



Department of Energy

Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

June 26, 2000

Mr. Bernie Meyers
President and General Manager
Bechtel BWXT Idaho, LLC
P. O. Box 1625, MS 3898
Idaho Falls, ID 83415

SUBJECT: Performance Evaluation and Fee Determination for the Period October 1, 1999, through March 31, 2000, Contract Number DE-AC07-99ID13727 (CF&AO-PSD-RJH-00-020)

Dear Mr. Meyers:

We have performed a careful analysis of your performance for the period October 1, 1999, through March 31, 2000, in accordance with the Performance Evaluation Measurement Plan for this period. The results of our evaluation are contained in the enclosed report.

Of the total amount of \$9,500,000 available for this period \$2,595,400 has been allocated to performance based incentives. Evaluation of your performance on these incentives will be performed at the conclusion of the fiscal year. This leaves a total amount of \$6,904,600 available to be earned at this time.

After carefully considering the information in the report, I have determined that your overall performance rating for this period is an "exceeds" and has earned \$6,255,568 or 90.6% of the \$6,904,600 available fee.

BBWI is authorized to receive a fee payment of \$6,255,568 less the total monthly draw down amount received during this period in accordance with clause I.27 (a) of our contract. In addition, you are authorized to receive six days of interest in the amount of \$10,412.

Sincerely,

A handwritten signature in cursive script that reads "Beverly A. Cook".

Beverly A. Cook
Manager

Enclosure

**Performance Evaluation Report
Bechtel BWXT Idaho, LLC (BBWI)
Contract No. DE-AC07-9ID13727
October 1, 1999, through March 31, 2000**

BACKGROUND

As part of the business strategy developed by DOE prior to solicitation of offerors for management and operation of the INEEL, it was determined that the first six months of contract performance, by the new contractor, would be comprised primarily of award fee with continuation of some currently existing performance based incentives (PBI). Consistent with this strategy the first six months of performance would be focused primarily on ensuring that the contractor positioned itself for excellent performance for, potentially, a ten-year contract. It was anticipated that establishment of necessary management systems and agreement with DOE on critical outcomes for the coming performance period(s) would be key to successful performance.

It should be noted that this contract was the first DOE M&O contract that contained all of Department's contract reform clauses. Because of the focus on award fee it was determined that the first six month period would have a lower available fee pool than would be expected in subsequent periods when a greater amount of objective performance measures and performance based incentives would be in place. The total available fee pool for the period October 1, 1999 through March 31, 2000 was established at \$10M.

BBWI, the contractor selected for award, proposed a "fee discount" of five percent which reduced the available fee pool to \$9.5M. Of this amount \$2.6M was allocated to the carryover PBIs leaving \$6.9M allocated to award fee for the first six months of performance. This report addresses the performance associated with that \$6.9M. It is noteworthy that \$6.9M is less than half the amount made available to the previous contractor for any six month period of the INEEL contract. This lower available fee structure strongly links performance to payment by requiring a higher level of performance to earn a similar amount of fee.

It is important to place the performance of BBWI in context during this period. BBWI inherited numerous legacy issues from the previous contractor when they assumed responsibility for management and operation of the INEEL on October 1, 1999.

These legacy issues presented complex challenges in all aspects of contract performance including safety & health, security, environmental management and compliance, diversity and management accountability.

EXECUTIVE SUMMARY

The Department of Energy - Idaho Operations Office (DOE-ID) rates the performance of Bechtel BWXT Idaho, LLC (BBWI) over the first six months of the Fiscal Year 2000 performance period as "Exceeds" with an overall score of 90.6 and fee earnings of \$6.25M out of an available award fee pool of \$6.9M.

BBWI assumed responsibility in the midst of extensive efforts to implement ISM and recover from a fatality in July 1998. The progress on these efforts continued with no perturbation from the significant change in management largely because of BBWI efforts. This has been recognized as a significant achievement by DNFSB. Overall BBWI exceeded expectations by making many improvements in safety & health, security, environmental management, diversity and management accountability.

BBWI management made progress aligning the Idaho National Engineering & Environmental Laboratory (INEEL) to meet numerous program goals and commitments, to generate solutions for the INEEL's legacy issues, and to responsibly address complex issues through Research and Development (R&D) solutions. BBWI balanced DOE ID priorities, placed high quality personnel in critical management positions, and promptly brought issues to the attention of DOE. Critical to this success were the establishment of an enhanced business structure, development of the Performance Evaluation Measurement Plans (PEMP) with DOE, and improving the overall safety posture for the INEEL. BBWI is off to a good start with respect to improving INEEL operations.

BBWI exceeded expectations in positioning the INEEL for complete, site-wide Integrated safety management (ISM) implementation. Key to this success was the improvement of management accountability, increased rigor and discipline in work control and procedure use, implementation of a requirements roll-down process, and a shift from an expert-based to a standards-based culture. This required strong leadership at the Site Area Director level and below, and aggressive implementation of rigorous project management techniques to manage Operational Excellence activities. Worker involvement was strengthened, and the Voluntary Protection Program (VPP) program was fully integrated with ISM.

The following represent significant achievement's of the contractor during this period:

1.1 Management & Administration

- Improved project management systems, reporting, accountability and execution.
- Jointly, with DOE, established objective performance criteria for 89% of the second 6-month performance period's evaluation criteria. This effort also established new PBIs for Shipment of 96 m³ TRU out of Idaho; 17 full shipments of TMI-2 spent fuel to INTEC; and transfer CPP-603 spent nuclear fuel to storage in CPP-666.
- Excellent progress on implementation of ISMS and site-wide infrastructure planning.
- Implemented critical management control systems including an employee "pay for performance" system, detailed program reviews, monthly executive program reviews, and a matrix management system.
- Completed executive level R2A2's and initiated deployment to individual employee levels.
- Received national recognition (Operations Security Multi-Media Security Award) for creativeness in operations security.

