



**Department of Energy**  
Idaho Operations Office  
850 Energy Drive, MS 1221  
Idaho Falls, Idaho 83401-1563

December 7, 2000

Dr. Bernard L. 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 April 1, 2000, through September 30, 2000, Contract Number DE-AC07-99ID13727 (CFAO-PSD-WLB-01-035)**

Dear Dr. Meyers:

We have performed an analysis of your performance for the period April 1, 2000, through September 30, 2000, in accordance with the Performance Evaluation Measurement Plan for this period. The results of our evaluation are contained in the enclosed report.

After carefully considering the information in the report, I have determined that your overall performance has earned \$17,468,400 or 88.4% of the \$19,750,800 available fee.

BBWI is authorized to receive a fee payment of \$17,468,400 less the total monthly draw down amount received during this period in accordance with clause I.27 (a) of our contract.

Sincerely,

  
Beverly A. Cook  
Manager

Enclosure



**PERFORMANCE EVALUATION REPORT**  
**Bechtel BWXT Idaho, LLC (BBWI)**  
**Contract No. DE-AC07-99ID13727**  
**APRIL 1, 2000, THROUGH SEPTEMBER 30, 2000**

**Executive Summary**

BBWI's performance during the second six months of Fiscal Year 2000 (FY00) exceeded expectations and earned \$17,468,400 or 88.4% of the \$19,750,800 available fee.

**Critical Outcome 1.0 - Operational Excellence**

In this Critical Outcome, DOE-ID incentivized the institutionalization of Integrated Safety Management (ISM) and Environmental, Safety and Health and Quality Assurance (ESH&QA) programs that will have a beneficial impact across the range of INEEL missions and programs. The Department of Energy, Idaho Operations Office (DOE-ID) expressly maintained a fee-bearing Critical Outcome on ESH&QA to ensure contractor management focus on doing work in a safe and environmentally sound manner at the Idaho National Engineering & Environmental Laboratory (INEEL). Past history has proven that relaxation in this focus has been detrimental to the ability to accomplish programmatic objectives in a cost efficient manner. DOE-ID remains firm in its view that this institutional approach will serve mission accomplishment well in the long term.

BBWI made much progress in installing a culture of operational excellence at the INEEL during the period. An effective project management approach was used to achieve full ISM implementation. Worker knowledge of ISM core functions and guiding principles was observed to be very good, and safety culture gains were noteworthy as evidenced by worker involvement in safety teams and work planning. Progress was made on updating Safety Analysis Report/Technical Safety Requirements (SAR/TSR) documents, which provide the basic foundation of facility safety. It is a significant achievement for BBWI to upgrade these documents, most of which have been out of date for several years. BBWI provided an excellent analysis of the cost benefits of decontamination versus continued operation in radioactively contaminated areas. Many examples of significant cost savings to INEEL operations were shown to be possible with a relatively small investment in decontamination. Implementation of the results of this analysis is the basis for an area contamination reduction incentive for FY01. The comprehensive and risk-based self-assessment program developed by BBWI provides an effective system for early identification of problems, which if corrected, would minimize the potential for accidents and resulting cost impacts to ongoing operations. Significant progress was also made in establishing corrective action tracking and resolution processes. However, the effectiveness of the corrective action program in preventing recurrence needs continued management attention. The data contained in the INEEL EM Site Safety Profile has shown significant improvement since BBWI was awarded the contract in 1999 and continued through the evaluation period. Specifically, the profile for the INEEL has shown improvement in the safety performance measures relative to ISMS implementation, injury/illness/property loss, self-assessment, and corrective action planning.

BBWI institutionalized a project management system to increase program efficiency and output. The result of this achievement was in an important and first time comprehensive analysis by BBWI that resulted in bringing all projects together into a single integrated work-planning document, the Detailed Work Plan. As part of this incentive BBWI also improved performance

in obtaining quality supplies and services for high-risk programs and more cost-effective management of warehouses and inventory.

BBWI showed overall improvement in the area of environmental compliance with a reduction in the number and severity of citations from previous years, improvements in self-disclosure and follow-up, and the institution of communications positive practices. BBWI made considerable effort and met with success in proving its commitment to environmental compliance. There were several examples during the period that demonstrated further improvement is necessary to fully achieve this measure.

BBWI achieved significant success in passing the DOE-HQ Security Office of Assurance inspection and in demonstrating readiness to execute the FY01 new security budget requirements. The consequences of a deficient security program would have impacted mission accomplishment through the diversion of personnel resources and management attention, and their attendant costs.

Finally, BBWI planned and implemented a cost effective and compliant Quality Assurance program. The revised program emphasizes integration for cost effectiveness. Demonstrable evidence of quality assurance implementation by INEEL line organizations will result in increased program/project efficiency, fewer quality-related problems, and more effective ESH performance.

BBWI performed well in instilling a culture of operational excellence at the INEEL. The result has been a steady improvement of worker and public safety in INEEL operations.

### **Critical Outcome 2.0 - Mission Accomplishment**

The DOE-ID strategy surrounding the Mission Accomplishment critical outcome is focused on five-year program objectives with each year's measures reflecting required progress towards overall contract success. The Program Execution Guidance (PEG) is written to ensure a balanced approach towards completing all necessary work at the INEEL.

Fiscal Year 2000 fee distribution was heavily weighted towards six programs with the balance of the available fee uniformly distributed across other important program outcomes. The six programs were: 3100 m<sup>3</sup>; movement of Three-Mile Island (TMI)-2 to dry storage; managing the high-level liquid waste; Waste Area Group (WAG) 7; and continued successful Advanced Test Reactor (ATR) and Specific Manufacturing Capability (SMC) operations. Overall, these program performance areas improved since contract inception.

BBWI's focused the 3100 m<sup>3</sup> and TMI-2 fuel movement schedules and FY00 efforts have provided a potential path for successful completion of these two compliance milestones. BBWI exceeded the liquid waste management goals and developed sound strategies for the future High-level waste and WAG 7 activities. ATR and SMC operations continued to be highly successful. BBWI operated the ATR at 101% efficiency and met all SMC production goals by delivering quality, on-time products. BBWI earned the majority of the fee in these six key areas. BBWI made an outstanding effort to accomplish the TMI shipment and overcome the conditions of the program, which will provide a path forward for the future.

BBWI made significant progress against the five-year Science and Technology objectives and within the balance of the Environmental Management program. First year program expectations were achieved in every area and notable accomplishments were realized in several areas. Of particular note were the National Security outcomes, demonstrated leadership in the National

Mixed Waste Focus Area, Energy Resources results, Voluntary Consent Order milestone completions and the successful installation of the replacement boilers at Idaho Nuclear Technology & Engineering Center (INTEC). Other important interim achievements were the INEEL Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility siting and implementing QA Standard RW-0333P for all non-licensed Spent Nuclear Fuel activities.

Environmental Management cost performance is a concern. Significant financial resources were focused on TMI-2 and the 3100m<sup>3</sup> projects. The overall environmental management program had a negative cost variance of 6.15% during FY00.

### **Critical Outcome 3.0 - Integration of R&D with Operations**

The strategy that formed the basis for Integrating R&D and Operations was based primarily on creating an "Operations Pull." In addition, the critical outcome was to create an institutionalized process for applying INEEL technologies and to reward deployments. The third area of emphasis was on deployment of INEEL technologies on a national basis.

The key to success in effectively developing and deploying technologies is that there is value-added from an operations perspective. The initial emphasis was to establish a technology needs data collection system and to develop technology roadmaps and disposition maps to identify the barriers to program completion. The roadmaps for the High Level Waste and Voluntary Consent Order were completed as planned detailing paths forward and projected costs. Disposition maps were completed and reviewed for High Level Waste (HLW), Transuranic (TRU), Mixed, LLW and Spent Nuclear Fuel (SNF) including completing the Environmental Technology and Engineering Master Research and Development (R&D) Schedule based on disposition path Science & Technology (S&T) needs. Additionally, the Environmental Restoration disposition path was included.

The significant accomplishment in the deployment of INEEL technologies was the deployment of 42 technologies, 31 for the first time in Project Baseline Summary (PBS). The policy on integration of R&D and Operations was issued and implemented with detailed procedures. Discussions with both program and R&D staff indicate very positive reception and results. Additionally, the measure to tie National Security cyber security technologies to INEEL needs was accomplished.

The third criterion was the deployment of INEEL developed technologies to national customers. This was accomplished with the implementation of the Corporate Funded R&D projects matching the commitment of \$2.8 million dollars. Additionally, the plan for improving commercial and governmental relationships was developed and the goal of 2 new technology deployments was significantly exceeded.

### **Critical Outcome 4.0 - INEEL Revitalization**

This Critical Outcome addressed the revitalization of the INEEL's science and engineering base and facilities. The outcome was divided into six different performance areas with twenty specific measures. Except for a few minor items described in more detail in the report, the performance in all areas was very good.

Subsurface science is a major thrust of the INEEL. Excellent progress was made in strengthening this area. All milestones and deliverables were met in the identification of facility needs and the continuation of planning for the Subsurface Geoscience Laboratory. The Vadose

Zone and Long Term Stewardship road mapping deliverables were met. The plan to establish INEEL as the recognized preeminent research institution in subsurface science was developed on schedule.

In the broader context of INEEL's total mission areas, appropriate tools were developed to base line and track the scientific accomplishments of the Laboratory. Excellent support was given to NE in the Generation IV program. Progress was made in enhancing INEEL's capabilities to support the National Security missions. Cross-referencing of INEEL capabilities as they apply to all INEEL program areas was initiated, but requires additional work to obtain the maximum benefit from this effort.

Overall the accomplishments during this period form a strong foundation for continual enhancement of the INEEL technical and facility bases for meeting DOE missions.

### **Critical Outcome 5.0 - Leadership**

This Critical Outcome was developed to emphasize the importance and critical nature of establishing strong leadership capabilities during the first stages of this contract. It is imperative that BBWI develop and demonstrate the systems, behaviors, directions, and decisions necessary to effectively lead the INEEL workforce in the accomplishment of their missions and objectives.

Five objectives were developed which DOE-ID believes, if accomplished, would provide the basis for BBWI Management to develop and execute the strong leadership principles and practices necessary to achieve maximum success over the term of this contract.

BBWI delivered all products on or ahead of the established schedules and met the requirements of the agreed-upon performance measures (there are two exceptions identified in the details of this section). Overall, DOE-ID believes BBWI was successful in establishing the management and leadership fundamentals for the INEEL and is confident this represents a solid foundation to build upon in the future.

### **Program Execution Guidance (PEG) Performance**

BBWI satisfactorily met all PEG milestones and measures. Performance on three PEGs in the areas of Institutional Planning, National Security, and Tech Transfer/WFO were determined to be outstanding. There were no areas of marginal or unsatisfactory performance.

Specifically, Environmental Management (EM) mid-year concerns about real property maintenance were elevated within BBWI management. Progress was made and the first-year overall assessment was satisfactory; however, maintenance results still remain mixed. Environmental Restoration program efforts were outstanding. Every opportunity for effective project planning and management was seized by BBWI and the net outcome was a cost-effective, forward-looking strategy for tackling future program challenges. Mixed Low Level Waste (MLLW) operations and the Low-level waste program also exceeded expectations.

## 1.0 Operational Excellence (\$2,980K)

Fee Earned: \$2,871K

Perform work in a safe and compliant manner, within an approved technical operations basis, which includes administrative management systems, ESH&Q, Conduct of Operations, Conduct of Maintenance, etc. as required by contract.

### 1.1.1 Performance Criterion

Achieve full implementation of Integrated Safety Management at the INEEL so that all aspects of work are aligned to the principles of ISM. For this performance period, the focus will be on Phase II verification, SAR/TSR implementation, corrective action tracking and resolution, self-assessment, and developing a cost-benefit analysis to support how contamination areas can be appropriately reduced in future performance periods.

#### 1.1.1.1 Achieve DOE-ID verification of Phase II ISMS NLT August 1, 2000. (\$585K)

**Evaluation:** Achieved. BBWI completed ISM Phase II verification for the balance of INEEL facilities on June 15, 2000. BBWI met a demanding schedule, made all the more difficult due to BBWI assuming the INEEL contract in the middle of the INEEL ISM project. BBWI was directed by DOE to assume the existing ISMS Description Document, and then implement that system throughout the remainder of the INEEL, in accordance with schedule that BBWI also had no input in establishing. BBWI completed independent Phase II verifications throughout the remainder of the INEEL facilities and programs, thus becoming the only DOE Management & Operating (M&O) to complete such outside verifications for all facilities and programs. All verification objectives were met, and many noteworthy practices were identified. The verifications confirmed that the approved INEEL ISM system was implemented by BBWI within all facilities and programs reviewed. Worker knowledge of ISM core functions and guiding principles was observed to be very good, and safety culture gains were noteworthy as evidenced by worker involvement in safety teams and work planning.

**Earned Fee:** 100%

#### 1.1.1.2 Meet scope and schedule of DOE approved SAR/TSR Implementation Schedule ID: PLN-489 Rev. 0. (\$130K)

**Evaluation:** Partially achieved. BBWI provided the required deliverables to DOE-ID by September 30, 2000. DOE-ID conducted a preliminary quality review of these documents to determine if they met minimum acceptance criteria established in DOE Orders. All documents were acceptable to DOE-ID for input into the standard review and approval process with the exception of two Category III Facility SAR upgraded chapters. Fee was allocated among the deliverables in accordance with a formula that gave greater weight to higher hazard class facilities. The two SARs not meeting all of the review criteria were lower hazard class facilities and the deficiencies noted as minor. Further, BBWI took immediate action to correct these discrepancies and re-submit revised SARs that met the acceptance criteria. DOE-ID reviewed and documented BBWI's performance in surveillance OSD-2000-138 and OSD-2000-140.

