



Performance Evaluation Report  
for  
Babcock and Wilcox Y-12 Technical Services, LLC

Contract Number DE-AC05-00OR22800

Evaluation Period: October 1, 2010 through September 30, 2011

The purpose of this Performance Evaluation Report is to provide a final report of the National Nuclear Security Administration (NNSA) evaluation of Babcock and Wilcox Y-12. Technical Services, LLC (B&W Y-12) performance for the period October 1, 2010, through September 30, 2011. This evaluation uses the guidance, criteria, measures, and process established in the Performance Evaluation Plan (PEP) approved at the beginning of this performance period. At Y-12, the fee pool was divided into three components: Base and Stretch Award Fee Incentives (AFIs), Base and Stretch Performance-Based Incentives (PBIs), and Multi-Site Incentives.

The Award Fee Incentives contain three major performance objectives: Program, Operations, and Institutional Management and Business. The Y-12 Site Office (YSO) met monthly with B&W Y-12 to provide feedback and progress in satisfying the detailed elements contained in the Award Fee Incentives outlined in the PEP. The first section of this report summarizes NNSA's evaluations for each Performance Objective (e.g., Program) and the topical areas (e.g. Directed Stockpile Work/Campaigns/Plant Directed Research and Development) contained within each Performance Objective. An evaluation of the stretch objectives is also provided. Additional details supporting this report are contained in monthly performance evaluation reports provided to B&W Y-12.

The second section of this report presents the results of the PBI evaluation, both base and stretch. The PBI portion of the fee process is similar to past years and consists of negotiated specific incentives assigned to high priority activities where fee is earned based on quantitative/objective performance results such as product deliverables, schedule, and cost.

Finally, this report communicates information obtained from documented performance evaluations. This report is not intended to repeat assessment evaluations or create new information.

## **I. Program**

The functional areas under the Program area include Directed Stockpile Work (DSW)/Campaigns/Plant Directed Research and Development (PDRD), Readiness in Technical Basis and Facilities (RTBF)/Facilities Infrastructure and Recapitalization Program (FIRP), Nuclear Non-Proliferation (NN) and Naval Reactors, and Project Management. These functional areas include the mission and project work that Y-12 is tasked to accomplish throughout the year.

Overall, B&W Y-12's performance in the Program area was "Excellent" in fiscal year (FY) 2011. The DSW Program W76-1 production exceeded baseline requirements by 5% with improved acceptance rates and a 15% reduction in unit cost. Compared with FY 2010, 400% more surveillance work was accomplished in FY 2011 utilizing about \$4M in efficiencies. Dismantlements exceeded baseline requirements with the LDU on the W70 system and the initiation of work on the B53 and B83 large systems. DSW completed 100% of the Level 2 milestones. One hundred percent of RTBF Level 2 milestones were completed. Strong emphasis was placed on facility risk reduction activities. De-inventoried 9998 and 9215 in support of Area 5 de-inventory and removed all strategic reserve assemblies from 9402-2E VTR 6 to HEUMF. Significant progress was made in transitioning non-MAA storage into 9720-5 which will result in significant cost savings. Restart of the Carbon Burners allowed initiation of slag and liner processing which was not a capability that had existed for some time. The multi year effort of completing the Site Treatment Plan milestones was completed ahead of schedule in FY-2011. The Alarm Response Training (ART) program at Y-12 (for domestic Radiological Facilities, Research and Test Reactors) continued to received very high praise from the HQ program managers and participants. The Y-12 ART program trained 695 individual from 20 different states and is an excellent example of continuous improvement. The Nuclear Detection and Sensor Testing Center at Y-12 was established, which is expected to contribute significantly to improving national defense by assisting in the testing of the latest radiation detection technologies aimed at securing national borders. Removed over 7 MT excess HEU from Y-12 and shipped to NNSA down-blending contractors, Naval Reactors fuel fabricators, and disposal of legacy and low equity HEU materials. Over 1.5 MT enriched uranium and other nuclear materials was supplied to domestic and foreign research reactors resulting in more than \$18M in revenue returned to the U.S. Treasury.

### **Directed Stockpile Work/Campaigns**

The overall rating for DSW/Campaigns/PDRD is "Excellent."

Of the 40 Level 2 milestones in this functional area, 35 milestones (87.5%) were completed as planned (Blue). Four milestones (10%) were cancelled. One milestone (2.5%), the Production Microwave project, was not completed as planned (Red) due to technical issues with the equipment. Technical issues developed with the Non-Destructive Laser Gas Sampling (NDLGS) and Oven Consolidation projects. However, by the end of FY 2011, NDLGS was on-plan with a revised baseline and the Oven Consolidation project had completed a Test and Evaluation activity that had identified the performance issues. There were many significant DSW accomplishments in FY 2011 including: (a) W76-1 production was 105% of the baseline which was made possible by about \$2.5M in efficiencies, improved acceptance rates, and a 15% reduction in unit cost; (b) compared to FY 2010, 400% more Stockpile Systems work was accomplished in FY 2011 through the use of about \$4M in efficiencies; (c) the Weapons Dismantlement and Disposition (WDD) program exceeded the baseline dismantlements through the utilization of about \$2M in efficiencies, completed the Last Dismantled Unit on the W70, and initiated work on two large systems; and (d) Stockpile Services was sufficiently robust to enable the timely completion of all DSW deliverables. The Production Microwave did not meet the Level II milestone of completing readiness by the end of the FY (PBI). This year, for the first time at Y-12, purified uranium metal has been produced using an operational Electrorefining (ER) cell. Numerous runs have now been made with this cell and a next generation ER cell has been procured and is in the process of being installed. Significant progress was made in advancing this very promising technology.