I.2 Institutional Values

- **Achieved overall improvement of Environmental, Safety and Health (ES&H) Programs.**
- **Realized improvement in implementation of a science based culture for R&D.**
- **Enhanced diversity and economic development programs.**

II.1 Laboratory Operations

- **Proactively engaged four other labs in collaborative partnerships that resulted in four Memorandums of Agreement with other Laboratories in relevant mission areas.**
- **Developed a critical mission focused Laboratory Agenda that provides the strategic basis for a comprehensive revision of the draft Institutional Plan.**
- **Completed a mission focused Institutional Plan, aligned with EM, NE & DOE mission areas considered by both EM and NE to be superior to any similar plan previously produced at the INEEL.**
- **Established processes for effective integration of operations and R&D.**
- **Successful deployment of 14 new technologies by INEEL operations.**
- **Institutionalized external and internal peer review process for R&D.**
- **Initiated a sub-surface science program as a "signature" capability at the INEEL.**
- **Met all production and operations schedules while implementing ISMS at the Advanced Test Reactor (ATR) and Specific Manufacturing Capability (SMC).**
- **Effectively performed as the Nuclear Energy Technology Lead Laboratory.**
- **Obtained new mission aligned funding in excess of \$9 Million from a variety of DOE and Other Federal Agencies(OFAs).**

II.2 Programs:

- **Completed movement of spent nuclear fuel from building 603 eight (8) months ahead of schedule.**
- **Positive recovery of the transuranic (TRU) waste shipment schedule.**
- **Initiated calciner operations to allow for off-gas emissions sampling and verify/validate 600-degree flow-sheet; and issued the HLW integrated schedule.**
- **Achieved excellent and innovative results on the milestones and performance measures for WAGs 1, 2, 4, 6/10, and 7, and developed a centralized program management function.**
- **Strong performance in the implementation of the INEEL ISM and preparation of the site's VPP application, and accelerated ISM implementation at Specific Manufacturing Capability (SMC) and Idaho Falls Facilities (IFF).**
- **Completed activities to achieve ISO 14001 registration by June 1, 2001 (one year ahead of contractual schedule) while ensuring full integration with ISM.**
- **Implemented an effective LDRD Program under challenging conditions.**

KEY CONCERNS:

During the performance period concerns relating to implementing corrective actions were identified in the following areas. Each of these concerns were successfully resolved during the performance period.

- **Issues management, trending and analysis, and quality assurance (QA)**
- **Work planning, work control & baseline management**
- **Filling critical positions in the subsurface science area**

SECTION I: SITE MANAGEMENT (SECTION WEIGHT 20%) Score = 90

Demonstrate customer satisfaction as measured by indicators such as the development of new customer relationships and customer satisfaction including the assessment of the impact and value of the work performed.

BBWI management is committed to understanding customer expectations and challenges at both the local and national level. During this period BBWI worked aggressively to establish sound customer relations with DOE ID and HQ customers at all levels of the organization. Working relations with state and local stakeholders, (Department of Environmental Quality, Governor's Office, legislative leaders, local politicians, etc.) have been established with positive feedback and results, for example Dr. Bill Shipp was appointed Science Advisor to Governor Kempthorne.

Fully implement, unless otherwise agreed to by DOE-ID, the commitments made in the INEEL Corrective Action Plan for the Fatality Accident at TRA. Demonstrate a full commitment to and accountability for correcting the management and process failures that led to the fatality.

BBWI made significant progress in implementing the CO₂ Corrective Action Plan, completing 217 of the 223 corrective actions (C/As). DOE-ID has verified complete 210 of the C/A's, 20 ahead of schedule for the period. Twenty percent of the validations of effectiveness are complete and the balance of the validations are being incorporated in the ISMS Phase II verification.

I.1. Management and Administration

Establish effective management systems that form the basis for long-term success. These include the development of a comprehensive performance management system that has as its core clear roles, responsibilities, authorities, and accountabilities for all staff. It is recognized that this is paramount to supporting an effective, integrated project management system. A comprehensive self-assessment system must be developed that supports and measures an outcome-based approach to operation of the site. During the first performance period, the outcome-based measurement system should be developed in sufficient detail to support definitive PBIs to be instituted in the second period. This process and system will form the basis for the long-term performance measurement of site operations, and laboratory management.

During the first six months, all management systems should be identified and progress made in codifying and converting as necessary to a standards-based management system that is capable of tracking incremental progress and making necessary adjustments to ensure financial business and project integrity. This system should include functional organizations that are responsible for developing and enforcing the use of standard methods, tools, and training programs.

The management systems formed should support and enhance the key outcomes of the site, i.e., a safety culture, effective cleanup, enhance the National Laboratory, leadership development, and sound business operations. These outcomes should be supported through the development of clear objectives and indicators during the first six months. Many of these may be converted to definitive PBIs for the second period and subsequent fee periods.

BBWI performance exceeded expectations. During this performance period BBWI:

- **Jointly, with DOE established objective performance criteria for 89% of the second 6-month performance period's evaluation criteria. This effort also established new**

PBIs for Shipment of 96 m³ TRU out of Idaho; 17 full shipments of TMI-2 spent fuel to INTEC; and transfer CPP-603 spent nuclear fuel to storage in CPP-666.

- **Designed a performance management system that was subsequently accepted by DOE-ID. Key elements that were initiated included establishment of five-year critical out-comes and objectives, as well as specific expected results for the FY2001 PEMP. Additionally, BBWI completed draft processes and implementation plans for an integrated performance/self-assessment system that will be utilized to track, monitor and report PEMP progress and results.**
- **Implemented other management control processes including: an employee "pay for performance" system, program reviews, monthly executive program reviews, a comprehensive monthly progress reporting system, and a matrix management system to increase resource utilization.**
- **Communicated clear expectations for scheduling, monitoring and managing work. Initiated a project management system early in the performance period with wide-spread communications to ensure the necessary staff awareness, buy-in and accountability. Implementation of the BBWI project management system has already resulted in enhanced reporting and single point accountability. By the end of the performance period, 68% of EM program baselines at the INEEL were validated.**
- **Completed an extensive review of the existing INEEL procedure process and identified high-potential opportunities to streamline this process by reducing the number of procedures and simplification of controls governing work while not decreasing the rigors required for ESH&Q. This initiative should lead to increased efficiency and productivity.**
- **Demonstrated a strong and serious commitment to ensure DOE receives best value for indirect expenditures by taking an aggressive approach to understanding and controlling indirect costs by keeping the rates constant and managing proposed increases within established rates.**
- **Planned implementation of a "standards-based management system" (SBMS) starting with ISM and International Standards Organization (ISO) activities and assessed existing management systems consistency with SBMS concepts. BBWI has additionally identified where replacement systems/processes are required.**
- **Introduced the performance management concept of roles, responsibilities, authorities and accountabilities (R2A2's) to all employees. R2A2's have been developed for executive management positions and deployment initiated for all organizations down to the individual contributor level.**

BBWI recognized during the transition period that elements of the existing QA management system were weak; however, developing and undertaking specific actions to correct these weaknesses were slow. BBWI implemented corrective actions to provide the necessary focus to deal with these weaknesses.