**Earned Fee:** 95% or \$123.5K

#### 1.1.1.3 Submit cost benefit analysis by August 30, 2000 addressing INEEL contamination areas to facilitate selecting areas for reduction in FY 2001. (\$65K)

**Evaluation:** Achieved. The contractor provided DOE an excellent analysis of the costs and benefits of decontamination versus continued operation in radioactively contaminated areas. This cost benefit analysis is the first of a kind for the INEEL in assessing radiological areas for cleanup. The analysis considered operational costs and compared cleanup costs, yielding a cleanup decision based on cost and safety. This resulted in a standard methodology for evaluating all areas for potential cost savings. Over 540,000 square feet of contaminated area were evaluated. Cleanup of the identified areas will greatly reduce the cost of performing work in those areas, reduce the potential for contaminating personnel, and reduce the risk of spreading contamination to other areas. DOE-ID reviewed and documented BBWI's performance in DOE-ID surveillance OSD-2000-114. Implementation of the plan is the basis for an area contamination reduction incentive for FY01.

**Earned Fee:** 100%

- 1.1.1.4** Develop and implement a risk-based integrated self-assessment plan and provide DOE-ID a comprehensive risk-based integrated self-assessment plan and schedule for FY01 by September 15, 2000. **(\$260K)**

**Evaluation:** Achieved. A formal plan (PLN-672) for implementation of an integrated assessment program was developed and submitted to DOE-ID. The plan was reviewed against DOE P 450.5 and DOE ISM guidance documents and was approved by DOE-ID. The plan contained goals and performance measures, the strategy and work scope for developing and implementing the program, and the associated schedule. The comprehensive and risk-based self-assessment program developed by BBWI under this plan provides an effective system for early identification of problems, which once corrected would minimize the potential for accidents and the resulting cost impacts to ongoing operations. The plan was executed, the programs implemented, and the FY01 assessment plan and schedule were developed by the due date of September 15, 2000.

**Earned Fee:** 100%

- 1.1.1.5** Implement an effective and integrated corrective action tracking and resolution process by September 1, 2000. **(\$260K)**

**Evaluation:** Partially achieved. Significant progress was made in establishing corrective action tracking and resolution processes, including measures for tracking the status of corrective actions. BBWI completed an Issues Management Excellence Plan (PLN-660) in June 2000 and began implementation. Corrective action tracking and resolution procedures were revised and became effective on September 1, 2000. These new procedures improved integration of the process and set a higher expectation for effectiveness. However, the effectiveness of the corrective action program in preventing reoccurrence, did not demonstrate adequate progress during the evaluation period. Management actions and the numeric measures did not address the effectiveness of the issues management program to prevent repeat occurrences. This deficiency was recognized by BBWI and appropriate management attention was directed to resolve this concern.

**Earned Fee:** 70% or \$182K

### **1.2.1 Performance Criterion**

Establish and institutionalize a Project Management System to increase program efficiency and output.

- 1.2.1.1** By September 30, 2000, develop and issue updated Project Management Baselines for those projects identified in Critical Objective 2.1.\* Develop and issue change control procedures applicable to these baselines by September 30, 2000. These baselines reflect revised procedures and associated baseline guides. (\*Ship 3100m<sup>3</sup> TRU Waste, Treatment of LLW and Disposal of LLW and MLLW, On-site movement of TMI-2 fuel, Spent nuclear fuel transfer from building 603 to building 666, Site Treatment Plan activities, Waste Area Group 3, Waste Area Group 7, Voluntary Consent Order, and all other WAGs with Federal Facilities Agreement/Consent Order (FFA/CO) milestones.) **(\$300K)**

**Evaluation:** Achieved. The baselines for the identified projects were prepared and of high quality. These and the associated Baseline Change Proposals were signed by both DOE and BBWI. The change control procedure was revised and issued. The Project Management System Requirements document and associated implementing procedures and guides were published. An assessment of existing projects was completed and a schedule developed to bring deficient projects into compliance with the requirements document. The measure was achieved by September 30, 2000. Managing projects with this system will result in increased program efficiency and output. This incentive caused BBWI, for the first time, to perform a comprehensive analysis and bring all INEEL projects together into a single integrated work planning document, the Detailed Work Plan.

**Earned Fee:** 100%

- 1.2.1.2** By June 1, 2000 review, enhance, and implement procedures to ensure that quality supplies and services are obtained for high-risk programs. By September 30, 2000, issue procurement procedures to ensure procurement planning is instituted throughout all program planning and execution phases. By September 30, 2000, provide a performance report that documents improved high-risk procurement awards and more cost-effective management of warehouses and inventory. **(\$200K)**

**Evaluation:** Achieved. All performance elements were achieved by the due dates. A final performance table documenting improved high-risk procurement awards for FY00 was provided to DOE September 15, 2000. DOE-ID used four key metrics to measure improvement: negotiated savings, procurement cycle time (which impacts inventory levels), quality of awards, and awards at or below budget. The results confirmed that BBWI improved performance on high-risk procurement awards. In addition, BBWI is implementing a system for more cost-effective management of warehouses and improved inventory control.

**Earned Fee:** 100%

### **1.3.1 Performance Criterion (\$250K)**

Improve environmental compliance. Show demonstrable improvement as indicated by a reduction in the number and severity of violations and a strong commitment to continuous improvement.

- 1.3.1.1 DOE will measure success in the following ways: 1) Number of citations received; 2) Severity of citations; 3) Commitment to effective corrective actions; 4) Effective self-disclosure and follow-up; 5) Innovative approaches to achieve compliance; 6) Involvement of the workforce; 7) Effective communication between BBWI and DOE-ID, between BBWI management and workers, and communication between BBWI and regulatory agencies.

**Evaluation:** Partially achieved. The number and severity of citations, particularly as indicated by the most recent Resource Conservation and Recovery Act (RCRA) Notice of Violation (NOV), were reduced from past years. Three citations or enforcement action notices were received during this period with proposed penalties of approximately \$150,000 compared to one RCRA NOV in 1999 with proposed penalty of \$839,600. Air quality and water quality inspections resulted in no indications of Department of Environmental Quality (DEQ) violations. There were also improvements in self-disclosure to the regulating agencies with implementation of a standard monthly disclosure log and verbal notification of more sensitive issues. Implementation of immediate corrective actions during inspections or soon afterward was very good as demonstrated during the April 2000 RCRA inspection and the corrections to the Biennial Report. Positive practices were also instituted in internal communications and communication with DOE-ID, including regular biweekly meetings on PEG and PEMP progress between BBWI and DOE-ID, BBWI internal notices on environmental issues and their resolution. BBWI was also successful at negotiating some innovative methods for compliance such as the "no longer contained in determination" for the groundwater at INTEC, which resulted in cost avoidance of approximately \$350K/yr. The determination allows INEEL to manage purge water as a non-hazardous waste stream with limited annual sampling and analysis. BBWI made considerable effort and was successful in proving the company's commitment to environmental compliance to the Idaho DEQ. The Idaho DEQ publicly stated on more than one occasion that environmental compliance at the INEEL by DOE and its contractor showed substantial improvement.

The trend for environmental compliance improvement is positive, and represents improvement over past years. However, a few events were observed that indicate further improvements were necessary to achieve this measure. One of the citations during this period was for inaccuracies in the RCRA Biennial Hazardous Waste Report, which is certified by DOE-ID and the contractor, and inconsistency with the Annual Hazardous Waste Generator Report. Although a number of quality problems were corrected prior to submitting the report to DEQ, DEQ identified additional problems once they reviewed the report. A second event came from the Security Training Facility (STF) asbestos demolition project violations and subsequent lapse of the asbestos notification during the project. In both of these events the initial corrective actions taken by the contractor did not prevent recurrence of noncompliance. A third event was a lack of planning and scheduling for an air quality permit for the INTEC boiler replacements. Extensive effort was required on the part of both DOE-ID and BBWI to ensure that delays in obtaining permits did not have a major impact on project cost.

**Earned Fee:** 90% or \$225K

#### **1.4.1 Performance Criterion**

Successfully pass DOE-HQ Security Office of Assurance (OA) inspections based on DOE requirements in topical areas of S&S as well as demonstrating readiness to execute 2001 program to new budget requirements.

##### **1.4.1.1 Successfully pass OA inspection. (\$387K)**

**Evaluation:** Achieved. The DOE-HQ Office of Independent Oversight and Performance Assurance conducted a comprehensive inspection of the INEEL safeguards and security programs during May 2000. The inspection evaluated EM, DOE-ID, and BBWI implementation of selected topical areas, including protection program management, protective force, physical security systems, nuclear material control and accountability, classified matter protection and control, cyber security, and personnel security. The overall effectiveness of the INEEL safeguards and security program was evaluated by collectively analyzing the results of the topical reviews to assess the protection of special nuclear material (SNM) and classified and sensitive matter. The resulting Office of Independent Assessment report dated June 23, 2000, states "The overall INEEL safeguards and security program currently provides reasonable assurance that special nuclear material and classified sensitive information are protected. Therefore, the program was rated satisfactory." Moreover, BBWI achieved a rating of satisfactory in each of the topical areas evaluated.

The consequence of not passing this inspection would have resulted in a significant cost impact in responding to identified findings. Due to the significant proactive effort by BBWI, the INEEL was the first site in the complex to successfully pass this type of inspection (upon first review) with the highest rating possible in all of the areas assessed.

**Earned Fee:** 100%

##### **1.4.1.2 By September 30, 2000, demonstrate readiness to execute the Safeguards and Security Program elements to the new program and budget guidelines. (\$43K)**

**Evaluation:** Achieved. On August 31, 1999, T. J. Glauthier, Deputy Secretary directed by memorandum that, beginning in FY 2001, Safeguards and Security funding contained in the budgets of other organizations, whether directly funded or funded through indirect or overhead accounts, would be identified (including all appropriate overhead costs) and transferred to SO. BBWI aggressively worked to complete the initial realignment of funds and addressed outstanding issues with the new structure. The resulting Detailed Work Plan (DWP) was submitted to DOE-ID on September 30, 2000. This plan outlines the work scope for FY 2001 and the budget that it will require to provide protection of INEEL nuclear materials, classified and unclassified sensitive information, and facilities. It follows the guidelines established by DOE-HQ, CFO and identifies the target level cost, schedule and scope of the INEEL Safeguards and Security Program.

**Earned Fee:** 100%

#### **1.5.1 Performance Criterion (\$500K)**

Fully evaluate, revise, and implement an effective and compliant Quality Assurance Program. Implementation of an effective and compliant QA program.

**1.5.1.1** Develop a revised Quality Assurance Plan to DOE-ID by June 30, 2000. Implement the revised plan in accordance with scope and schedule by September 30, 2000.

**Evaluation:** Achieved. The revised Quality Assurance Plan was delivered June 29, 2000. DOE-ID reviewed the plan and determined it to be in full compliance with DOE Order 414.1 and 10 CFR 830.120. BBWI implemented the plan in accordance with the established schedule. In fact, this plan is a culmination of effort that BBWI has undertaken since it assumed its responsibilities at the INEEL. BBWI quickly recognized the extensive deficiencies of the INEEL QA program and conducted its own detailed assessment. This assessment forms the basis of the Quality Assurance (QA) program. In addition to the performing the assessment, BBWI implemented a number of actions to improve the QA program to the level of an effective program. These are highlighted in the QA plan and demonstrate BBWI commitment to improving the QA posture of the INEEL. Key aspects of the QA improvement plan include the development of a consistent QA Program requirement document for implementation by all organizations. Because this plan is an integrated QA improvement plan, it also included elements associated with the integrated assessment process, corrective action management, performance measurement, QA training and Price-Anderson Amendments Act compliance. The measure specifically required that BBWI implement the plan in accordance with the scope and schedule by September 30, 2000. BBWI accomplished this objective. Implementation is proceeding per the plan schedule and scope. The fee is based on the results of a DOE-ID review to determine the effectiveness of the plan, in terms of whether the line organizations fully understand, embrace, and are actively implementing the applicable initiatives in the Quality Assurance Plan. Effectiveness was also measured by a review of the metrics in the INEEL quarterly Performance Reporting and Analysis report. Demonstrable evidence of implementation of quality assurance by line organizations at the INEEL will result in increase program/project efficiency, fewer quality-related problems and more effective ESH performance.

**Earned Fee:** 100%

## **2.0 Mission Accomplishment (\$10,661K)**

**Fee Earned: \$8,850K**

Position the INEEL as a modern and sustainable National Laboratory by supporting and executing overall programs in target DOE mission areas within the determined cost, scope, and schedule.

### **2.1.1 Performance Criterion (\$1.3K)**

Ship 3,100 m<sup>3</sup> TRU out of Idaho by December 31, 2002 (cubic meters shipped per year).

#### **2.1.1.1 Ship 96 m<sup>3</sup> out of Idaho by September 30, 2000.**

**Evaluation:** Achieved. Shipment of 103.4 m<sup>3</sup> of TRU waste was completed on September 30, 2000, exceeding the performance measure requirements to ship 96 m<sup>3</sup> to Waste Isolation Pilot Plant (WIPP). The milestone to ship 96 m<sup>3</sup> to WIPP was met with shipment #17 (KN000908), which left the INEEL September 30, 2000. WIPP confirmed receipt of the shipment on October 1, 2000. This achievement includes covering a 4-month delay from the New Mexico Environmental Department (NMED).

**Earned Fee:** 100%.

### **2.1.2 Performance Criterion**

Meet treatment and disposal goals for LLW and meet the disposal goals for MLLW. Manage the processes and facilities to store, treat and dispose of low level waste (LLW) generated at the INEEL and expedite disposition of MLLW from INEEL MLLW storage facilities.

#### **2.1.2.1 Dispose of 4,000 m<sup>3</sup> LLW by September 30, 2000. (\$33K)**

**Evaluation:** Achieved. As of September 30, 2000, BBWI disposed of 4,344 m<sup>3</sup> of INEEL LLW. This exceeded the FY00 goal.

**Earned Fee:** 100%.

#### **2.1.2.2 Treat 2,500 m<sup>3</sup> LLW by September 30, 2000. (\$33K)**

**Evaluation:** Achieved. Total LLW treatment for FY00 was 2,994 m<sup>3</sup>, exceeding the goal by 19.6%. LLW treatment results are documented in the Integrated Waste Tracking System (IWTS) Waste Type Matrix Report.

