Licensing Strategy*”, is recognized as a positive.
- Completion and implementation of Hazards Analysis procedures and training is recognized as a positive.

Weaknesses (B.1.6.1):

- The identification of a need to “reconstitute” the hazards analyses for WTP facilities is a notable weakness that must be addressed and incorporated into the efforts to sustain “to go” work on the project. An integrated, resource loaded schedule (or integrated with other organization schedules) has yet to be presented after almost a year following the DOE Shared Services surveillance (1.90H/HH WBS element). The lack of a schedule that is aligned with the agreed-to “flow diagrams” supporting the DOE Safety Basis Review Team activities continues to be an incomplete activity, and is impacting the ability for DOE oversight resource planning.
- The delay in approving related changes (to achieve implementation of the BNI defined “Licensing Strategy” and Contract Standard 9 update) in procedures and processes supporting the strategy was another notable weakness.
- A Safety Basis Configuration Management procedure (Unreviewed Safety Question “like” process) has yet to be finalized, and as such, it is unclear how BNI ENS will maintain alignment of the “reconstituted” preliminary DSAs, or newly developed DSA’s subsequent to DOE approval.

- Lack of technical bases for aspects of the WTP design indicate a low confidence that safety structures, systems, and components can reliably perform their intended safety function, based on poor functional requirements flow-down through the Design Criteria Database, or as defined in the preliminary DSA.

B.1.7 Nuclear Safety and Quality Culture

Action Plan to Strengthen the Nuclear Safety and Quality Culture (NSQC): On January 13, 2012 the DOE Office of Health, Safety, and Security (HSS) transmitted the final Independent Oversight Assessment of Nuclear Safety Concerns at the Hanford Site Waste Treatment and Immobilization Plant (HSS Safety Culture Report). On February 22, 2012 DOE formally directed BNI to amend the NSQC Plan to include responses to the HSS Safety Culture Report and BNI's Independent Safety and Quality Culture Assessment Team report. The plan was delivered to DOE in final form on May 14, 2012, 24 days beyond the revised due date. However, due to the high quality and completeness of the documents, and effective coordination throughout the development process, DOE approved the plan on May 16, 2012.

Develop tools to assess progress in improving NSQC and determining the need for adjustments: Initial tools have been developed and are being used. The longer term impact and effectiveness of these tools and their maintenance is to be determined.

Corrective Action Management (CAM): Significant concerns remain with the BNI corrective management system and its effectiveness. Casual analysis and other evaluation tools continue to identify CAM as a contributor of many findings and observations. The action plan to strengthen the project NSQC was a very good example of casual analysis and corrective action development. However, DOE has not seen similar improvements in the responses to DOE findings and observations. Significant improvement is needed in this area as a fundamental element of overall improvements needed to successfully complete the project. This need is recognized in the NSQC corrective action plan.

Employee Concerns Program (ECP): BNI has an active ECP. Corrective action C-3 is due by the end of the year to benchmark the ECP against DOE and commercial nuclear programs; revise the process and metrics to align with best practices; educate managers and supervisors on the program and their appropriate roles; and, strengthen communication of ECP to the workforce.

Differing Professional Opinion (DPO): BNI has procedures for DPOs. Corrective action C-1 is due by the end of the year and includes revision of procedures to reflect current best practices, lessons learned from recently completed DPOs, and input from the HSS report. In addition, the actions are designed to effectively communicate the changes, their purposes, and how DPOs fit in the issue resolution process.

Safety Conscious Work Environment (SCWE): BNI conducted NSQC training delivered by the Project Director and rolled out through the BNI management team, which helped emphasize the importance placed by the management team. In addition, BNI completed training in SCWE to over 300 managers and supervisors, using personnel with extensive nuclear industry experience.

Strengths (B.1.7.1):

- Although submitted subsequent to the revised due date, BNI's NSQC plan was complete and of high quality.
- BNI effectively conducted NSQC training; and completed training in SCWE to over 300 managers and supervisors, using personnel with extensive nuclear industry experience.

Weaknesses (B.1.7.1):

- Significant concerns remain with BNI's CAM system and its effectiveness. Significant improvement is needed in this area as a fundamental element of overall improvements needed to successfully complete the project. This need is recognized in the NSQC corrective action plan.
- Continued improvement in coordination between Engineering and Nuclear Safety organizational elements is required for BNI to fundamentally improve.