During the first period, BBWI will develop a plan to fully incorporate the R&D capabilities into site operations.

On March 17, 2000, BBWI presented a plan to DOE-ID for systematically ensuring integration of R&D and operations. Specific actions necessary for successful implementation were incorporated in the PEMP for the next performance period. A formal policy for ensuring implementation will be submitted to DOE-ID in early April.

Execute a comprehensive communications plan that effectively produces local, regional, and national "positive" changes in the conversation about the INEEL. Continue to focus on community, employee, and stakeholder relations and emphasize vertical and horizontal communications. Enhance internal communications between DOE-ID and BBWI organizations to open dialogue about INEEL issues to more effectively align our strategies for the success of the INEEL. Develop by November 1, 1999, a site-wide strategy for implementing complicated or controversial initiatives, including but not limited to cleanup projects and new program initiatives.

BBWI exceeded expectations by implementing a comprehensive communications plan that addressed INEEL site-wide initiatives such as environmental restoration; waste management; long-term stewardship and stakeholder out-reach. Implementation of the plan included opening an outreach office in Wyoming for dealing with a concerned public regarding INEEL activities and providing an informational supplement to all Idaho daily newspapers that helped change the conversation about INEEL. Local and regional stakeholders are recognizing BBWI as a good neighbor.

Develop long-range planning goals for the INEEL in partnership with the DOE. As now required by DOE-HQ, develop annually an "INEEL Institutional Plan," with a five-year planning horizon, as the top-level planning document for all of INEEL. Ensure all INEEL planning is integrated and driven by the Institutional Plan, and ensure the processes for implementation are clearly defined.

BBWI issued the INEEL Institutional Plan for FY2000 - 2004. The laboratory developed and implemented a process that allows strategies and requirements to flow-down through lower tier planning documents thereby improving the probability of successful implementation. As part of this initiative, a planning hierarchy and master schedule were developed which will serve to ensure top to bottom integration. Criteria have been developed to establish the appropriate relationships between various laboratory plans.

1.2. Institutional Values

Provide the leadership to assure that all activities are protective of the worker, the public, and the environment. Develop a science culture at INEEL that rewards scientific excellence and uses science in decision making. BBWI shall be open, candid, and responsive to ES&H issues. We expect ES&H functional programs to support and enable line management to be responsible and accountable for implementation using an integrated management process. Integrated ESH&Q management includes the necessary elements of operational excellence such as Conduct of Operations, Conduct of Maintenance, Voluntary Protection Program (VPP), ISO 14001, integrated work control process, self-assessment, performance feedback, and continuous improvement.

BBWI performance exceeded expectations. Contributing factors include:

- **BBWI made significant progress on implementation of ISM as evidenced by successful Phase II Verification for several INEEL facilities, conveying the expectation of a safe and healthy workplace for the INEEL and improving the workplace injury/illness total Recordable Case Rate statistics. BBWI also employed qualified ES&H professionals, and increased organizational effectiveness by reassigning work location to specific facility areas and defining performance.**
- **Upper management demonstrated commitment to improving safety performance by involving workers in solving safety issues, addressing environmental issues**

early on, inspecting INEEL facilities and addressing environmental inspection issues.

- **R2A2's for scientific staff were written to more accurately reflect key measures consistent with a scientific culture. BBWI reorganized to reflect more focus on the scientific underpinnings of the DOE's mission and business lines. Responsibility for maintenance of the technical library was moved into the research management directorate; and a two-level (internal and external) peer review protocol was formalized and deployed to key discretionary research projects.**

Perform all work at the INEEL to the requirements of a compliant INEEL Quality Assurance Program; seek to continuously improve the existing program in terms of customer needs, cost effectiveness and quality results. BBWI shall effectively manage corrective actions, ensuring that deficiencies are identified and tracked, root causes are determined as appropriate and corrective actions are taken and validated to prevent recurrence.

BBWI confronted a major legacy issue in deficiencies associated with the INEEL Quality Assurance (QA) program. BBWI initiated a comprehensive QA assessment to identify systemic issues and development of improved issues management processes. Reassignment of personnel to better meet customer needs is underway. Organizational commitments and structure are being reviewed to ensure cost effectiveness and adherence to quality assurance requirements.

Continue to implement a Safeguards and Security (S&S) program that meets all the requirements in the Site S&S Plan (SSSP), as reflected in approved Annual Work Plans (AWPs) or other guidance documents, and budgets. Satisfactorily address the areas of nuclear materials inventory accountability, cyber security improvements, accelerated safeguards and security improvement goals, additional physical upgrades, and cyber threat training.

BBWI's safeguards and security performance exceeded expectations. Contributing factors included:

- **Met all of the requirements set forth in the Site Safeguard and Security Plan (SSSP) despite unfunded mandates, new order requirements, and needs for additional Special Response Team (SRT) personnel.**
- **Completed Category I and II area inventories ahead of schedule despite having to take sufficient time to resolve operational safety issues related to Spent Nuclear Materials (SNM).**
- **Received national recognition (the Security Multi-Media Achievement Award) for creativeness in Operations Security (OPSEC) awareness tools.**
- **Preparations for the Office of Assurance (OA) audit have been thorough and technically sound. Self-assessment, procedure review/upgrade, and facility modifications were conducted on nuclear material inventory accountability, cyber security improvements, accelerated safeguards, and security improvement goals, additional physical upgrades, and cyber threats training.**

BBWI demonstrated increased initiative and implemented numerous corrective actions to address legacy vulnerabilities during preparations for the Inspection and Enforcement (I&E) Review.

Utilize, promote, and demonstrate commitment to diversity in the workforce to enhance effectiveness. Adhere to EEO policies and ensure zero tolerance for discrimination.