**Earned Fee:** 100%.

#### **2.1.2.3 Dispose of 52 m<sup>3</sup> MLLW by September 30, 2000. (\$34K)**

**Evaluation:** Achieved. In FY00 over 60 m<sup>3</sup> of MLLW was disposed. Container barcodes and volumes were documented in the IWTS database.

**Earned Fee:** 100%

### **2.1.3 Performance Criterion (\$1,075K)**

Transfer TMI-2 spent nuclear fuel to dry storage by 6/1/01.

### 2.1.3.1 Make 17 full shipments to INTEC by September 30, 2000.

**Evaluation:** Not achieved. In FY00 less than the required minimum number of shipments (eleven) were made from Test Area North (TAN)-607 to the TMI-2 ISFSI (Chemical Processing Plant (CPP)-1774). Only one shipment was made in FY00. Until 17 TMI-2 transfers are completed, no fee will be earned in FY01.

**Earned Fee:** 0%

### 2.1.4 Performance Criterion (\$275K)

Transfer CPP-603 spent nuclear fuel to storage in CPP-666 by September 30, 2000.

#### 2.1.4.1 Transfer CPP-603 spent nuclear fuel to storage in CPP-666 by September 30, 2000.

**Evaluation:** Achieved. All transfers of SNF from CPP-603 south basin were completed on April 28, 2000. The work was completed five months ahead of the performance measurement schedule, and 8 months ahead of the Idaho Settlement Agreement milestone. SNF was physically relocated when fuel was removed from the south basin of CPP-603 and transferred to CPP-666. DOE-ID issued a letter (INTEC-SNF-00-022) to the Governor of Idaho on May 18, 2000, declaring that the court order milestone was met.

**Earned Fee:** 100%

### 2.1.5 Performance Criterion Reserved

### 2.1.6 Performance Criterion (\$325K)

Meet all required treatment milestones in accordance with the Site Treatment Plan (STP). Continue working to meet STP milestones for MLLW and HEPA filters by September 30, 2000.

#### 2.1.6.1 Meet the milestones for treatment in accordance with the Site Treatment Plan.

**Evaluation:** Achieved. All the required treatment milestones were met in accordance with the STP as follows:

- Backlog - TAN cask Dismantlement - 7m<sup>3</sup> (9/30/00). The fuel Module Installation and Removal of Cask was shipped on August 1, 2000, ahead of schedule and completed this measure with a total cask dismantlement volume of 7.1m<sup>3</sup>.
- Backlog - Waste Experimental Reduction Facility (WERF) Incinerator - 60m<sup>3</sup> (9/30/00). The volume of backlog of MLLW processed through WERF was 193.1m<sup>3</sup>, which is an additional 222% over the PEMP measure. This measure was met in early June 2000 with a completion of WERF burn 109.
- Waste Reduction Operation Complex (WROC) Sizing - P5 - Commence operation (9/30/00). Commenced operation September 28, 2000.
- RH Immobilization - P1 - Identify funding (12/30/99). Completed on December 22, 1999. Letter was issued from DOE-ID to DEQ.
- Debris Treatment - P5 - Commence operation (9/30/00). This requirement was deleted by approved change control. Commencement was delayed due to a public hearing on the Debris Treatment Permit which postponed issuance of the permit to late calendar year 2000.
- Backlog - HEPA Filter Leach - 5.6 m<sup>3</sup> (9/30/00). The equivalent to 5.6 m<sup>3</sup>, 50 filters, were leached as of July 15, 2000. All 50 filters passed sampling validation in early August 2000.

**Earned Fee:** 100%.

### **2.1.7 Performance Criterion**

Manage liquid waste inventory at the tank farm. Continue to manage the liquid waste at the tank farm through a variety of activities including waste minimization, developing a HLW path forward and evaporating the liquids in the tanks.

**2.1.7.1 INTEC Liquid Waste Minimization** --Reduce the amount of liquid waste being generated at the INTEC during FY 2000, which is then stored in the Tank Farm, by up to 47% in order to achieve the over all objective as stated in the INTEC Waste Minimization Plan, PLN-225, Rev. 3 or approved revisions. **(\$760K)**

**Evaluation:** DOE-ID reviewed BBWI's performance against the Monthly Tank Farm and Process Equipment Waste Evaporator (PEW) Monthly Report Tables and concur with the claim (CCN 00-014297) as submitted. Overall performance against the adjusted baseline was well above the 47% maximum performance standard established within the PBI. Cost constraint requirements were not violated. Full performance fee was earned.

Performance against the five-year baseline of PLN-225 *INTEC Waste Minimization Plan* continued to reflect the impacts of numerous process improvements implemented in previous years. In FY00 several new contractor efforts combined with these historical improvements to aid in overcoming an overall poor performance by the Process Liquid Waste Evaporator (PEWE) for the year. These most notable of these include:

- Within the Analytical Laboratory a concerted effort was made to identify and fix a set of leaking valves that contributed to the facility's radioactive liquid waste discharge. In addition, the replacement of an entire process that utilized perchloric acid and required routine safety wash down of the associated hood system resulted in ending that routine generation.
- A novel chemical decontamination process was utilized in the cleanup of several Light Duty Utility Arm (LDUA) samplers saving time and reducing liquid radioactive waste generated.
- Use of strippable coatings in several job set-ups resulted in significant reduction in post-job decontamination efforts.

The very successful calciner high temperature test run also contributed to BBWI's success in meeting the waste reduction goal for FY00.

**Earned Fee:** 100%

**2.1.7.2 Develop technology assessment on a path forward for sodium-bearing, liquid waste by May 1, 2000.** The path forward represents a BBWI recommendation for the "Decision Maker" and may be a part of the EIS ROD decision-making process. **(\$460K)**

**Evaluation:** Achieved. On May 1, 2000, letter JHV-79-00 (CCN 00-008354) *Recommendation for the Processing of Sodium Bearing Waste*, was delivered to DOE-ID. This letter included the report developed by BBWI stating its recommendation for the Idaho High-Level Waste and Facility Disposition Environmental Impact Statement preferred alternative. Successful completion of the technology assessment for a path forward for sodium-bearing waste provided the technical basis for the revised INTEC

Waste Program baseline for processing the remaining tank liquids and newly generated liquid wastes. The technology assessment was integral to development of the Final HLW EIS, the associated Record of Decision, and for meeting the Idaho Settlement Agreement milestone to cease use of the Tank Farm by 2012. Also included was an innovative electronic file system with links to all backup materials used to develop the recommendation, which was an integral part of the EIS ROD decision-making process.

**Earned Fee:** 100%

### **2.1.8 Performance Criterion**

Develop a viable revised strategy for remediation of WAG 7. Complete the WAG 7 Strategic Review, prepare documentation with recommended path forward, and provide regulatory documentation reflecting agreed upon strategic initiative.

**2.1.8.1** Submit to DOE the implementing regulatory documentation (identified as three letters with a delivery of June 30 per DOE-ID direction.) **(\$490K)**

**Evaluation:** Achieved. Three letters were delivered to DOE-ID ahead of schedule on June 29 as a critical step in a much larger effort to negotiate a technically defensible path-forward for the RWMC remediation. Establishing this path-forward was the core of this performance measure. Subcontractors, key lab personnel, and senior management were brought together by BBWI to prepare a high quality defensible document.

Following the issuance of the documents, BBWI continued its effort to support DOE-ID during subsequent discussions with DOE-Headquarters (DOE-HQ) and the regulatory agencies. BBWI supported DOE-ID in several meetings with DOE-HQ in March, April, and May. These meetings required presentation materials, a communications plan, and senior management involvement. Presentations were supported at several levels at DOE-HQ. Added complexities, which required additional evaluation during the same time period, included a DOE-HQ decision regarding a Hanford project that proposed retrieval, treatment, and disposal. BBWI also provided excellent planning and support for a meeting with the regulators for the week of April 24, 2000. All of these meetings required flexibility, real-time changes to planning documents, a contingent of lab staff, combined with project staff, to address the numerous changes proposed and adaptability to use the discussions as an alternative means for delay of the Stage II schedule.

BBWI also supported a series of meetings with the governor, congressional delegation, and the Idaho Department of Environmental Quality, both by providing material and participation in the meetings, or through appropriate communications prior to the meetings that assisted in setting the stage for the meetings.

All of the above activities were completed without any adverse impact on the enforceable deadlines for the Stage II Draft RD/RA Work Plan submittal.

**Earned Fee:** 100%

**2.1.8.2** Submit to DOE-ID a rescoping of the WAG 7, OU 7-13/14 Remedial Investigation/ Feasibility Study DRAFT Statement of Work and DRAFT Work Plan Addendum by September 25, 2000. **(\$210K)**

- Annotated outline for Second Addendum to the Work Plan discussed with EPA and IDHW (5/16/00)

- Subcontract award for development of DQO's (according to EPS guidance) in support of Second Addendum to the Work Plan for OU 7-13/14 (6/26/00)
- Revise OU 7-13/14 Scope of Work and submit to tech editing (7/30/00)
- Submit OU 7-13/14 revised Scope of Work to DOE-ID for Review (8/18/00)

**Evaluation:** Achieved. The revised RI/FS Draft Statement of Work was sent to DOE-ID on August 12, 2000, and forwarded to the EPA and Idaho DEQ on August 18, 2000. The Draft Work Plan Addendum was completed on schedule but submittal to DOE-ID was postponed until October 31, 2000, by request of the regulatory agencies during the August 28 – August 31 meetings. The Draft Statement of Work reflects the plan for maintaining the enforceable schedule.

**Earned Fee:** 100%

### **2.1.9 Performance Criterion (\$210K)**

Provide a recommended site selection for the 40-acre INEEL CERCLA Disposal Facility (ICDF). Perform a WAG 3 INEEL CERCLA Disposal Facility Phase II Geophysical Investigation. With resulting data, produce a bedrock contour map, identifying a recommended site selection for the 40-acre INEEL CERCLA Disposal Facility.

**2.1.9.1** Complete the WAG 3 ICDF Phase II geophysical investigation and produce a bedrock contour map with recommended site selection for the facility by August 1, 2000.

**Evaluation:** Achieved. A bedrock surface map was submitted ahead of schedule and was accepted by EPA and Idaho DEQ on May 25, 2000. The ICDF project schedule was developed based on consensus between BBWI, DOE-ID, EPA X, and Idaho DEQ as part of informal dispute resolution in late December 1999. The schedule required completion of two phases of geophysical surveys to establish the location of the final ICDF study area. The geophysical investigations were designed to define the top of bedrock elevations. Expectations of the achievable quality of work product resulted in 2 phases, a generalized phase I, and a more specific phase II. The data quality of phase I significantly exceeded expectations and obviated the need for phase II.

By completing this criterion 65 days ahead of schedule, \$85,000 in costs associated with additional scope were avoided. The \$85,000 cost avoidance was reflected in a reduction in the Estimate At Completion (EAC) for the ICDF project. A change to the Approved Funding Plan (AFP) was not done as the funds were scheduled to be applied within WAG 3 (PBS ER-103) to accelerate the Service Waste Water Discharge Facility construction, and allow it to be awarded by subcontract this summer. The geophysical studies were on the critical path for opening the ICDF. This acceleration directly impacts the opening date for the ICDF, a high priority event. The opening date for the ICDF is a critical milestone in the out-year budgets for WAGs 1, 3, 4, 5, and 6/10.

**Earned Fee:** 100%

### **2.1.10 Performance Criterion (\$150K)**

Meet Voluntary Consent Order Milestones.

**2.1.10.1** Meet all milestones delineated in Appendices A and B of the Consent Order Plan within the overall budget for FY 2000.

**Evaluation:** Achieved. Three Voluntary Consent Order milestones delineated in the Consent Order Action Plan were met ahead of schedule and within budget as follows:

- NEW-CPP-020—Submit a list of proposed interim actions to the State of Idaho, Department of Environmental Quality, for review and approval. Enforceable date: 6/30/00; Completion date: 6/15/00
- SITE-TANK-004—Mark each tank; evaluate status of each item to determine if it is a tank, ancillary equipment, ... Enforceable date: 9/30/00; Completion date: 9/15/00
- NEW-TRA-004—Submit draft RCRA Closure Plan and schedule for DEQ review and DOE revision. Enforceable date: 9/30/00; Completion date: 9/15/00

**Earned Fee:** 100%

#### **2.1.11 Performance Criterion (\$100K)**

Implement QA Standard RW-0333P for all non-licensed Spent Nuclear Fuel activities by September 30, 2000

**2.1.11.1** Implement QA Standard RW-0333P for all non-licensed Spent Nuclear Fuel activities by September 30, 2000.

**Evaluation:** Achieved. The Quality Assurance Plan (QPP) with supplier matrix and the QPP Implementation Plan were transmitted to DOE-ID for approval on August 23, 2000, and September 12, 2000, respectively. Resolution of DOE comments was agreed upon in a meeting held September 25, 2000. DOE approved the documents on September 27, 2000. Implementation of the QPP is considered complete. DOE will conduct an audit of the BBWI performance in FY01.

**Earned Fee:** 100%

#### **2.1.12 Performance Criterion (\$100K)**

Continue characterization and remediation of ER release sites and facilities in accordance with the Federal Facilities Agreement and Consent Order. Regulatory documentation will be generated and agreed upon by the regulators consistent with approved enforceable milestones. Remediation and Decontamination and Dismantlement activities will be performed as defined by detailed work packages and safety documentation.

**2.1.12.1** Complete 3 facility assessments, 16 release site assessments, 4 facility completions, and 11 release site completions by September 30, 2000.

**Evaluation:** Achieved. Performance to the measure exceeded expectations. All required assessments and completions were accomplished during the required timeframe. One additional facility completion was performed.

**Earned Fee:** 100%

#### **2.2.1 Performance Criterion**

Produce science and technology products that are recognized to be state-of-the-art and support current customer Science and Technology needs to enhance INEEL's capabilities to meet mission requirements (e.g., EM—also see related measure under Performance Criterion 3.2.1 for additional planned technology deployments to enhance INEEL's capabilities to meet site mission requirements for EM). Conduct basic and applied research, which meets the highest standards of the scientific community, and addresses real DOE mission goals. Provide

technically credible data and new, recognized knowledge which is used in implementing missions and further development of technologies for mission purposes.