FDO Fee Determination for Performance Objective B.2 – Award Fee Cost Period 2012-A

PEMP Table B.2.B - Award Fee - Cost Incentive Ratings

	Available	Bechtel National, Inc.			Dept. of Energy		
	Wtg	Adjectival Rating	Num Rtg	Wgtd Sum	Adjectival Rating	Num Rtg	Wgtd Sum
Performance Elements:							
B.2.1.1 Eng., Construct., Plant Mtl./Equip. C&S Perf.	60%	Very Good	76-90	*	Good	58.0	34.8%
B.2.1.2 Management Reserve, Variances, EAC	20%	Very Good	76-90	*	Satisfactory	20.0	4.0%
B.2.1.3 Risk	20%	Good	51-75	*	Good	52.0	10.4%
Total	100%	Very Good	76-90	*	Satisfactory	49.2	49.2%
Total Available Fee	<u>\$ 3,150,000</u>						
Total Earned Fee - B.2 Cost Fee Determination					<u>\$ 1,549,800</u>		

* BNI's Self-Assessment did not provide specific numerical ratings

B.2.1.1 Engineering, Construction, Plant Material & Plant Equipment Cost & Schedule Performance

Construction performance was especially favorable, while Engineering performance was less than expected. Performance was impacted by factors beyond BNI's control, including a DOE-directed partial suspension of Earned Value Management System (EVMS) processes, and FY

2012 funding reductions. BNI did well in working through these difficulties. DOE's rating took these factors into consideration.

Strengths (B.2.1.1):

- BNI adjusted expeditiously and efficiently to Construction funding reductions.
- BNI is making a good effort to update engineering and facility commodity quantity development packages under the re-baselining effort.
- BNI adjusted well to changing conditions.

Weaknesses (B.2.1.1):

- BNI frequently failed to complete Engineering and Construction tasks on schedule.
- Some craft performance (such as piping) continues to be well below standards.
- BNI's Plant Equipment delivery forecasts were frequently missed.
- BNI has not resolved procurement issues, such as schedule integrity, timely document and calculation reviews, and disconnects between data systems.

B.2.1.2 Management Reserve, Variances, and Estimate at Completion (EAC)

BNI began the evaluation period with a remaining Management Reserve (MR) balance of \$90 million. During the six months of the PEMP evaluation period, BNI used MR at an accelerated rate, ending the period with an MR balance of \$51 million. The EAC also increased by \$75 million during the period. Observations and findings documented through the DOE surveillance process during this PEMP period demonstrate the contractor's failure to establish and maintain a comprehensive and integrated cost and schedule performance baseline. This lack of integrated planning has resulted in an ongoing and excessive drain on management reserve. Prior to the suspension of earned value management system (EVMS) reporting for the Pretreatment and High-Level Waste facilities due to the project re-baseline, it was noted that a majority of the corrective actions associated with unfavorable baseline variance conditions indicate that variances are either: 1) unrecoverable; 2) no action is identified, or; 3) the development of trends and implementation of baseline changes are used to resolve variant conditions. Overuse of management reserve to resolve variant performance issues has resulted in an over-emphasis on baseline re-planning, rather than implementing corrective actions to address cost and schedule performance issues. In many cases these unfavorable trends have been captured in the risk management program, rather than incorporating impacts into the performance baseline which results in an inadequate estimate-at-complete (EAC) for total project cost. Additionally, the contractor's failure to assess the extent of conditions when variant conditions surface, has resulted in an under-reported project EAC. Resolving variant conditions through the overuse of management reserve skews project performance metrics and is inconsistent with the intent of an EVM system. The WTP Project would be better served if the effort spent on continual revisions

to the performance measurement baseline were redirected toward implementing corrective actions focused on maintaining baseline cost and schedule objectives.

Strengths (B.2.1.2):

None noted.

Weaknesses (B.2.1.2):

- BNI frequently did not complete tasks within budgeted amounts.
- BNI did not have any “give back” Baseline Change Proposals to replenish management reserve during the period.

B.2.1.3 Risk Management

During the 2012 WTP re-baselining process, DOE directed BNI to suspend selected EVMS reporting and analysis requirements for the PT and HLW Facilities, and for most of Shared Services. Also, during this PEMP evaluation period, the risk program was partially suspended, with all risk being reevaluated. To the extent that risk data was not available, DOE relied on other objective and/or subjective performance elements to evaluate BNI’s performance. The disposition and reevaluation of each risk was tracked using the Disposition Matrix and the transition work plan. DOE’s evaluation also factored in the effects of FY 2012 changes in schedule and funding.

Strengths (B.2.1.3):

- BNI developed and issued the first One System Risk Management Team charter, conducted the first three meetings, and issued the initial risk register in order to enhance risk-related communication between projects.
- BNI migrated the WTP Risk Database from MS Access to Oracle Tables, streamlining the DOE risk update process.
- BNI used a newly developed transition work plan and disposition matrix to track re-baseline/re-plan progress.

Weaknesses (B.2.1.3):

- No new opportunities were added.
- BNI improved from 57% to 75% of risk mitigating actions completed or forecast on schedule. The negative trend improved but still fell short of the goal of 90% completed or forecast on schedule.

The information above provides opportunities for improved performance and higher award fee ratings. Also, DOE acknowledges the opportunities for improvement identified in the BNI Self-Assessment and encourages BNI to pursue these opportunities where prudent.