BBWI performance in the area of diversity exceeded expectations. Contributing factors included:

- **Implemented policies incentivized employee participation in diversity and cultural awareness events.**
- **Prepared and formalized an aggressive diversity plan and began implementation.**
- **Managed a fully effective Equal Employment Opportunity (EEO) program with no open or unresolved issues with the Department of Labor.**

Be a constructive partner in the local and regional area and provide proactive assistance in diversification of the economy, job creation, and responsiveness to stakeholders and interested parties.

BBWI established sound working relationships with numerous groups throughout the state by proactively providing information and assistance on economic diversification issues (examples are Bannock Development Corporation, Business Plus II in Twin Falls, Mini-Cassia Development Commission, and Kellogg). In addition, BBWI made a positive impact in the Idaho Falls Salmon, Arco, St. Anthony and Rexburg areas by signing agreements that may result in the creation of an estimated 1,321 new jobs.

Develop recognized stature and maturity in project management and systems engineering. Integrate appropriate project management knowledge, skills, tools, and techniques over the life cycle of all projects. Incorporate systems engineering tools and techniques as appropriate.

BBWI made good progress in developing the policy, procedures, and process for an effective project management system. Examples include centralizing project/program control resources to ensure consistency, initiated training to improve staff capabilities, selected and began deployment of standard company-wide project control systems/tools, development of a comprehensive company-wide annual work plan process and a much improved scheduling hierarchy system. The planning and execution of some projects such as the TMI Spent Nuclear Fuel project demonstrated that use of these new tools must be implemented quickly to ensure project execution results improve in the next rating period.

SECTION II: BASELINE PERFORMANCE (SECTION WEIGHT 80%) Score: 90.8

In addition to the specific focus areas for Laboratory Operations and Programs, DOE-ID expects BBWI to effectively execute the FY2000 Program Execution Guidance (PEGs) and related work plan activities, program plans, associated technical baselines, and construction project baselines. The PEGs shall be negotiated, if necessary, no later than November 15, 1999. Any changes made to the PEGs will be accomplished through a formal change control process. If mutual agreement cannot be achieved, the Government may establish PEGs unilaterally. There should be a major emphasis on integration of all program/operational elements and management of resources and related costs needed to achieve program missions rather than managing to budgeted values of the work scope. The management approach and philosophy should demonstrate a strong commitment to program/project management. Reinvestment of savings utilized to perform additional work scope must be evidenced through approved change control processes. Effectively identify and utilize available funding for both new authorizations and completion of work related to prior year uncosted balances.

The required work, as reflected in the Annual Work Plan (AWP) or other authorizing documents agreed to by BBWI and DOE-ID, is to be performed within the budget. In addition, work required by the individual PEGs must be aligned with the AWP and associated funding.

Performance exceeded expectations. Of the 68 Program Execution Guidance Documents (PEGs) that defined baseline performance (other than those specifically discussed in Section II.2), performance on 61 PEGs met or exceeded expectations. Performance on two were determined to be outstanding and five were determined to be marginal. There were no areas of unsatisfactory performance during the first six months of the contract period.

II.1: Laboratory Operations (Subsection Weight 30%) Score = 92

BBWI shall develop a focused Laboratory Agenda that identifies critical goals and outcomes within the framework of key missions. This Agenda will focus on INEEL planning, resources, management, and evaluation process.

BBWI performance exceeded expectations. BBWI developed a focused Laboratory Agenda that provided the critical basis for a comprehensive revision of the draft Institutional Plan, bringing focus onto critical mission areas of the lab.

Performance of laboratory operations will specifically focus on the following areas:

II.1.1: Laboratory Leadership

Develop an INEEL Laboratory Agenda with a small number of Critical Objectives and measurable Critical Outcomes focused in two core strategic areas based on INEEL's leading roles in the EM and NE programs. Incorporate the Laboratory Agenda into the framework of the INEEL Institutional Plan for FY 2001-2005. Deliver by December 30, 1999, a Strategic Planning Document to be advanced by DOE-ID to DOE-HQ and program sponsors.

The development of a focused, coherent Laboratory Agenda and acceleration of its' incorporation into the 2000-2004 Institutional Plan was outstanding. The Laboratory Agenda that identified four critical objectives constituted the delivery of a strategic planning document and was submitted to DOE-ID by the required deadline. The agenda provided the critical basis for a complete revision to the Institutional Plan, and allowed BBWI to incorporate their vision for the INEEL into the 2000 plan.

The INEEL shall make significant progress toward becoming a major source of science, technology, advice, and decision support analysis to the EM program in addressing current and future environmental management needs. An in-house capability to address this stewardship role and provide advice and decision support tools to EM must be nurtured.

BBWI performance exceeded expectations. BBWI leadership played a key role in the identification of sub-surface science as a "signature" capability at the INEEL. Developing and retaining sub-surface science expertise in the laboratory's workforce is critical to INEEL's ability to effectively support Environmental Management and other DOE mission objectives. This issue was identified as a "legacy" issue at the beginning of performance period. Although BBWI was initially slow to fill critical positions, management attention to this issue increased late in the performance period. Experienced geo-scientists were hired to fill both the complex-wide and site-wide positions. A nationalized recognized geo-scientist has been acquired to lead the subsurface science initiative, and will report during July, 00".

Critical positions that were filled during this evaluation period included the Associate Lab Director for National Security, the Subsurface Science Senior Technical Advisor and the Vadose Zone Roadmapping coordinator.

BBWI must continue to provide leadership and management for national EM programs as well as continue to be a significant provider of research and technology solutions. Specific emphasis should be placed on providing solutions to challenging environmental management issues at INEEL. BBWI must develop a capability to identify and apply the most appropriate resources from the national laboratory systems, academia, and industry to the environmental management mission. BBWI should lead the application of these resources to specific environmental problems, for example, through the development of a Vadose Zone Science and Technology Roadmap to achieve understanding of the science and technology needed for remediation of soil and groundwater contamination of arid western sites (e.g., Hanford, INEEL, Nevada Test Site).