- 2.2.1.1** By September 30, 2000, complete the design and fabrication of an ion trap, secondary ion mass spectrometer (IT-SIMS) to determine the chemical speciation of radioactive and toxic metals at the top monolayer of real-world materials. (**\$30K**)

**Evaluation:** Achieved. The ion gun, deflector subassemblies, dynode and channel plate subassemblies were completed. Instrumentation was developed and tested to ensure proper operation. DOE-ID verified completion during a visit to the laboratory and observation of instrumentation. Plans are currently under development to stage instrumentation for chemical speciation analyses to TRA in FY01.

**Earned Fee:** 100%

- 2.2.1.2** By September 30, 2000, design and test a partially implicit, pressure based [implicit continuous Eulerian (ICE) type] computational method for the solution of the smooth particle hydrodynamic (SPH) formulation for efficient simulation of low speed flows. (**\$20K**)

**Evaluation:** Achieved. The computational method was designed and tested, and demonstrations of its effectiveness were provided to DOE, including its importance for the subsurface science initiative. The numerical models will be used to predict the fate and transport of contaminants in the vadose zone at the INEEL in order to estimate the removal of mobile contaminants from groundwater by natural processes in the vadose zone.

A computer demonstration was held on September 3, 2000, to verify attainment of the measure. Discussions regarding development and possible applications were held, and continuing development of this algorithm is covered by future milestones.

**Earned Fee:** 100%

### **2.2.2 Performance Criterion**

Produce science and technology products that are recognized to be state-of-the-art and support current EM Environmental Quality needs. Conduct basic and applied research, which addresses real customer needs. Provide data and knowledge useful for formulating cleanup decisions and development of cleanup technology.

All three measures under this criterion are challenging and go a long way in assisting the development of science and technology products in support of EM needs. The National Mixed Waste Focus Area measure incorporates the added challenge of delivering a broad range of products across the complex. On this basis the available fee for the Mixed Waste Focus Area is weighted more heavily for this criterion. The available fee for the Mixed Waste Focus Area measure is \$85. The available fee for the Office of Science and Technology Management Plan and the Multi-Detector Array measurements is \$70K each.

- 2.2.2.1** Complete development of the Office of Science and Technology Management Plan (September 30, 2000). (**\$70K**)

**Evaluation:** Achieved. The OST Management Plan was completed, including resolution of all comments and incorporation of all editorial revisions and accepted by

DOE-EM Office of Science and Technology. The plan provides EM with a source of sound technical and scientific input. The Office of Science and Technology received 300 copies of the plan.

**Earned Fee:** 100%

**2.2.2.2** Perform the first Multi-Detector Array prototype measurements by September 29, 2000 (demonstrates ability to measure atomic structure in a new manner). Supports spent nuclear fuel, TRU, and national security programs and products. **(\$70K)**

**Evaluation:** Partially Achieved. Two of the three activities were attained as follows:

1. Successful measurement of spent fuel (N Reactor) using the IPNS facility was conducted in May 2000. (75%)  
An experimental analysis report dated September 2000 was prepared, describing the setup, measurements taken, data reduction, experiment analysis, and conclusions. The report is titled Irradiated Fissile Material Measurement at the Intense Pulsed Neutron Source (IPNS) Facility, INEEL/EXT-2000-01161.
2. Successful measurement of fresh fuel using the full MDAS system at ANL-W was conducted on August 30. (15%)  
On August 30, a neutron beam was generated and work on optimizing the fission peak to background ratio with the cold fuel element was initiated. This included selecting the best detector collimation scheme, adjusting data acquisition to enable the time window, and other optimization activities. A letter report, dated September 2000, was prepared detailing this activity.
3. Measurement of a spent fuel rod or TRU waste drum was not initiated due to the failure of a power supply in the Fiber Optic Chassis. (10%)  
The component was returned to the vendor for repair on September 15, 2000, making the accelerator inoperable.

**Earned Fee:** 90% or \$63K

**2.2.2.3** Effectively lead the technical aspects of the National Mixed Waste Focus Area via the following four indicators: **(\$85K)**

1. Effective definition of technical solutions across the DOE complex, as approved by the End User Steering Committee (August 1, 2000). (25%)
2. Adequate technology delivery to solve complex wide problems based on the MWFA Annual Performance Plan. (25%)
3. Technical progress measured against the baseline. (25%)
4. Define, by August 15, 2000, a balanced investment portfolio including basic science through deployment and using all available solution resources (i.e., Environmental Management Science Program, University Program, Industry Program, Accelerated Site Technology Deployment and crosscuts.) (25%)

**Evaluation:** The four indicators were partially achieved as follows:

Indicator 1 -

Technical responses were placed in IPABS for all assigned needs and comprehensive discussions took place with the end users. A very successful annual review with the End User Steering Committee was completed, culminating in the completion of the MYPP. Sites are continuing to update their PBSs and the final number of technologies included will not be known until first

quarter of FY 2001. Initial review indicates that the focus area should have 25% of funded activities recognized in PBSs.

Use of technical resources includes Industry Program, WETO, DIAL, and FIU. BBWI started a project with the University Robotics Program in support of HANDSS-55 vision system. The work is with the University of Tennessee at Knoxville on an enhanced 3D sorting system. Use of subject matter experts is manifested in several forms, from ASME reviews and use of other experts for one-time reviews, to the sustained availability of specific experts. The expectation for this measure is the availability of multiple topical experts. Two experts are now available, one in Effluent Monitoring and Control and another in the ATT program.

The CRB presentation was delivered to DOE-ID with only minor changes required. Four placeholders were constructed in the FY 2002 CRB to support the demonstration and deployment of solutions under development during FY 2000 and 2001. It is recognized that targeted placeholders are used in the CRB process and that specific projects are identified between completing the CRB and preparing the PEG. All FY 2001 PEGs identified executable activities.

#### Indicator 2

Seven demonstrations were planned for FY 2000 and all but two were completed by year-end. The two projects delayed were Particulate CEM and the Mercury CEM. Both demonstrations were initiated the fourth quarter of FY 2000 and will be completed the first quarter of FY 2001. Four "ready for implementation solutions" were planned in FY 2000, two were implemented on schedule and the other two are delayed until first quarter of FY 2001. Eight deployments were scheduled for FY 2000. Five deployments were completed. One project at LANL is likely to be delayed because of CMR shutdown and fire related problems. Two ASTD projects are not going to be completed as planned due to difficulties encountered by the project sponsors at SRS and RFETS. The RFETS deployment was terminated following the completion of treatability tests and the SRS project will proceed but will not be completed until FY 2001.

#### Indicator 3

The September 2000 analysis projects a final estimate-at-completion of 6.5 % or \$170K. The \$170K was to be used for a contract for Dr. Randy Seeker, but will be delayed until FY2001 to place the contract through NETL. The September 2000 analysis projects a final estimate-at-completion of 8.7 % or approximately \$2,145K when box procurement, ASTD projects, and Grants are taken into consideration.

#### Indicator 4

Five projects were initiated with DIAL and two EMSP projects were identified that could be moved (depending upon funding availability) into the applied research phase. At this time funds do not appear to be available. One Florida International project was defined for FY 2000 involving the analysis of CEM test data. Within the thirty plus solution development activities, including EMSP projects, the focus area has at least one project in each of the five categories.

**Earned Fee:** 90% or \$76.5K

### **2.2.3 Performance Criterion**

Produce science and technology products that are recognized to be state-of-the-art and support current customer Energy Resources needs. Enhance capabilities in order to support DOE missions in Energy Resources with focus on DOE NE, EE, FE, and SC. Release RELAP-3D version 1.2 publish criticality safety data in the 2000 Edition of the "International Handbook of Evaluated Criticality Experiments," complete preparations for battery testing, award international geothermal resource study contracts, and complete Alaska footprint workshop.

A weighted distribution of the available fee for this criterion will be applied across the four measures as follows: 1) 8%, 2) 32%, 3a) 46%, 3b) 2%, and 4) 12%. Endorsement of the EE Transportation Program (measure 3a) is very important, as this is a highly visible project with the DOE-HQ customer and a significant amount of work must be completed to accomplish success. Publication of the annual ICSBEP handbook (measure 2) is an achievement that is necessary to meet international criticality experimentation and research needs. While the remaining measures (2, 3b and 4) contribute towards fulfillment of DOE missions but are not as substantial. The success of these measures will also further promote recognition of INEEL excellence in nuclear energy, geothermal and fossil energy initiatives.

**2.2.3.1 To maintain NE leadership role in nuclear safety, release RELAP-3D version 1.2 by April 30, 2000. (\$16K)**

**Evaluation:** Achieved. Version 1.2 of RELAP5-3D was released to the Bettis Atomic Power Laboratory on March 27, 2000, one month ahead of schedule. RELAP5-3D is used for nuclear reactor safety analyses and is globally recognized. The product was delivered as a CD-ROM with a closure letter sent from BBWI to DOE-ID on April 7, 2000.

**Earned Fee:** 100%

**2.2.3.2 Publish criticality safety data (in CD-ROM format) in the 2000 Edition of the "International Handbook of Evaluated Criticality Experiments" by September 30, 2000. New data for the Handbook must be reviewed and approved by representatives from the eleven countries of the International Criticality Safety Benchmark Project (ICSBEP) Working Group in St. Petersburg, Russian Federation as part of the project scope. (\$64K)**

**Evaluation:** Achieved. The September 2000 Edition of the "International Handbook of Evaluated Criticality Safety Benchmark Experiments" was approved by the international representatives, published on CD-ROM, and transmitted to DOE-HQ and DOE-ID on September 25, 2000. The handbook is annually updated under the direction of the Defense Nuclear Facility Safety Board. It is utilized by the international scientific community to benchmark future research activities.

**Earned Fee:** 100%

**2.2.3.3 Support EE Transportation programs by completing the vehicle-sized battery testing preparations by July 30, 2000, including the receipt of test batteries. Support EE Geothermal programs by awarding the Research Pre-Feasibility Study contracts for evaluating international sources. (\$96K)**

**Evaluation:** Achieved. The measure was achieved with the onset of testing of the Saft America 6 Ah, lithium ion hybrid battery pack. The battery pack is the first prototype vehicle-size hybrid battery developed under the national Partnership for a New Generation of Vehicles (PNGV) program. All testing preparations, including required

hazard reviews, training, set-up, and work control documents were complete as of May 25, 2000.

Six pre-feasibility study contracts were awarded on or ahead of schedule to support the EE Geothermal programs. They are National Rural Electric Cooperative (\$18K for South America), Stephen Hirsch (\$22K for East Africa), Bob Lawrence & Associates (\$50K for financial source book for small geothermal projects), Bob Lawrence & Associates (\$124K for Eastern Europe), U.S. Geothermal Industry Corporation (\$65K for Eastern Asia and the Western Pacific), and U.S. Geothermal Industry Corporation (\$100K for Latin America).

**Earned Fee:** 100%

**2.2.3.4 Support Fossil Energy technologies by completing Alaska footprint workshop by September 30, 2000. (\$24K)**

**Evaluation:** Achieved. The Alaska Footprint workshop was held in Anchorage, Alaska on April 25-26, 2000. A draft workshop report was prepared and submitted to DOE-FE, consisting of the papers presented at the workshop and representing a compilation of established oil and gas practices and technologies. The final report will be prepared by DOE-FE. Participation in the workshop meetings and presentations included a vast number of commercial, federal, and university stakeholders. The participants were able to engage in discussions of relevant issues and to share a great deal of resource information and about technology assessments. All aspects of the workshop went well. The workshop was deemed successful and this was confirmed by a letter of appreciation from the FE-NPTO program manager complimenting the INEEL on the effective planning, content, participation and organization of workshop.

**Earned Fee:** 100%

**2.2.4 Performance Criterion (\$100K)**

Provide science and technology products that are recognized to be state-of-the-art and support current National Security Program Needs. Establish the operation of the National Security Laboratory Annex, deliver all sensor and materials detection systems to National Security clients, and complete an assessment of the potential to use the Idaho Accelerator Center to further support DOE-IN/NN and other National Security needs in physics and materials interrogation.

The National Security Laboratory Annex is critical to maintaining the capability to perform some projects in support of National Security missions. Because of the overall impact this measure has on the overall program the available fee for the Annex is set at \$50K. The delivery of sensor and material detection systems to National Security clients represents hard fast commitments that are being counted on by the clients. Therefore the available fee the delivery of the sensors and material detection systems is set at \$30K. The assessment task of the Accelerator Center requires less effort and is a longer impact program. The available fee for the assessment task is \$20K.

**2.2.4.1 Complete design, schedule and initiate construction of the National Security Laboratory Annex by September 30, 2000. The approved construction schedule will provide a high degree of assurance of turnover of the completed facility by December 1, 2000.**

**Evaluation:** Achieved. Final design for the laboratory was completed, a Notice to Proceed with construction was issued on September 11, 2000, and construction activities began the week of 28 September. R&D support of materials science programs will be realized due to the construction of this facility. An official construction schedule from Ovard Construction, Inc., the construction subcontractor for the lab, indicates completion of the construction project by December 1, 2000.

**Earned Fee:** 100%

**2.2.4.2** Deliver all sensor and materials detection systems to National Security clients per agreed upon cost and schedule.

**Evaluation:** Achieved. All three systems deliveries were provided on time and with the quality necessary to meet customer needs as follows:

1. Pine Bluff Arsenal accepted receipt of the 450kV DRCT X-ray (Alternate Detector) system on May 31, 2000.
2. BBWI installed 300kV DRCT X-ray (18<sup>th</sup> detector) system at the specified INEEL training location.
3. Non-Stockpile Program agreed to delay shipment of the alternate detector (300kV X-ray) per DOE's request due to findings of a superior quality material. The delay noted in the change to February 2001 will result in a quality system for the program, rather than a substandard system based upon inferior technology. The stated material detection device was delivered per the milestone.

**Earned Fee:** 100%

**2.2.4.3** Complete with ISU an assessment of the potential to use the Idaho Accelerator Center to further support DOE and other National needs in physics and materials interrogation by September 30, 2000.

**Evaluation:** Achieved. The final Opportunity Assessment for the Idaho Accelerator Center was delivered on September 26, 2000. Briefings were initiated and held with several customers. Five customer briefings occurred and requirements were met or exceeded. Additional, numerous interactions with potential customer bases for tours and other forms of briefings were as follows:

- LANL—Weapons Surety, HEU Detection—Dialogue continuing—held May 2000.
- LLNL—National Ignition Facility Program, Beam Energy Enhancements, held July 21, 2000.
- SNL – Microchip/microstructure design & development (former SNL being employed by ISU), April 2000.
- Micron Inc. – Computer chip radiation hardness characterization (ISU effort) with tests in June 2000.
- Technical Conference Presentations – Univ. of Michigan, June 2000 and Univ. of Oregon, July 2000.

**Earned Fee:** 100%

**2.3.1 Performance Criterion (\$1,672K)**

Continue to meet SMC annual production requirements and maintain the necessary infrastructure to support these production goals.

### 2.3.1.1 SMC Production Efficiency.

**Evaluation:** Partially achieved. SMC fully satisfied the annual armor production requirements of 110 units at 100% quality acceptance while operating the SMC at the least possible costs. The Performance Incentive adjusted target cost for FY00 was \$15,550,483. The actual costs for FY-00 was \$14,347,112 for a cost underrun of 7.74%. During FY00 SMC had a Safety Severity Index (SSI) goal of 10 but earned a 17.1. The final results including the reduction for the SSI is as follows.

**Earned Fee:** 80.3% or \$1,342.6K

### 2.3.2 Performance Criterion

At the ATR/TRA continue to support the NR test plan, maintain the TRA infrastructure and maximize performance on the ATR incentives.

#### 2.3.2.1 ATR cost efficiency (\$380K)

**Evaluation:** Partially achieved. All elements of the established work scope were completed. The prime cost for FY00 was \$25,349.6K, against a Target Prime Cost of \$26,053.2K, an underrun of \$703.6K, thus generating a target fee of \$76K.

**Earned Fee:** 20% or \$76K

#### 2.3.2.2 ATR operating efficiency (\$1,200.8K)

**Evaluation:** Achieved. As of September 30, 2000, the ATR Operating Efficiency was 101%. There were no violations of ATR Safety Limits, Limiting Conditions for Operations, or missed TSR surveillance.

**Earned Fee:** 100%

#### 2.3.2.3 ATR unplanned outages (\$304K)

**Evaluation:** Partially achieved. There was one unplanned outage in November 1999 and conservative actions taken by BBWI to mitigate potential degradation of plant safety.

**Earned Fee:** 85% or \$258.4K

#### 2.3.2.4 ATR utilization (\$684K)

**Evaluation:** Partially achieved. As of September 30, 2000, there were \$2,457,124 in billable irradiation charges resulting in \$491,425 earned fee. As of September 30, 2000, \$1,182,457 for new engineering and design and project management revenues were realized for a maximum fee earning of \$152,000.

**Earned Fee:** 94% or \$643K

#### 2.3.2.5 ATR work control in radiological areas (\$190K)

**Evaluation:** Achieved. As of September 30, 2000, the total dose equivalent for work on all ATR activities was 13.068 person-rem, well below the target of 24 person-rem.

**Earned Fee:** 100%

**2.3.3 Performance Criterion (\$100K)**

Meet commitments in other existing programs on schedule and within cost.

**2.3.3.1** By September 30, 2000, the four new boilers will be installed and mechanically connected to the steam system and ready for SO testing with the exception of final installation "punchlist" items.

**Evaluation:** Achieved. The INTEC Boiler Replacement Project was mechanically complete with all "A" punchlist items closed, on September 30, 2000. The GPP funding limit was not exceeded. Performance to this measure met expectations and the result of this effort is that the INEEL is starting to realize significant cost savings. The investment in these new boilers and shutting down the Coal Fired Steam Generating Facility will pay dividends for many years to come.

**Earned Fee:** 100%

### **3.0 Integrate R & D and Operations (\$2,900K) Earned: \$2,882K**

Demonstrate added value by integrating R&D activities to support INEEL Programs and missions and subsequently translate these solutions on a national basis.

#### **3.1.1 Performance Criterion**

Technology needs are consistently identified in a timely manner to support INEEL EM mission accomplishment.

##### **3.1.1.1 Implement a single technology needs data collection methodology and line program validation for the INEEL by May 31, 2000. (\$50K)**

**Evaluation:** Achieved. The process identified was not only used to identify technology needs for EM but also for all INEEL operations. After reviewing the requirements and collection options, the Site Technology Coordination Group (STCG) process for science and technology needs identification and documentation was selected as the INEEL's single needs data collections methodology. The STCG methodology advocates strong end user ownership and accountability of the needs. The STCG process was expandable to encompass other programmatic areas. The STCG also had in place a joint DOE and Contractor Steering committee that provided management oversight. There are presently 128 validated needs in the STCG system, all of which were validated by BBWI through the DOE Integrated Planning, Accountability, and Budgeting System (IPABS).

**Earned Fee:** 100%

##### **3.1.1.2 Submit, to DOE-ID, the technology roadmaps, which includes the plans to apply science and technology solutions to operational problems, for the High Level Waste Program by September 30, 2000, and the characterization phase of the Voluntary Consent Order actions by September 30, 2000. (\$450K)**

**Evaluation:** Achieved. On July 14, 2000, BBWI delivered to DOE-ID the draft report "Pre-Decisional Sodium Bearing Waste Technology Development Roadmap." The follow-on final roadmap was delivered on schedule to DOE-ID on September 28, 2000. The draft and final "Pre-Decisional Sodium Bearing Waste Technology Development Roadmap(s)" were prepared for the HLW Program. This roadmap contains important milestones and shows how the development program, working with Engineering, can follow any of three paths to treat the liquid sodium bearing waste in the tank farm depending on the pending Idaho High Level Waste & Facilities Disposition Environmental Impact Statement.

The Voluntary Consent Order Tank and Equipment Characterization Technology Roadmapping activity was substituted for the Remote-Handled TRU Waste Program activity in June 2000 via CCB, and was successfully completed on an accelerated schedule. The Voluntary Consent Order Tank and Equipment Characterization Technology Roadmap successfully identified technologies that can be directly applied to the specific problems identified by the Voluntary Consent Order Program. The roadmap also identified technology gaps, which were incorporated into the Site Technology Coordination Group's needs database for future development.

**Earned Fee:** 100%

- 3.1.1.3** Submit, to DOE-ID, the draft technology roadmap, which includes the plans to apply science and technology solutions to operational problems, for the INEEL Vadose Zone by September 30, 2000. (**\$250K**)

**Evaluation:** Achieved. BBWI delivered the required submittal by September 30, 2000. The submission exceeded expectations in that the roadmap keyed off the Site's Detailed Work Planning Process for requirements identification for the broader EM Programs (not just ER). It demonstrated a requirements identification approach which has broad applicability across the Complex. The submittal included the following documents:

- Deficiencies in Vadose Zone Understanding at the INEEL, INEEL/EXT-99-00984, August 2000.
- Science Plans to Address Deficiencies in Vadose Zone Understanding at the INEEL (Draft), INEEL/EXT-2000-01086.
- Draft white paper that describes the preparation of the roadmap titled "Development of the INEEL Site-Wide Vadose Zone Roadmap (Draft)." Included as attachments were the Roadmap Wall Chart, which provides a visual depiction of the interrelationships of the S&T activities to the Operational needs, and two tables which provide further explanation of the Wall Chart.

**Earned Fee:** 100%

- 3.1.1.4** Establish the INEEL program waste and material disposition paths, including the near-term (2004) barriers/issues to execution, as depicted on disposition maps for High Level, Transuranic, Mixed, and Low Level Wastes and Spent Nuclear Fuel, approved by the INEEL EM Program Managers with concurrence by the Associate Laboratory Directors, by September 30, 2000. (**\$750K**)

**Evaluation:** Achieved. The disposition maps, including near-term barriers/issues, were distributed to each EM program director. The maps were reviewed by the program staff to verify that disposition paths reflect the latest information for disposition of the waste/material. The revised maps were reviewed by BBWI to ensure understanding and concurrence with the disposition paths and the barriers/issues associated with the subject waste and material streams. The review included disposition paths of five programs (HLW, LLW, MLLW, TRU, and SNF) and went beyond the scope of the measure by including the ER program.

In addition, BBWI prepared a master schedule of FY00 work scope and established the relationships between that work scope and the EM program science and technology needs and the INEEL revitalization goals and objectives. For the first time at the INEEL, there is documented agreement between the EM programs and the R&D community as to the disposition paths for the INEEL waste/materials and the barriers/issues associated with those disposition paths.

**Earned Fee:** 100%

### 3.2.1 Performance Criterion

Establish and implement INEEL processes for applying technology, including actual deployments, to meet INEEL needs. (See related measure under Performance Criterion 2.2.1)

#### 3.2.1.1 Develop an integration policy by May 1, 2000 and execute FY00 implementation plan elements. (\$150K)

**Evaluation:** Achieved. The implementation of the policy and the program implementation requirements document was reviewed by DOE-ID. These documents met all defined requirements. Evidence of implementation was seen in the STCG process, the DWP and the IPAB development process. BBWI provided the required deliverables on schedule as follows:

- INEEL Policy Document (draft), EM Operations Research and Development Integration was transmitted to DOE-ID on April 10, 2000.
- INEEL Policy Document, POL-29, Operations Research and Development Integration was transmitted to DOE-ID on April 28, 2000, and issued with an effective date of May 1, 2000. The policy was released on the due date.
- The Implementing Program Requirements Document, PRD-5100, Operations Research and Development Integration, was issued with an effective date of September 27, 2000, and transmitted to DOE-ID on September 28, 2000. The PRD was released prior to the due date.

In addition to the deliverables, an R&D/Operations Integration Tactical Plan was developed and is being used as the basis for the path forward to implement POL-29 and PRD-5100.

**Earned Fee:** 100%

#### 3.2.1.2 Apply R&D cyber security capabilities to assist operations in meeting DOE's goal for enhanced computer security. Develop and implement a plan to apply R&D capabilities to support Information resources defined objectives to enhance the cyber security of the INEEL by September 30, 2000. (\$150K)

**Evaluation:** Achieved. The final Cyber Security Plan and the final Implementation Plan for supporting cyber security at the INEEL were delivered to DOE-ID ahead of the September 30, 2000, due date. The plan and implementation activities were reviewed and validated by ID staff. In addition, as a result of the collaboration, the INEEL passed the recent HQ cyber security review.

**Earned Fee:** 100%

#### 3.2.1.3 Demonstrate value added to the INEEL by the deployment of eleven innovative technologies (Candidates identified on the list submitted to DOE-ID on December 21, 1999 (CCN-00-02593)) or solutions by September 30, 2000. (\$600K)

**Evaluation:** Achieved. As defined by DOE-HQ, INEEL recorded 42 first time technology deployments ranging across 17 individual projects. Of the 14 candidate technologies reported to DOE-ID on December 21, 1999 (CCN-00-02593), 10 were actually deployed in FY00. Of the 42 total deployments, 31 were unique first time utilizations at the INEEL. The Office of Science and Technology (EM-50) supported 23 of these new technology deployments. The 42 deployments represent 7 that improved cost and/or schedule, 13 that reduced risk, and 22 that were enabling technologies.

Some specific examples include the Spectro Xepos XRF Analyzer (PCB Analyzer, the Lead Pain Analyzer, and the Innovative Fill and Cover Technique.

The PCB analyzer is an X-ray fluorescence spectrometer system that accepts a diversity of samples, including powders, liquids, slurries, granules, films and coatings, with little or no sample preparation. The analyzer requires 4 grams of sample material and provides analytic results within 10 minutes, compared with 100 gram samples required for off-site analysis that may take up to 90 days to complete. This analyzer enabled the project to obtain same day results, accelerate the schedule, and has a potential 10-year cost avoidance of approximately \$2.79 million.

The Lead Paint Analyzer is a portable hand-held instrument that rapidly identifies regulated metals in painted surfaces. This analyzer screens painted surfaces in seconds without sample collection, compared to the baseline approach that may take months to complete. This analyzer enabled the project to accelerate schedule and has a potential 10-year cost avoidance of approximately \$1.29 million.

The Innovative Fill and Cover Technique was developed for use at the Test Reactor Area Chemical Waste and Warm Waste Ponds. A tractor-pulled Miskin scraper with dump control was used to collect, transport, and place soil. The bucket of a front-end loader was modified with sized-holes to allow sorting of riprap. This technique reduced the number of machines required from 3 to 1 to complete the engineered cover, reduced fuel consumption by 70%, and sorted riprap more efficiently. Use of this technique resulted in a \$1.1 million cost avoidance and accelerated the project schedule by 7 months.

**Earned Fee:** 100%

### **3.3.1 Performance Criterion**

Develop and implement INEEL processes to deploy INEEL technologies and solutions on a national basis.

#### **3.3.1.1 Enhance and support key INEEL capabilities through Corporate Funded Research & Development, sharing technical resources, and cooperative work for others with the BBWI parent companies by September 30, 2000. (\$80K)**

**Evaluation:** Achieved. The Corporate Funded R&D (CFRD) process was put into place. A master WFO agreement was signed by each parent of BBWI, which allows initiation of CFRD projects as task orders. Several CFRD projects were approved including projects for all three of the BBWI owners. Through August, the approved projects totaled approximately \$1.6 million.

The INEEL initiated programs with BBWI using CFRD funding. The projects enhance INEEL capabilities by providing direct interface with the owners of BBWI in the areas of clean energy, advanced computer modeling, and forest products. INRA projects will provide support for INEEL projects through the funding of INRA academic staff. Fifteen of the CFRD initiatives are for EM projects.