BBWI performance exceeded expectations. Contributing factors include:

- **BBWI supported various technical workshops and a major solicitation.**
- **INEEL and its Laboratory Director were proactive in identifying appropriate resources throughout the DOE complex by conducting a series of visits and negotiations which resulted in four Memorandums of Agreement with other Laboratories in relevant mission areas.**
- **INEEL established strong working relationships with the EM focus areas and their respective lead laboratories.**
- **BBWI applied various Environmental Management Science Program technologies, ie. identification of characterization technology for application at the RWMC.**
- **BBWI produced a workable schedule and cost effective plan for broad participation in the National Vadose Zone Roadmapping effort.**
- **BBWI provided industry support to the following EM programs:**
 - 1) **Treatment of radioactive waste from D&D Project - BBWI awarded a fixed unit rate sub-contract for mobilization, treatment of contaminated sludge and water, and demobilization in support of the D&D of the INEEL Central Facility Area sewage treatment plant.**
 - 2) **Characterization & Validation for TRU Waste Project - BBWI developed and is implementing a procurement strategy for turnkey services from industry leaders in TRU waste characterization, Level I and II data validation, pre-WIPP audit assessments, and restructuring of authorization documents and procedures.**
 - 3) **Independent review of HLW Calciner - BBWI brought in a team of experts from Bechtel's Power & Petroleum groups to provide an in-depth review of the design, operation, maintenance, and long-term operability of the HLW Calciner. The team brought extensive commercial experience in the design and operations of fluidized bed boilers, process engineering, materials, and reliability.**
 - 4) **Support to the Multi-Detector Analysis System Project - AccSys Technology has provided the installation, startup, testing, and trouble shooting of a linac neutron generator, a critical component of an advanced system to characterize SNF, RH-TRU, and other fissile material.**

Establish INEEL, in partnership with ANL-W, as the recognized leader in nuclear reactor technology and science consistent with its role as the NE Lead Laboratory. Assist NE in defining opportunities and initiatives to advance safe and economically feasible nuclear energy technology. Develop and implement means of maintaining DOE core capabilities in nuclear technology areas to support NE in policy, planning, and nuclear R&D performance.

BBWI performance was outstanding. The lead laboratories (INEEL and ANL-W) developed a Generation IV Reactor Concept Experts meeting and a General Workshop agenda for the Office of Nuclear Energy. INEEL achieved international recognition in several areas, including non-proliferation nuclear fuel cycle activity, fusion safety capabilities, and debris coolability project support.

The laboratory received new funding commitments in excess of \$9M from a variety of DOE offices and other federal agencies e.g. NRC, DOD, DOT. For example, funding was received to advance capabilities in: non-intrusive sensing; core neutronics and thermal hydraulic modeling, materials behavior, understanding corrosion and aging effects, materials joining techniques, material failure analysis, and fracture mechanics. BBWI also actively supported DOE-NN/NE in defining potential areas of research and collaboration. Areas of interest included advanced nuclear reactor concepts and design considerations, modeling techniques, and plant-aging effects for bilateral and multilateral R&D with other countries. Through these efforts the laboratory has been able to successfully maintain its core capabilities in policy, planning and nuclear R&D performance.

II.1.2: Quality and Impact of Science and R&D

The quality of science and R&D at INEEL will be enhanced by two levels of peer review (external and internal). The overall directions of R&D for the laboratory will be reviewed periodically by a Laboratory Advisory Board made up of external experts in areas related to the DOE missions. Project level reviews by external and internal experts will assure the quality of individual research activities. Measures of scientific quality include the number of referred journal publications, success in proposal activities, and number of new and continuing collaborations with researchers at regional and national universities and with other national laboratories.

BBWI performance exceeded expectations. Contributing factors included:

- **INEEL formalized and deployed internal and external peer review processes for key programs, including the Environmental Systems Research program and the Laboratory Directed Research and Development Programs (LDRD). Increased emphasis on peer-reviewed publications and published citations was evident during the performance period. Specific elements on scientific publications were incorporated into each scientist's performance plan.**
- **A draft Lab Advisory Board Plan was submitted to DOE-ID for review. However, delays in finalizing and implementing the Laboratory Advisory Board resulted, which continued to be a deficiency in this area.**
- **Project reviews by both internal and external experts are regularly taking place (i.e., Chemistry, Biotechnology).**
- **INEEL submitted 30 referred journal publications.**
- **INEEL was awarded funding for three carbon sequestration proposals by the Office of Fossil Energy (FE). This was an outstanding achievement since INEEL won three of five total FE awards.**

- **The Principal Investigator for the successful Forensic Antibody Detection System trials was a semi-finalist for a Discover Award for technology innovation. There was a high level of external interest in the technology.**
- **INEEL developed a good strategy for the Gas Hydrate Initiative that included an excellent team of university, laboratory, and foreign partners.**

Integrate operational aspects of INEEL missions into the overall framework of a national laboratory. Strategies to accomplish this must ensure alignment of the laboratory's capabilities and initiatives with INEEL long-range planning goals and DOE mission areas.

BBWI performance exceeded expectations. Contributing factors included:

- **BBWI made significant progress in integrating INEEL operations with the research and development aspects of the national laboratory. During the performance period, significant progress was realized as evidenced by the peer review validation of operational-needs for research and development and alignment of discretionary research with those needs.**
- **INEEL made good progress identifying needs for new or enhanced technical capability and personnel.**
- **INEEL scientists provided significant support to the HLW program. This included an initiative to provide a technology assessment of alternatives for treatment of sodium-bearing liquid waste. Early results from the New Waste Calciner Facility (NWCF) off-gas emission sampling project indicated successful monitoring of non-radiological constituents. EPA expressed positive interest in the Off-Gas Sampling Project and on the NWCF mercury emissions study.**
- **BBWI provided significant support to National Security operations including: the Digital Radiography and Computed Topography System at Stored Waste Examination Pilot Plant (SWEPP); the Concealed Weapons Detection system at INTEC; incorporation of advanced computer security capabilities into INEEL's Cyber Security program; and, the Transuranic Reporting Inventory and Processing (TRIPS) software support.**

Develop a plan for the Technology Transfer program with demonstrable benefit to DOE that aligns the licensing portfolio with INEEL capabilities and DOE missions. This plan will form the basis for issuing new technology licenses, supporting current independent technology ventures, and investing in the creation of new technology ventures. Introduce additional quantitative measures for the Technology Transfer program, such as a ratio of license revenues to expenditures required to attain those revenues. Develop and implement an approach for commercialization of technologies through licensing, spin-offs, and partnerships with other federal agencies, industry, state and local government, universities, and research institutions. Develop plans for retaining and attracting innovative personnel needed to fulfill existing program missions.