**Earned Fee:** 100%

**3.3.1.2** Develop a plan by September 30, 2000 that will result in improved commercial and government relationships, through the use of existing and new contract vehicles, to facilitate technology development and cooperation. **(\$180K)**

**Evaluation:** Partially achieved. BBWI developed and is operating to the plan that is integrated with the INEEL vision, mission, and the Institutional Plan. The TT&C plan includes the deployment of INEEL technology to the EM mission, use of CFRD funding, INEEL licensing royalty funding, and other resources to build capability and expand the INEEL technology base. Through periodic review of the plan with DOE-ID, the plan meshed well with key initiatives designated in the INEEL Institutional Plan. Within the plan, each major method of subcontracting for technology transfer is discussed separately. The plan sets measurable objectives for technology transfer and discusses how these will occur. The CFRD process, which is a unique process used only at the INEEL, is discussed in detail.

Although the plan was completed and submitted in final form to DOE-ID by the due date, revision of the plan was required as a result of the final DOE-ID review.

**Earned Fee:** 90% or 162K

**3.3.1.3** Deploy two INEEL technologies or capabilities to external customers by September 30, 2000. **(\$240K)**

**Evaluation:** Achieved. BBWI deployed a number of technologies to external customers including: seven (7) signed new major license agreements, 175 software license agreements, three (3) new CRADAs, and forty (40) WFO agreements (totaling ~\$98 million through August 2000). Of the new technologies deployed, two (2) enhance capabilities in the area of Nuclear Safety, ten (10) in the area of Energy Resources, five (5) in the Environmental area, three (3) in National Security, and six (6) were multi-mission technologies. The measure was significantly exceeded through both the CRADA and license agreements that were signed by the laboratory. The technology was delivered to external organizations in both the commercial and other federal agency sectors.

**Earned Fee:** 100%

## 4.0 INEEL Revitalization (\$1,540K)

**Earned: \$1,408K**

Revitalize the INEEL's science and engineering base and facilities, assuring excellence in technical areas required by INEEL's mission roles.

### 4.1.1 Performance Criterion

Identify laboratory facilities that meet all technical prerequisites and availability for use by subsurface science program. Research at INEEL to meet EM needs for new subsurface science technology necessary to meet DOE needs both in the short term, before 2006, and in longer term, post 2006, cleanup operations. A dedicated facility, with specific capabilities to support experimentation such as contaminant transport through geologic media, will be necessary. In the short term, over the next 5 years, existing facilities will have to be identified. The fee is evenly distributed across all measures.

4.1.1.1 Provide a plan by July 1, 2000 that describes how the short-term facility requirements for the subsurface science mission will be satisfied. Include budget and schedule recommendations. **(\$50K)**

**Evaluation:** Achieved. The short-term facility plan was delivered by letter (CCN# 00-010603) on June 29, 2000. The plan included costs and schedules for personnel relocations and associated equipment. Delivery was acknowledged and approved for acceptance. The plan identifies and describes the utilization of existing facilities during the next 5 years for personnel supporting the Subsurface Science Initiative.

**Earned Fee:** 100%

4.1.1.2 Deliver a BBWI approved Subsurface Geoscience Laboratory Mission Need in June 2000 and support the approval process. **(\$50K)**

**Evaluation:** Achieved. BBWI delivered the Subsurface Geoscience Laboratory Mission Need document to DOE on June 22, 2000 (CCN 00-100381). The plan included areas such as infrastructure, and long-term scientific requirements. The Mission Need document serves as a part of the long-term strategic proposal to ensure the anticipated infrastructure needs are identified and proactively secured to fulfill the goals of the Subsurface Science Initiative. The Mission Need document is a part of the overall process that must be completed prior to approval of construction of a new facility.

**Earned Fee:** 100%

4.1.1.3 Deliver a Subsurface Geosciences Laboratory conceptual design plan in July 2000 that defines the cost, schedule, and scope of work needed to support the budget submittal next year. **(\$50K)**

**Evaluation:** Achieved. A comprehensive plan that defined cost, scope and schedule for the Subsurface Geosciences Laboratory conceptual design was completed and transmitted to DOE on July 31, 2000. The conceptual design plan takes into account the physical plant requirements of the anticipated work to be performed under the Subsurface program. The utilities, storage, special analytical equipment, overhead cranes, bay areas, and other similar requirements were analyzed and costed to produce a flexible, cost effective working environment. This document takes into account the budget requirements for the initial construction year and subsequent cycles. A multi-year schedule is included in the plan. The conceptual design plan establishes the

schedule and scope for the work needed to be completed prior to budget validation in Spring 2001. This is a very challenging schedule to manage. The Conceptual Design Plan is a part of the overall process that must be completed prior to approval of construction of a new facility.

**Earned Fee:** 100%

#### **4.2.1 Performance Criterion (\$495K)**

Develop an appropriate tool for benchmarking science accomplishments (e.g., the Scientific Excellence and Eminence Index and evaluate INEEL performance relative to the benchmark). A benchmark for scientific excellence will be used to evaluate performance.

##### **4.2.1.1 Scientific Excellence and Eminence Index**

**Evaluation:** Partially achieved. Baseline data for fiscal year 2000 was achieved; indications of increases in publications and awards were not achieved. Based upon the evaluation of the performance indicators, the recommended fee will be reduced by 15%. Initial assessment of the baseline data and indices created metrics by which future scientific accomplishments and progress may be evaluated and improved.

**Earned Fee:** 85% or \$420.8K

#### **4.3.1 Performance Criterion**

Develop preliminary Complex-wide Vadose Zone and Long Term Stewardship Science and Technology Roadmaps as intermediate products to DOE from an analysis of information derived from subject experts within DOE and outside DOE in FY 2000. The Fiscal Year 2000 objective is to develop a long-range (20 years) research and development plan, that when implemented, will result in the ability to more accurately predict the fate and transport of contaminants in the vadose zone.

The Complex-wide Vadose Zone roadmap is in a more advanced phase of the project than the Long Term Stewardship roadmap and requires the integration of expert input from other organizations. Therefore, the available fee for the Vadose Zone measure was set at \$225K compared to \$170K for the Long Term Stewardship measure.

**4.3.1.1 Deliver a preliminary draft of the National Vadose Zone roadmap based on an analysis of information gathered from expert sources within DOE and in other government agencies, academia, and the private sector through focused workshops and other means to define science and technology needs for vadose zone redemption to DOE by September 30, 2000. (\$225K)**

**Evaluation:** Achieved. The Preliminary Draft DOE Complex-wide Vadose Zone Science and Technology Roadmap was published on the vadose zone web site on schedule (September 25, 2000). Contributing factors for attaining this measure include the following:

- An Executive Committee of nationally recognized experts was established consisting of DOE national laboratories, academia, industry and four other federal agencies including U.S. Department of Agriculture, U.S. Geological Survey, U.S. Environmental Protection Agency, and the Department of Defense;
- Working groups of subject matter experts were established to develop the details of the roadmap based on guidance from the Executive Committee. These groups

consisted of individuals from DOE national laboratories, academia, industry and the U.S. Department of Agriculture and the U.S. Geological Survey;

- Two workshops, facilitated by a roadmap development expert, were held to establish needs and to develop goals for the roadmap; and
- A preliminary draft roadmap was posted on the project web-site on September 25, 2000, to facilitate external review.

The roadmap, which will be utilized by DOE to support environmental remediation efforts, defines the initial approach to the research and development needed to predict transport of contaminants in the vadose zone.

**Earned Fee:** 100%

**4.3.1.2 Deliver a preliminary draft the roadmap to define Long Term Stewardship science and technology needs to DOE by September 1, 2000. (\$170K)**

**Evaluation:** Partially achieved. The preliminary draft roadmap was delivered on September 1, 2000, and provided a solid framework for developing an initial long-term Stewardship Science and Technology Roadmap in FY 2001. It included a preliminary qualitative gap analysis based upon an initial needs assessment and technology baseline inventory performed as precursor activities to building the framework. The majority of the document reviewed by DOE was acceptable with the exception of the conceptual framework schematic which required clarification. The conceptual framework schematic was revised and the overall quality of the entire document deemed acceptable. Since the conceptual framework schematic needed revision, the recommended fee should be reduced by 10%.

**Earned Fee:** 90% or \$153K

**4.3.2 Performance Criterion**

Plan the development of preeminent subsurface science research capabilities at INEEL consistent with the defined responsibilities of INEEL to EM in the development of science to support the remediation and long-term environmental stewardship of the complex, and to other DOE missions. Establish peer relationships with INRA, other noted universities, and NSF Centers, having recognized capabilities in subsurface science. Provide for the transition of science developed to meet EM needs in the cleanup of the complex. Subsurface science is an area of great interest to DOE now and into the foreseeable future. DOE has entered into legally binding agreements through the CERCLA process with regulators to characterize and treat subsurface contamination at and around DOE facilities, and to predict the success of these efforts in protecting the public through the future.

The development of capabilities in the subsurface science area is a critical need and will have a significant long range influence on EM and other DOE missions. In light of this impact on the EM mission, the available fee for the overall criterion is distributed between the measures with \$75K available to the subsurface science area and \$25K to the utilization of EM technologies by other programs.

**4.3.2.1 Deliver a plan to DOE by September 1, 2000 consistent with the performance criteria 4.1.1 to establish INEEL as a recognized preeminent research institution in subsurface science. (\$75K)**

**Evaluation:** Achieved. A comprehensive strategic plan was developed in partnership with DOE-ID to implement the subsurface science initiative. The document includes program strategy and status, goals and objectives, implementation approach, performance indicators and milestones, and obstacles to success. The plan considers the approach necessary to establish the INEEL as internationally recognized subsurface science research institution. The product was delivered on August 30, 2000, via e-mail and hard copy with transmittal letter (CCN 00-012825). As a recognized leader in subsurface science the INEEL is better able to utilize the necessary scientific capabilities of multiple agencies to address DOE needs.

**Earned Fee:** 100%

**4.3.2.2** Deliver a plan to DOE by September 1, 2000 to transition technologies developed for EM remediation of the complex to other DOE mission areas. Examples are measuring the effects of climate-change, the benign use of natural resources, and application of non-intrusive characterization technologies to medical diagnostics, to further benefit the taxpayers from the support of EM research and development efforts. **(\$25K)**

**Evaluation:** Partially Achieved. A multi-year plan was developed to transition technologies developed for EM remediation of the complex to other DOE mission areas. The plan was delivered on schedule to DOE-ID (CCN 00-12727) on August 31, 2000. The majority of the document reviewed by DOE was acceptable with the exception of the omission of an analysis of methods to identify and obtain funding from other sources to leverage EM funding for technology development before deployment. The analysis was incorporated and the overall quality of the final plan is acceptable. Since the document required further modification the recommended fee should be reduced by 10%.

**Earned Fee:** 90% or \$22.5K

#### **4.4.1 Performance Criterion**

Demonstrate ability to produce results that promote the development and advancement of NE defined nuclear programs that meets DOE's needs and offers a unique range of superior services. The Generation IV Reactor Workshop will focus discussion on the four major challenges to a world-class reactor design: economics, safety, waste minimization and proliferation-resistance.

A five-year plan for the development of User Facilities based on the ATR and associated facilities. The plan will be consistent with strategic initiatives and directions for the INEEL, and will be developed by the contractor in close collaboration with DOE NR.

The effort required to successfully complete the Generation IV conference and the impact to the advancement the NE program objectives of that initiative are significantly greater than the other measures under this criterion. Therefore, the available fee for the Generation IV conference is \$120K. The importance of finding ways to maintain the critical nuclear infrastructure on the US and to make those capabilities available to a larger range of users has a larger impact on NE program objectives than the remaining measures under this criterion. The available fee for the ATR user facility plan is \$40K. The remaining available fee under this criterion is divided equally between the last two measures resulting in \$20K of available fee for each.

**4.4.1.1** Design the format of the May 2000 Generation IV conference to actively build consensus among the participants as to the future direction needed in the development of nuclear

power technology. The success in developing consensus support will be documented in the draft Generation IV Criteria Document to be prepared by June 30, 2000. **(\$120K)**

**Evaluation:** Achieved. The Generation IV conference was held on May 1-3, 2000. A consensus report entitled, "Discussions on Goals for Generation IV Nuclear Power Systems" that incorporated participant comments was delivered to Generation IV DOE-HQ point of contact on June 26, 2000. A follow-up briefing was provided to DOE-HQ on June 28, 2000. Factors contributing to the success of this conference included the attendance of key workshop participants and follow-up reporting of conference activities. At the conclusion of the conference, an electronic report that contained consensus items and identified issues was distributed to attendees and placed on the DOE web-site. This conference was successful in continuing to obtain global acceptance of nuclear plant standards.

**Earned Fee:** 100%

**4.4.1.2 Complete User Facilities Development Plan for ATR. Complete a draft plan by June 30 and a peer reviewed plan by September 1, 2000. **(\$40K)****

**Evaluation:** Partially achieved. A first draft of the User Facilities Development Plan for ATR was submitted for internal review and discussion in June 2000. The comments from this "first look" were used to develop the second draft. The second draft was transmitted for external peer review on August 31, 2000, to 17 people, including representatives from DOE laboratories, universities, private industry, and DOE (from the Office Nuclear Energy and the Office of Science). The peer reviewed plan was submitted on September 18, 2000. The final peer reviewed plan was acceptable. Due to late delivery the fee is reduced by 34%.

**Earned Fee:** 66% or \$26.4K

**4.4.1.3 Capture of one NERI award by September 30, 2000. **(\$20K)****

**Evaluation:** Not achieved. Six proposals were submitted to the FY00 NERI call. None were awarded.

**Earned Fee:** 0%

**4.4.1.4 Provide effective support to the nonproliferation fuel technology development effort by September 30, 2000. **(\$20K)****

**Evaluation:** Achieved. Three projects were on-going in FY00 in support to the nonproliferation fuel technology development effort as follows: (1) the U.S. Russian Bilateral Program; (2) INEEL support for the TOPS advisory committee; and (3) NERI Project 99-0153 to develop proliferation resistant thorium-uranium fuels for light water reactors. The required products were completed on time for all three projects. All of the work and products were well received by DOE-NE. Specifically, the INEEL received a thank you letter from TOPS for their excellent support of the June workshop. In addition, positive comments were made about the NERI project.

**Earned Fee:** 100%

#### 4.5.1 Performance Criterion

Develop unique INEEL leadership roles for performing the mission-related work of Energy Efficiency, Fossil Energy and Office of Science. Applying INEEL capabilities to the challenges of the Energy Resources and Science mission. Maintain, enhance, and strengthen the INEEL capabilities use to support the Environmental Quality mission. The available fee will be evenly distributed among the measures.

##### 4.5.1.1 Assess INEEL's capabilities and INEEL's potential future involvement in meeting the research needs described in the DOE R&D Portfolios published for each departmental business line. (\$33.3K)

**Evaluation:** Partially achieved. The INEEL's key capabilities (as listed in the Institutional Plan) were mapped against the needs stated in the R&D portfolios for ER, SC, NS, and EQ. These mappings permitted a direct comparison of INEEL capabilities applied to ER, SC, and NS R&D needs with the needs of the Environmental Quality business line. The capability mappings provided a tool to better understand and utilize INEEL capabilities across business lines and permit a focus on enhancing capabilities used to support the environmental quality mission. Optimal utilization of these capability mappings occurs at the business line (ALD) level. The mappings and a key capability strength analysis table were distributed on August 30, 2000, under transmittal letter from BBWI (RMN-10-00). The ALD representatives also provided information on the development of the capability mappings and guidance on their use and implementation. The ALDs began implementation of the planning strategy, however a formal strategy and implementation plan were not developed. The ALDs are reviewing the capability matrices to determine how they can be best applied in their business lines. The ALDs briefed DOE-ID on the results of the capability mapping efforts on September 13, 2000. A foreword to the capability mapping was prepared and sent to DOE-ID on September 18, 2000; this foreword summarizes the process used to develop the capability mapping.

Funding was received from EE-90 to use INEEL energy efficiency (ER) capabilities to look at site infrastructure (EM) needs for a potential second Energy Savings Performance Contract (ESPC). In addition, the DOE-SO Office of Critical Infrastructure Protection (OCIP) indicated in August that they would provide initial funding to support three efforts: Energy Infrastructure Warehousing and Trending Analysis (joint ANL-E and INEEL effort); Energy Infrastructure Analysis for the Salt Lake City Olympics (joint ANL-E and INEEL effort); and Vulnerability Assessment for the Nuclear Regulatory Commission (joint PNNL and INEEL effort).

The earned fee amount was reduced due to failure to develop the formal strategy and implementation plan.

**Earned Fee:** 85% or \$28.3K

##### 4.5.1.2 Engage INEEL technical experts to participate in the development and or refinement of science and technology roadmaps for new DOE initiatives and programs such as, Bioenergy, Microbial Genomics, Methane Hydrates and Scientific Simulation Initiatives, Nanotechnology, and Complex Phenomena. (\$33.3K)

**Evaluation:** Achieved. INEEL participated in various activities related to roadmapping efforts. Unfortunately, it was determined that in several areas (i.e. Biobased Products and Bioenergy Initiative, Microbial Genomics, Methane Hydrates, Scientific Simulation Initiative, Nanotechnology, and Complex Phenomena) roadmaps will not be developed

or enhanced at this time. However, technical experts participated in many other roadmapping efforts including Offshore Oil & Gas Technology, Clean Fuels, Natural Gas Infrastructure, and Mining Industry of the Future. BBWI also participated in a NAS/NRC workshop in Washington, D.C. in August 2000 on "Building a Long-Term Environmental Quality R&D program in the U.S. Department of Energy."

In addition, the INEEL also was engaged in activities to lead development of roadmaps directly supportive of the accomplishment of the Institutional Plan. The INEEL won the competitive Greater Yellowstone Systems Project and contracted to lead Biotechnology roadmapping efforts. Sponsorship of the recent Welding Symposium has positioned the INEEL for a roadmapping effort in welding technology.

The technical needs of each area and relevant INEEL capabilities were integrated into the roadmap. BBWI worked to ensure a thorough understanding of the scope of the roadmaps, the nature of their challenges, and positioned the INEEL to use these capabilities in support of the roadmaps. Roadmap involvement also provided numerous new contacts in industry, labs, and universities that can be used to develop collaborations where capabilities are not available at the INEEL but are needed for the success of new R&D efforts. The ALDs briefed the DOE-ID on the results of INEEL participation in roadmapping efforts on September 13, 2000.

**Earned Fee:** 100%

**4.5.1.3 Realize synergies in the diverse R&D performed at INEEL by actively applying technologies across strategic business lines (EE to EM, FE to EM, EM to EE, SC to EE, etc.). (\$33.4K)**

**Evaluation:** Achieved. The INEEL was awarded two research projects under competitive DOE RFPs and deployed one technology that represents application of INEEL technologies across strategic business lines. The INEEL is a member of a team that won a Vision 21 Award of \$2.33M to develop novel ceramic membranes to separate hydrogen from fossil fuel gas streams. (The INEEL received \$450K, which is the maximum funding allowed under the solicitation, for fabrication of ion conducting ceramic membranes using plasma spraying.) This work will start in FY01 and continue for three years. Other team members are ITN Energy Systems and Nexant. This represents technology developed by SC that is being applied to FE technology needs.

It was recently announced that the INEEL was awarded a collaborative proposal from the DOE-EE Office of Industrial Technologies entitled "Industrial Membrane Filtration and Short-Bed Fractal Separation Systems for Separating Monomers from Heterogeneous Plant Materials" with Amalgamated Research, Inc, in Twin Falls, Idaho. The INEEL will receive approximately \$1.0M over the next three years for this effort, which is part of DOE's new Bioenergy Initiative. The technology used to support this proposal was developed by funding from both EM and EE and as such represents technology developed by EM and applied to EE technology needs.

The Portable Isotopic Neutron Spectroscopy (PINS) technology developed by NS was deployed in July 2000 at WAG 3 (INTEC) in support of EM technology needs (interrogation of excavated gas cylinders).

The INEEL's position and participation as part of these research initiatives and activities provides synergistic outcomes that support the implementation of technologies across strategic business lines.

**Earned Fee:** 100%

#### **4.6.1 Performance Criterion (\$50K)**

Increase support to DOE-NN in their international efforts to reduce the risks of proliferation and to enhance environmental security. Develop a strategy for realizing the benefits of INEEL's leadership charter for the International Center for Environmental Safety (ICES). Provide increased support to DOE-NN international programs by strengthening our role in related programs.

**4.6.1.1** Develop and implement, with DOE-HQ concurrence, a strategy for vitalizing ICES. Initiate at least three new projects under the ICES umbrella by September 30, 2000.

**Evaluation:** Achieved. A Strategic Plan for visualizing ICES was developed and delivered to DOE-ID. The plan incorporated the perspectives of the BBWI and DOE-ID counterparts. Four new projects were identified and work packages delivered in FY00. The projects included: (1) Bilibine Radiation Monitoring project with Sandia National Laboratory; (2) Vadose Zone Roadmapping project; (3) an LDRD for which work will be initiated in FY01, Porous Crystalline Silica (Gubka); and (4) Vadose monitoring and will be conducted under the Geoscience group.

**Earned Fee:** 100%

**4.6.1.2** Develop a defined role in the FY 2001 bilateral initiative with Russia by September 30, 2000.

**Evaluation:** INEEL is positioned to have a defined role with the bilateral initiative. INEEL worked with ANL-W and NN-40 to sponsor a workshop on spent fuel management (which was postponed) and with NE and ANL-W to provide technical leadership for securing a lead role in the Proliferation Resistant Fuel Cycle project. These two projects were to be approximately 65% of the proposed \$100M bilateral initiative. Due to political events these projects were not funded as anticipated. The spent fuel related activities funding was transferred to existing programs within NN-40. Since the bilateral initiative did not formally materialize BBWI began pursuing opportunities directly with NN-42 with respect to spent fuel management in Russia. BBWI put forth significant effort toward obtaining a defined role in the bilateral initiative and subsequently they pursued INEEL roles in the new work efforts.

**Earned Fee:** 100%

#### **4.6.1.3**

Complete and begin implementation by June 30, 2000, a strategy plan to more closely align INEEL resources and capabilities to better meet the needs of DOE-NN and DOE-IN mission areas.

**Evaluation:** Achieved. Two Strategic Plans were delivered to DOE-ID, NN and IN. The Plans are in the implementation phase. Various visits and briefings were given to NN and IN including complete year-end review to several IN customers and the NNSA Chief Scientist. Other visits from NN-30 and NN-42 were made. Cost estimates were

provided to initiate possible work with NN-42 which represents a new area of INEEL involvement. An additional show of support for this initiative was evidenced through the strategic hire of a director with directly applicable background.

**Earned Fee:** 100%

#### **4.6.2 Performance Criterion**

Assure efficient use of existing INEEL capabilities and resources to meet the needs of DOE and other national security clients. Apply INEEL's information sciences and power engineering capabilities to meet the needs of the Critical Infrastructure programs of DOE and DOD. Apply INEEL's material science expertise and SMC capabilities in developing and deploying advanced lightweight armor systems. Implement INEEL's National Security Strategic Plan. The development of new initiatives in support of the Critical Infrastructure Program requires more effort than obtaining designation of the INEEL role in that program. The available fee for this criterion is allocated between the two measures based on this consideration. The available fee for the initiatives is \$30K and the available fee for the designation of the INEEL role is \$20K.

##### **4.6.2.1 By September 30, 2000, the INEEL role in the Critical Infrastructure Program for FY 2001 is designated by DOE-HQ. (\$20K)**

**Evaluation:** Achieved. The INEEL through cooperative discussions with the DOE-SO obtained a role for the INEEL with the Critical Infrastructure Protection Program in FY01. BBWI delivered to DOE-ID "The INEEL Critical Infrastructure Protection Initiative" that fully outlined all integration activities with the DOE-SO and other laboratories as well as provided for a high level of budget and schedule information. Establishment of the INEEL role in the CIP Initiative demonstrates that the INEEL possesses expertise to: (1) meet the program needs; and (2) to develop approaches with the cooperation of other PSOs to solve international problems facing the U.S.

**Earned Fee:** 100%

##### **4.6.2.2 Develop at least three new initiatives during FY 2000 that address recognized problems in the areas of critical infrastructure protection, integrated defense systems, advanced information systems, counter-terrorism and law enforcement as defined in the INEEL's National Security Strategy Plan. (\$30K)**

**Evaluation:** Achieved. Three new initiatives that address recognized problems in the areas of Critical Infrastructure Protection, LLNL collaboration on Japan initiative on chemical weapons, and Intelligence Analysis were developed during FY00. All areas were identified in the National Security Strategy Plan and further defined in the INEEL Institutional Plan with schedule and funding projections. This provides INEEL the opportunity to utilize INEEL capabilities to address national security missions.

**Earned Fee:** 100%

## 5.0 Leadership (\$1,670K)

Earned: \$1,458K

Provide systems, infrastructure, behavior, and vision in support of mission accomplishment and preeminent national laboratory performance.

### 5.1.1 Performance Criterion (\$279K (5.1.1.2, 5.1.1.3, and 5.1.1.4))

Establish and institutionalize the processes, planning systems, and management approaches to obtain support for and alignment to the INEEL's strategic goals and objectives. This includes the development of mission, vision, values, and strategic objectives; and the deployment of these objectives to the INEEL workforce.

**Evaluation:** Achieved. The 2001-2005 Institution Plan marked significant accomplishments in laboratory planning. BBWI demonstrated significant achievement in the following:

- Appropriately focused planning to meet DOE missions, with emphasis on accomplishing EM and NE missions.
- Development of the Institutional Plan was accomplished with significant personal involvement of senior INEEL management in all aspects of the process.
- Development of a viable institutional planning process, which will produce subsequent high quality institutional plans.
- Development of an approach that assures alignment of the INEEL staff to the institutional plan.
- This Institutional Plan has been judged by multiple program offices: EM, NE, EE, FE, SC, as a great improvement over prior laboratory plans.
- A successful on-site review led to the formal approval of the Institutional Plan and designation of INEEL as the lead EM laboratory.
- All PEMP deliverables were met on or ahead of schedule.

The Institutional Plan is a high quality document that met the expectations of the PEMP guidance. Measures 5.1.1.1, 5.1.1.2, 5.1.1.3, 5.1.1.4 were all met or exceeded.

#### 5.1.1.1 By May 19,2000 submit draft Institutional Plan to DOE-ID. (\$31K)

On May 19, 2000 the draft was received by DOE-ID. The draft met or exceeded all criteria.

#### 5.1.1.2 By September 30, 2000, submit final Institutional Plan to DOE-ID.

DOE-ID and DOE-HQ received the final Institutional Plan on August 30, 2000. The Institutional Plan website was launched on August 29, 2000.

#### 5.1.1.3 By August 30, 2000 submit a deployment strategy plan which demonstrates the approach, specific actions, and schedule for obtaining employee understanding and alignment.

The Education and Alignment Plan (Deployment Plan) was delivered to DOE-ID on August 28, 2000. The Plan was accepted without change by DOE-ID.

#### 5.1.1.4 By September 30, 2000, submit a set of specific performance indicators which will be utilized to measure progress towards achieving the objectives of the Institutional Plan.

Performance measures derived from FY 01-05 Institutional Plan priorities were incorporated into the Institutional Plan, and Education and Alignment Plan. DOE-ID

verbally accepted the successful completion of this measure on July 12, 2000.

**Earned Fee:** 100%

#### **5.2.1 Performance Criterion (\$200K)**

Develop a standards-based management system (SMBS) that is based on customer expectations in the form of DOE requirements, and federal, local, and state laws and regulations. The SMBS establishes a document hierarchy, defines and enhances interfaces between management system; provides INEEL-wide policies, procedures, and guidelines; system tools; and establishes Roles, Responsibilities, Authority, and Accountabilities (R2A2s). This system provides the foundation for site-wide administration and management and includes alignment and integration of all administrative and operational systems.

**5.2.1.1** By June 30, 2000, develop the SBMS implementation plan for an integrated, requirements-based management control system. The plan shall identify the elements to be included in the SBMS, define interfaces between these elements, identify the associated drivers and assumptions, provide a schedule for implementation, and include outyear implementation milestones for DOE concurrence.