During this evaluation period, BBWI exceeded expected levels of performance on the Technology Transfer program. The contractor did an exceptional job in addressing and resolving several key issues such as patent reviews, and delinquent CRADAs inherited from previous years. As planned, the contractor began the development and implementation of a new strategy and approach for technology commercialization. In January, the due date for completing a Technology Transfer program plan was changed from March 31 to September 30, 2000. The change occurred for reasons that were outside the control of the contractor. It became apparent that before an effective

plan could be developed, a thorough up-front review of existing conditions would be necessary. In addition, the Technology Transfer program plan was dependent on the Institutional Plan for a determination of key focus areas and INEEL capabilities to which the intellectual property portfolio could be aligned.

As part of the planning cycle for the Institutional Plan FY2001-2005, develop a five-year and ten-year vision and long-range plan and an implementation plan for the INEEL. Plan how INEEL will contribute to pertinent areas of the Department's Strategic Plan, with special emphasis on Environmental Quality areas and the EM Strategic Plan, and the NE Strategic Plan. Ensure an integrated approach across all of INEEL consistent with Department requirements for the Institutional Plan. During the evaluation period, make progress toward implementing the following long-range planning goals: eventual construction of needed facilities, appropriate response to Under Secretary Moniz' recommendations, integration of R&D into operations programs, engagement of university programs in the accomplishment of the INEEL R&D agenda, and improved success of R&D proposals.

BBWI performance exceeded expectations. Contributing factors included:

- INEEL planning was aligned with the DOE Strategic Plan and the EM and NE Strategic Plans.
- The five-year vision was developed and presented in the INEEL Institutional Plan.
- The five-year and ten-year vision, long-range plan and an implementation plan were incorporated into the Laboratory Agenda and Institutional Plan.
- Integration of research and development activities and operational requirements in the FY 2001-2005 Institutional Plan received special emphasis.
- Under Secretary Moniz's recommendations were addressed as evidenced by library upgrades, a strengthened Laboratory Fellows Program, enhanced university partnerships, and focused laboratory direction.
- INEEL's relationship with the Inland Northwest Research Association (INRA) showed positive results such as the provision of specifically identified Doctoral and Post Doctoral appointments aligned with DOE mission needs.
- University collaborations were implemented through successful partnerships, such as continued support of the Idaho Accelerator Center at Idaho State University, computer security and reliability collaborations with the University of Idaho, and submission of numerous joint proposals with other universities.
- Science and technology roadmaps were initiated for High Level Waste, Remote-handled TRU Waste and the INEEL Vadose Zone.
- A process was developed that allows operations' needs to function as the "market-pull" for technology development within the laboratory.

Of critical importance to enhancing the scientific underpinning of INEEL's and DOE's Environmental Quality mission is the development of a science-based laboratory facility. INEEL shall initiate planning for such a facility consistent with DOE environmental challenges and shall consolidate related current INEEL initiatives and resources.

Commitment to developing science-based laboratory facilities was outstanding. Efforts to consolidate resources and initiatives relative to laboratory facilities continued. BBWI used the Institutional Plan to raise science-based facilities to the appropriate levels. Planning was initiated for the subsurface geo-science laboratory line item project. Work on defining the technical and functional requirements for laboratory facilities based on the long term EM mission was initiated. Justification of need documents which tie

facility needs to mission needs was completed to support the FY 2002 budget submission and institutional planning process.

Site infrastructure and research and development relationships assisted in improving the operational efficiency of DOD training exercises at the Security Training Facility and Initial Engine Test Facilities. The combined training activities benefited DOE through technical information exchange and could potentially defray some INEEL D&D costs.

II.1.3: Technology Deployment

Initiate development of Technology Roadmaps (for integration into the INEEL baseline plan for remediation) to identify technology gaps. Introduce needs based planning and management systems to: (1) acquire technology, (2) demonstrate and deploy innovative technologies, and (3) identify R&D needs for new science and technology. Actively challenge baseline assumptions and promote additional opportunities for innovative technology deployment. Identify and provide a list of candidate FY2000 deployments by December 31, 1999, and subsequently evaluate the applicability and demonstration requirements for the candidate technologies.

BBWI performance exceeded expectations. Contributing factors included:

- **BBWI implemented a detailed work planning process and related site-wide baselining, which challenged assumptions and identified technology needs/gaps for meeting critical milestones. The INEEL programmatic baselines were used in the development of the draft Site-wide Vadose Zone Science and Technology Roadmap, which will be completed in the next six month performance period.**
- **The list of candidate FY2000 deployments was delivered ahead of schedule. During the performance period there were 14 first time technology deployments.**
- **A process was developed for operations to identify needs. The process which has been initiated will lead to the development of technology road-maps to guide both research and development and technology deployment efforts.**
- **The Light Duty Utility Arm was effectively utilized at two INTEC High Level Waste (HLW) tanks. Data obtained from these deployments supports technology decisions for HLW heel removal, sodium-bearing liquid waste treatment, and tank closure.**
- **The development of the Technology Deployment Center concept led to the successful identification and deployment of innovative and new technologies which included the following:**
 - 1) **CPN 503DR Hydroprobe for Probehole Logging - The CPN 503DR Hydroprobe is a commercially-available borehole moisture logging probe which operates on standard neutron-neutron measurement principles. Use of a pre-calibrated CPN 503DR Hydroprobe at INEEL's OU 7-10 Interim Action site allowed determination of site soil moisture data without intrusive sampling of contaminated waste or backfill material.**
 - 2) **Azimuthal Gamma Tool for Probehole Logging - The Azimuthal Gamma Tool is a gamma-ray spectrometer that incorporates a slotted collimator, which can be incrementally rotated 360 degrees. Use of the Azimuthal Gamma Tool at INEEL's OU 7-10 Interim Action site allowed mapping of gamma-ray emitting sources for purposes of waste**

sampling for treatability studies and planning of subsequent remedial designs.

3) **N-Gamma Tool for Probehole Logging** - The N-Gamma tool combines a neutron source with a high-resolution gamma-ray spectrometer, allowing in situ characterization of buried waste by analysis of "prompt" gamma-rays emitted following neutron absorption. Use of the N-Gamma Tool at INEEL's OU 7-10 Interim Action site allowed detection and quantification of chlorinated compounds, including chlorinated hydrocarbons (e.g. TCE), polychlorinated biphenyls (PCB), and chlorinated plastics, without intrusive sampling of contaminated media.