**Evaluation:** Achieved. All deliverables were provided in accordance with the Understandings and Agreement document dated May 12, 2000. The document included an outline of the approach and a graphic representation of the model delivered in April and discussed in detail. A draft plan was provided on May 30, 2000, and the final SBMS implementation plan provided on June 29, 2000. The plan served its intended purpose, which was to allow planning for the next fiscal year and beyond, and provide a basis for a path forward. The SBMS implementation plan was of high quality, addressed all measure criteria, and was accepted by DOE.

**Earned Fee:** 100%

**5.2.1.2** By July 30, 2000, a document hierarchy representing the total SBMS that will be delivered to DOE-ID.

**Evaluation:** Achieved. SBMS Document hierarchy representing the total SBMS was delivered as required and accepted by DOE. The plan content was considered to be a quality product. A hierarchy of documents was identified as they relate to SBMS. A matrix was produced that dispositions the controlled document types managed under the Electronic Document Management System. The document was delivered July 21, 2000, 9 days ahead of schedule. The SBMS document hierarchy will facilitate the integration of key documents.

**Earned Fee:** 100%

**5.2.1.3** By September 30, 2000, R2A2s will be completed and issued for all management and staff including approval authorities. DOE-ID will be provided a complete set of these documents for management positions.

**Evaluation:** Achieved and accepted by DOE. Roles, Responsibilities, Accountabilities, Authorities (R2A2s) were developed and deployed to define Senior Leadership alignment with the mission and vision of the INEEL. The R2A2s were delivered to DOE-ID on September 25, 2000, 5 days ahead of schedule. Senior Leadership R2A2s were communicated to all employees and are available on the INEEL

home page. In addition, management and staff profiles were developed and communicated to define R2A2s for the balance of the INEEL population and are also available on the home page.

R2A2s were initially developed for the President, General Manager and staff comprising the Office of the President. Roles and responsibilities were defined to align with INEEL's five critical outcomes and the key mission areas defined in the INEEL Institutional Plan. Accountabilities and Authorities were defined to ensure support for defined roles and responsibilities. Top down development of the R2A2s by position was completed for the remaining Senior Leadership Team. Development at all levels included a review to ensure both vertical and horizontal integration. Where overlaps, redundancy and/or gaps were identified, facilitated discussions within BBWI were conducted to reach resolution and affected R2A2s were revised.

**Earned Fee:** 100%

**5.2.1.4** The policy and procedure system component of SBMS will be defined and approved by September 30, 2000

**Evaluation:** Achieved and accepted by DOE. The deliverable was provided to DOE-ID on September 25, 2000, 5 days ahead of schedule. The report documents the policy and procedure component of the SBMS: the end state, a transition state, and implementing strategy. This document provided a systematic approach to standardizing and integrating processes and procedures across the INEEL. It provided the framework for defining the tools and configuration controls that will be utilized.

**Earned Fee:** 100%

### **5.3.1 Performance Criterion (\$80K)**

Perform detailed cost studies utilizing recognized analysis tools to determine the optimum level of resource use/cost for INEEL functions. Initially, these studies will be directed toward indirect accounts, but will be expanded to include direct funded activities as appropriate. The structure to be utilized for this review is the functional cost definition and reporting methodology, initially as it relates to indirect costs only. These cost analysis studies will demonstrate optimum cost levels with specific action plans as to how the optimum level will be achieved. Efficiencies obtained, as a result of these actions will be applied to pre-approved prioritized initiatives that enhance accomplishment of mission/program objectives consistent with the Institutional Plan.

**5.3.1.1** By April 30, 2000, submit methodology, schedule, and action plan format to be utilized for cost studies.

**Evaluation:** Achieved. The methodology, schedule and action plan format utilized by BBWI in conducting cost studies was developed and discussed with DOE-ID sufficiently early to ensure a mutual understanding of how indirect function studies could be conducted to identify optimum cost levels. BBWI met with DOE-ID counterparts periodically to obtain DOE-ID expectations with respect to the process validity before finalizing its approach. On April 19, 2000, DOE-ID accepted and approved the BBWI cost study methodology schedule, and action plan format.

**Earned Fee:** 100%

**5.3.1.2** By April 30, 2000, select three functional cost categories for review.

**Evaluation:** Achieved. The initial three functional cost categories selected by the Contractor for analysis with respect to optimum cost level were: (1) Chief Financial Officer; (2) Executive Direction; and (3) Central Administrative Services. These were selected with a strategy of beginning with a relatively easy functional cost category (one for which much industry comparative data is available), and progressing to more difficult categories for which comparative data was not readily available. The three categories were selected by the due date, with DOE approval on April 19, 2000.

**Earned Fee:** 100%

**5.3.1.3** By July 30, 2000, and September 30, 2000, submit 1 and 2 completed reviews, respectively.

**Evaluation:** Achieved. Both measures were delivered to DOE ahead of the specified due dates. The first cost analysis study "Chief Financial Officer" was delivered to DOE-ID on July 27, 2000; and the second cost analysis study "Executive Direction" was delivered on September 21, 2000. The results of the first study indicated that based on overall costs, the INEEL's Chief Financial Officer functional cost category ranks in the 1<sup>st</sup> Quartile in a comparison of 312 companies worldwide. Based on these positive results, no specific improvement plans were identified by the contractor for this cost area. In the more difficult "Executive Direction" cost analysis, it was found that there are significant differences in the types of costs included in this functional cost category throughout the DOE complex, which made comparisons between laboratories/contractors inexact. Accordingly, a conclusive determination of the optimum level of cost for executive management at the INEEL was not made.

**Earned Fee:** 100%

### **5.3.2 Performance Criterion (\$300K)**

Develop an integrated strategy to reduce the future EM funding gap. Establishing an integrated strategy for closing the funding gap to accomplish EM work will involve an Evaluation (Measure achieved? Provide statement regarding quality of deliverable and/or performance. Provide additional supporting information such as significant performance issues): of program needs, available funding, and identification of cost savings that may be applied to accomplish program work where funding does not currently exist.

**5.3.2.1** Deliver, to DOE by September 30, 2000, an integrated strategy to reduce the EM funding gap.

**Evaluation:** Partially Achieved. Creation of the Funding Gap Strategy was primarily the result of brainstorming meetings held with a newly formed EM Strategic Council and senior BBWI management to identify action plans of reducing costs and improving efficiencies. Twenty-four specific Funding Gap Action Plans were prepared consisting of those which were deemed immediately implementable and another group which would require substantive stakeholder, regulator and DOE participation. While these action plans address a number of productivity and efficiency concerns that if implemented could reduce the cost of operations, an overall (integrated) strategy to reduce the funding gap was not presented. Further, underlying analyses which would support development of an integrated strategy was not performed and the estimated savings to be achieved for each action plan was

unsupported by cost analysis. Due to the lack of integration and degree of maturity presented, the objective was only partially attained.

**Earned Fee:** 40% or \$120K

#### **5.4.1 Performance Criterion (\$390K)**

Establish and implement an INEEL Infrastructure Long-Range Plan (LRP) that optimizes the existing infrastructure, provides future visibility to requirements/ needs, and improves operational utilization consistent with and supportive of the INEEL Institutional Plan. The INEEL Infrastructure LRP encompasses all those functions and facilities (e.g., buildings, structures, property, systems, utilities, fleet, telecommunications, inventory, warehousing property pools, networks, etc.) necessary to accomplish assigned missions. The LRP must have as its foundation comprehensive life-cycle analysis that addresses the entire infrastructure at the INEEL. The LRP must 1) be based on a thorough understanding of the current condition of the assets and projections of upgrades and replacement of those assets; 2) factor in projected future needs; 3) address the disposition of assets which are no longer needed, have no foreseeable future need, or are no longer cost effective to maintain and operate; 4) reference or include the basis for any analysis used in determining the projections of needs; 5) integrate with expected program directions, the Institutional Plan and themes and requirements of the INEEL contract solicitation; and 6) identify, consider, and improve utilization of all asset classes.

**Evaluation:** Achieved. Completion of the INEEL Infrastructure Long-Range Plan (LRP) was a significant milestone in understanding the condition and future needs of the entire INEEL infrastructure. The plan will ultimately represent the basis for an overall restoration of the INEEL's infrastructure that ensures sound facilities to support current, ongoing and future site missions. Several separate activities were accomplished in a short time frame to assemble the final product by the required dates. These activities included:

- Established and documented the current condition of the INEEL infrastructure.
- Performed and documented strategic planning for each facility area (including areas with multiple programs) to determine long term infrastructure support needs.
- Reviewed each INEEL building and support structures on a life cycle basis and documented capital needs to ensure long-term missions can be supported.
- Reviewed infrastructure related services and established cost baselines for their continued operation.
- Integrated facility and program needs with Institutional Plan goals.
- Identified the funding gap for infrastructure needs versus outyear budgets.

The LRP was a quality document that met the intent of the PEMP guidance. Measures 5.4.1.1, 5.4.1.2, and 5.4.1.3 were achieved resulting in the development of the first version of the INEEL Infrastructure Long-Range Plan, focusing on one to five years but with summary projections for 10 years.

**5.4.1.1** - On May 1, 2000, BBWI delivered an outline (Table of Contents) of the LRP that includes description of plan elements, process for development and updating, and schedule/cost for plan completion.

**5.4.1.2** - On June 29, 2000, BBWI delivered the first draft of the INEEL Infrastructure LRP, focusing on one to five years.

**5.4.1.3** - On August 30, 2000, BBWI delivered the final draft of the INEEL Infrastructure LRP, focusing on one to five years, but with summary projections for ten years. This also included a INEEL-wide GPP/GPCE strategy for FY 2001.

**Earned Fee:** 100%

**5.5.1 Performance Criterion (\$320K (5.5.1.1 and 5.5.1.2))**

Establish and maintain a workforce that is structured consistent with the INEEL Institutional Plan and specific program goals to effectively and efficiently achieve the overall INEEL mission. Establish a five-year Human Resource baseline of existing resources and projection of future needs, with action plans to resolve gaps between the baseline and needs assessment. This baseline must be aligned to personnel policies, practices, and processes.

**5.5.1.1** No later than April 30, 2000, identify the most critical skill mix problems and provide DOE-ID action plans for resolution.

**Evaluation:** Achieved. BBWI delivered to DOE a summary analysis of an assessment performed using the Quality Staffing Projections by Common Occupations Classification System (COCS) codes for midyear FY00 to analyze and predict critical skill gaps. The analysis discussed skill shortages and excesses based on data available through FY00.

**Earned Fee:** 100%

**5.5.1.2** By September 15, 2000, submit a five-year Human Resource Staffing Plan to DOE-ID. The plan will cover (by classification) optimum employment skill mix and levels, and specific action plans to correct identified variances and gaps.

**Evaluation:** Partially achieved. The purpose of the BBWI Staffing Plan was to provide a broad, yet comprehensive look at BBWI's staffing requirements over the next three to five year period. It was DOE-ID's expectation that the Staffing Plan be tied to the key events outlined in the INEEL Institutional Plan, the INEEL Infrastructure Long Range Plan, key Budget Documents, etc. The Plan was to cover the optimum staffing levels and skills mix and provide a listing by COCS classification. The plan was to address the specific actions that will need to be taken to correct skills mix and staffing level variances and gaps and the plans should address how the various HR programs will be utilized to obtain the long range staffing goals.

From a review of the document, and more importantly, from the significant amount of information collected in face to face meetings, DOE-ID is confident that BBWI has developed a well defined process that serves as the backbone for the development of the INEEL Staffing Plan. Although the Plan is owned by BBWI's HR Department, it is clear that it is driven by BBWI's Senior Management and that there was a great deal of involvement from each of their various business line managers. During discussions with BBWI, DOE-ID was shown a significant amount of back-up material that came out of the numerous meetings HR held with each of the key business line managers and this information supports the summarized information provided in the Staffing Plan. The Staffing Plan is a fairly comprehensive look at staffing needs over the next five year period and is generally tied to the key INEEL planning documents such as the INEEL Institutional Plan, the Infrastructure Long Range Plan, and the INEEL Business Forecast Summary. The Plan provides the optimum staffing levels and skills mix, based on a number of key assumptions, listed by COCS classification. The Plan also discusses how the HR programs, i.e., training, employee development, restructuring, etc. will be utilized to meet the long-range staffing goals.

Despite having a well-defined process in place and having a significant amount of supporting documentation, the Staffing Plan document had some shortcomings. In general the report was hard to follow and lacked sufficient detail as to the process BBWI followed to develop the Staffing Plan. DOE-ID expected the Staffing Plan to be tied to the key INEEL planning documents, but this was only done in very general terms and there is no specific explanation (cross-walk) as to how a major/key event will impact specific job classes. Despite these shortcomings, the Staffing Plan has the potential to serve as a valuable tool for BBWI to use in determining the resource needs at the INEEL and to serve as a baseline for future staffing plan updates. The Plan did not specifically include a discussion of how the EM Funding Shortfall may impact future INEEL staffing levels.

**Earned Fee:** 80% or \$288K

- 5.5.1.3** By September 30, 2000, submit a comprehensive conceptual design for a five-year compensation package (including pay for performance provisions) which provides the basis and understanding to proceed forward with a final proposal. **(\$70K)**

**Evaluation:** Achieved. The plan was delivered to DOE-ID on September 29, 2000. Creation of the compensation plan required a comprehensive review of the foundation supporting the existing compensation program and the requirements identified in DOE Order 350.1, "Contractor Human Resource Management Programs." The review and evaluation of these items generated significant discussion and comment. This process engaged the BBWI Senior Management team in the examination and identification of the necessary compensation philosophy to support the INEEL Institutional Plan. The resulting compensation plan is a comprehensive and integrated product. The assumptions underpinning this plan are consistent with the company's overall planning assumptions. It supports the successful execution of the INEEL Staffing Plan by providing a basis upon which the INEEL will obtain the necessary manpower and skills from the private sector and complete the Laboratory's changing mission. The plan describes the nature of a fully competitive compensation plan, both pay and benefits, that supports achievement of the INEEL mission; responds to critical needs and situations in a timely manner, and yet maintains cost consciousness.

**Earned Fee:** 100%