4) **Chlor-X Analyzer** - The NuMat Chlor-X Analyzer is a table-top X-ray fluorescence instrument that allows determination of the total chlorine content of solid samples within five minutes. The Chlor-X Analyzer is currently used at INEEL's Waste Experimental Reduction Facility (WERF) to detect chlorine-containing materials, in real-time, during mixed low-level waste repackaging operations.

II.1.4: Multi-program Research and Development

Pursue and sustain federal customer relationships in all DOE mission areas with particular emphasis on programs related to environmental quality. Ensure that opportunities for integration and leveraging of resources are identified and captured. Establish relationships with current Work for Others Program participants for the insertion of new technologies and growth of business opportunities.

BBWI performance exceeded expectations. Contributing factors included:

- **A CRADA for Liquid Natural Gas refueling station development was signed with PG&E and SoCal Gas. This effort leverages work which supports the Presidential Directives on Alternative Fuels and DOE HQ goals for alternate fuels market development. New industrial partners were obtained for licensing of the Rapid Solidification Tooling Technology.**
- **BBWI personnel participated on key committees looking at dam removal, R&D, and other issues as well as coordinating hydropower R&D among federal and private entities.**
- **Leveraged the introduction of new technologies by co-funding with the programs including OU 7-10 (geophysics) and HLW (Hg in snow).**
- **Completed energy storage device testing, analyzing and reporting the data to DOE-HQ and key industry organizations. BBWI accepted the additional role of coordinating the DOE Field Operations Program with NREL and participated in national and international meetings and conferences.**
- **Integration and multi-discipline strategic planning and collaboration resulted in improved application of technology and R&D across National Security mission areas and a better capability assessment for responding to and supporting DOE National Security Missions.**
- **The Work for Others (WFO) program transition was very smooth. Twenty-nine new WFO projects were approved, exceeding expectations. The Decision Packages submitted for the new projects were of high quality. The WFO training session conducted in November was excellent and well attended.**

II.2: Programs (Subsection Weight 50%) Score: 90

Effectively plan and execute OPE program missions with a specific focus on the following areas:

1. Successfully Completing ISMS Implementation (PEG OPE-I-23).

ISMS implementation for the first six months was completed in a manner that exceeded expectations. Contributing factors included:

- **Strong performance in the implementation of the INEEL ISM and preparation of the site's Voluntary Protection Program (VPP) application, and accelerated ISM implementation at Specific Manufacturing Capability (SMC) and Idaho Falls Facilities (IFF).**
- **Success in instilling ISMS beliefs in staff and subcontractor personnel alike.**
- **Successful Phase II verification within the first six months of the contract.**
- **Successful identification and correction of inherited ISM implementation weaknesses at Radioactive Waste Management Complex (RWMC) and completion of the RWMC reverification in March 2000.**
- **Full acceptance of the ISMS concept by the Site Area Directors (SADs) for IFF and INEEL Research Center (IRC), and strong focus on continuous improvement.**
- **Designation of a new SAD at INTEC and strong performance in achieving readiness for ISM Phase 2 Verification at that facility.**
- **The transfer of PBF from Reactor Programs to the Waste Reduction Operations Complex (WROC) and the subsequent heightening of ISM awareness and improvement in performance.**

2. Satisfactory Progress Towards ISO 14001 Certification (PEG OPE-I-36).

Progress exceeded expectations as evidenced by BBWI establishing an internal milestone to complete ISO 14001 registration by June 1, 2001 (one year ahead of contractual schedule) full integration of the effort with ISM, and obtaining signatures to the formal ISO Policy Statement. Specific activities indicating progress include:

- **Completion of all ISM milestones related to the implementation of the INEEL Environmental Management System.**
- **Projectized management of the ISMS initiative within scope, schedule and budget.**
- **Increased emphasis on incorporating Pollution Prevention and environmental protection within the ISMS and environmental awareness programs.**
- **Issuance of an improved, more comprehensive INEEL Environmental Management Policy.**

3. Safely and effectively operate the Specific Manufacturing Capability Facilities as documented in the Program Execution Guidance (PEG OPE-D-46).

BBWI performance exceeded expectations. Contributing factors included:

- **Performance on the TAN-607A MDF R&R Project and facility turnover.**
- **Accomplishment of the sampling, analysis, and resolution of the TRU Unresolved Safety Question.**

- Meeting of increased product and recycle shipment and delivery schedules.
- Continuous improvement of the maintenance completion rate without negatively impacting production.

An offsetting factor was the fact that the Safety Severity Index, at 12.57 as of the end of March 2000, was higher than the goal for FY00 of 7.5.

4. Meet MLLW Site Treatment Plan Milestones (PEG OPE-D-18)

BBWI performance met expectations; all milestones were met.

5. Meet LLW treatment and disposal goals in accordance with DOE Order 435.1. Two key measures are the disposal of 4000 cubic meters and the treatment of 2500 cubic meters by 9/30/00. (PEG OPE-D-17)

BBWI performance met expectations, and is on schedule for meeting the 9/30/00 deadline.

6. Successful progress within the ER Program as documented in the Program Execution Guidance. Some key areas are (1) Complete Alternate Pit 9 Project Review and provide recommendations to DOE/HQ and DOE/ID; and (2) the implementation of Waste Area Groups (WAGs) 1, 3, 4, and 5 Records of Decision. (PEG OPE-D-01 through OPE-D-08, OPE-D-09 (except for Sample Management Office), and OPE-D-10).

BBWI performance exceeded expectations based on excellent and innovative work on the milestones and performance measures for WAGs 1, 2, 4, 6/10, and 7, and development of a centralized program management function. The Records of Decision for WAGs 1, 2, 3, and 5 have been signed, and BBWI is continuing to implement the selected remedies. The date for signature of the Record of Decision for WAG 4 was moved as mutually agreed with the regulators based on a change in EPA guidance. Deficiencies included a cost overrun for the WAG 7 coring system and a decline in the quality of Project Baseline Summaries and Baseline Change Proposals. Corrective actions have been implemented and A Bechtel corporate course which trains managers on "what it means to be a Bechtel project manager, expectations, etc." has been implemented. Key project managers, including some in ER, have attended. The Alternate Pit 9 Project Review was completed in February, and the recommendations were presented to DOE-ID and DOE-HQ management in various venues between February and March

7. Safely and effectively operate the Advanced Test Reactor and support facilities at TRA as documented in the Program Execution Guidance (PEG OPE-D-40 and -41).

BBWI performance exceeded expectations. Contributing factors included:

- Effective resolution of a leaking primary system valve, allowing the ATR to be safely restarted; excellent teamwork and conduct of operations performance following the reactor SCRAM due to loss of commercial electric power; and the decision to delay iridium production pending a complete engineering and safety review of the iridium target failure.

- Improved analysis of ongoing needs for the maintenance of the facility and improved usefulness of the TRA 7-year plan as a management tool for construction projects.
- Safe removal of liquid waste from TRA 713 tanks, 100% characterization of waste streams identified at TRA, and sampling of the legacy waste containers in the VCO TAA in TRA-657.
- Safety remains a priority for work at TRA. At the ATR, BBWI completed their portion of the ISMS Phase II review and safety concerns were promptly addressed. The rupture of an Iridium target was comprehensively addressed, however since the cause was not determined in time to support the next shutdown cycle, a new target was not placed in the reactor for irradiation. The improvements to the target design and fabrication have been determined, supporting the July shutdown.

Areas needing improvement included completion of the Radioactive Waste Upgrade Project, removal of waste from the ATR canal, and radiological control at TRA. Corrective actions have been developed and are being implemented. These corrective actions have been briefed to DOE-ID.

8. Continuation of CPP 666 fuel receipts and TMI transfers. It is planned that up to five (5) TMI shipments will be completed by 3/31/00. (PEG OPE-D-23)

BBWI performance met expectations. BBWI performance on CPP 666 fuel shipments was excellent. Shipments from CPP-603 basins to CPP-666 as well as ATR shipments to CPP-666 were greatly accelerated. CPP-666 received 26 fuel receipts (17 from the Navy, and 9 from ATR). However, progress on the TMI transfers was delayed, resulting in a marginal evaluation for this part of the performance criteria. These two off-setting performance evaluations have resulted in an overall performance of "met expectations."

9. Successful progress within the HLW program as documented in the Program Execution Guidance. Some key areas are: (1) Support to the ongoing EIS; (2) SAR upgrades; (3) RCRA permitting activities; (4) Calciner off-gas data collection; and (5) Light duty utility arm (LDUA) deployment (PEG OPE-D-36).

BBWI performance exceeded expectations. In addition to meeting the general scope and specific milestones defined in the PEG, BBWI initiated calciner operations to allow for off-gas emissions sampling and verify/validate 600-degree flowsheet; and issued the HLW integrated schedule.

Areas needing improvement included development of technology baselines and roadmap for liquid and calcine treatment processes, and developing resource loaded integrated schedules. A specific area of weakness was resource management of Safety Analysis Report (SAR) upgrades. Detailed Work Plans for the next three years are now being developed and do include funding requests to support completion of upgraded SARs for all nuclear facilities.

10. Development of INEEL Site Wide Base Support documents. (PEG OPE-D-27)

BBWI performance met expectations. Supporting documents for long range planning, including the Excess Facility Action Plan, Integrated Planning Flow Chart, Integrated Infrastructure Implementation Plans, and the Life-Cycle Capital Asset Plan, were of good quality and delivered as required.

11. Successful progress within the TRU program, as described in the approved TRU baseline, DOE-ID Letter No. OPE-WM-99-116, dated November 17, 1999. (PEG OPE-D-15, Revision 02, dated November 16, 1999.)

BBWI performance met expectations.

12. Successful progress towards meeting HLW Site Treatment Plan milestones. DOE expects this will be converted to a PBI for the second evaluation period. (PEG OPE-D-36).

BBWI performance met expectations.

SECTION III: PERFORMANCE BASED INCENTIVES (PBI)

Effectively execute all incentives in accordance with terms and conditions of the contract while effectively and efficiently executing programs and functions according to plans, baselines, and schedules.

III.1: Carry-over PBIs

Listed below are carryover PBIs for FY2000:

As stated in the PEMP, the Carry-over PBIs will be evaluated on September 30, 2000. A brief status to date is provided below:

1. ATR Cost Efficiency
No results of cost efficiencies were noted to date; cost performance is close to budget projections for the year to date.
2. ATR Operating Efficiency
3. ATR Unplanned Outages
4. ATR Utilization
5. ATR Work Control in Radiological Areas
BBWI performance on PBI's 2-5 was satisfactory and no anomalies were noted.
6. INTEC Liquid Waste Minimization
BBWI continued to perform work on the waste minimization PBI as expected.

Technology Commercialization Incentive (Potential earnings under the Technology Commercialization Incentive are not part of the available fee pool.)
Payment on this incentive is based on the amount of technology commercialization that the contractor accomplishes. No problems are anticipated.**

7. SMC Production Incentive

The incentive is on track with production schedule and cost but behind on the severity index.

III.2. NEW PBIs

New PBIs for the management of national laboratory shall be developed and negotiated during the period for implementation in the second and subsequent performance periods. In addition, it is intended the following PEGs will be negotiated and converted to PBIs for the second evaluation period of FY2000:

- VCO (FY00-04) (PEG OPE-D-42)
- TRU Shipments (PEG OPE-D-15)
- Complete Fuel Transfers out of CPP 603 by 9/30/00 (PEG OPE-D-23)
- Implement QA Standard RW-0333P for all INEEL Spent Fuel Activities by 9/30/00 (PEG OPE-D-45)
- Meet HLW STP milestones (annual) (PEG OPE-D-36)
- Interim Incentive for HLW Tank Closure Plan by 12/31/00 (PEG OPE-D-36)
- Sample Management Office (SMO) (PEG OPE-D-09)

The effort to develop PBIs resulted in the implementation of three new "Critical Outcome: Mission Accomplishment" PBIs listed below. These PBIs were mutually developed and agreed to through a joint BBWI/DOE commitment to meeting the goal of making this a performance based contract focused on critical outcomes with commensurate financial rewards. The PBIs that were created are consistent with the tenets identified in clauses H.30 and H.31 of the contract and the Federal Acquisition Regulations.

- **Ship 96 m³ TRU out of Idaho by September 30, 2000**
- **Make 17 full shipments of TMI-2 spent fuel to INTEC by September 30, 2000**
- **Transfer CPP-603 spent nuclear fuel to storage in CPP-666 by September 30, 2000**