### **Readiness in Technical Base and Facilities/Facilities and Infrastructure Recapitalization Program (RTBF/FIRP)/Secure Transportation Asset**

The overall rating for RTBF/FIRP/STA is “Excellent.”

All level 2 and level 3 milestones are rated Blue. Infrastructure Programs has been very proactive in FY2011 accomplishing work above the baseline and working solutions to critical issues. The only area where expectations were not met was in purified metal production; however, a significant effort was put in place to identify and implement corrective actions that will address the issues that have resulted in the goals not being met. Significant progress was made in consolidating non-MAA storage into the 9720-5 warehouse. In the balance of the program very important and critical mission requirements were supported. Examples were supporting the very critical mission of metal consolidation which supports the dismantlement mission; also, the expense funded Facility Risk Reduction activities exceeded the 9212 base plan by completing the 9212 FRR recommended actions. The restart of the carbon burners restored the capability to process slag and liner for which the capability had not existed for several years. The multi-year effort to comply with the Site Treatment Plan was completed in FY-2011. The subprograms have also completed a number of infrastructure improvements that are transformational and helping to bridge to the future (i.e., Bear Creek Road relocation, and activities and projects that were required to prepare for the H-Road project). B&W executed maintenance to the STA Task Agreements as expected this year although there were two procedure compliance problems related to performance of routine vehicle inspections and repairs in April and May. There was also an event that caused damage to an OST asset when it was placed on a charging station at a location on the Y-12 site (different than the Vehicle Maintenance Facility (VMF) and the station failed. These events resulted in OST incurring additional costs either directly or peripherally related to work under the Task Agreements.

### **Nuclear Nonproliferation and Reactors**

The overall rating for Nuclear Nonproliferation (NN)/Naval Reactors (NR) is “Very Good.”

The CAS metrics for NN/NR adequately document the overall health of the programs and provide a mechanism to quickly determine areas that require additional attention. HEU disposition projects were executed to meet customer schedules including: supply for Naval Reactors, NNSA down-blending contracts, low equity HEU disposal, removal of legacy HEU items, and LEU supplied for research and isotope production reactors. Global Threat Reduction Initiative (GTRI) Projects to remove HEU from foreign countries were executed in accordance with schedules and planning for additional projects remains on track. The Alarm Response Training (ART) program at Y-12 has received very high praise from the HQ program managers and continues to receive very positive feedback from participants. The ART program is an excellent example of continuous improvement. Program managers from the Office of International Material Protection and Cooperation have been generally complementary of Y-12 support to their program. Subject Matter Expert (SME) support of IMPC projects and workshops has been very good, as have

Y-12 tours for IMPC domestic and high-level international audiences. However, project management and cost accounting issues for the conduct of the performance testing and other workshops took a significant amount of time and IMPC program effort to resolve. Additionally, IMPC project level issues of tracking and reporting of commitments to STARS financial database and timeliness of contract placements need to be continuously improved in coordination with IMPC program management. “ Y-12 established the Nuclear Detection and Sensor Testing Center which is expected to contribute significantly to improving national defense by assisting in the testing of the latest radiation detection technologies aimed at securing national borders. B&W Y-12 demonstrated a prompt and effective response on several occasions to arranged briefings and tours for HQ and State Department visitors. There continues to be very good synergy between the Nuclear Nonproliferation and Work for Others programs. A series of significant issues related to the manufacturing of LEU-Mo foils occurred throughout the FY. After missing important U-Mo foil delivery milestones, Y-12 management has now taken strong measures to investigate and address the manufacturing problems associated with casting flaws and foil failures. Overall, management and progress of the NN and Reactors programs at Y-12 is very positive.

## **Project Management**

The overall rating for Project Management is “Very Good.”

Performance on the PWSU and SPLE projects exceeded expectations. NFRR performance meets expectations. SIP exceeded [is both words of ‘met and exceeded’ needed?]performance overcoming challenging issues and gained back schedule and is proceeding toward completing on time and within cost. Performances on smaller projects generally meet expectations. BEC schedule performance did not meet expectations. The PMW project did not meet schedule and cost objectives. Project deliverables were completed for the most part on time and were acceptable. The UPF Project met or exceeded most deliverables and made significant and planned progress on advancing design for the period, completed an aggressive collaboration effort with the Los Alamos CMRR Project attaining potential for future cost savings for both projects, and issued Process and Instrumentation Drawings. The UPF Project completed a PSDR not meeting all expectations but has a clear and agreed to path toward an acceptable solution in the near term. The UPF CD-2/3A package remains an issue with resolution of technical and procurement issues that must be addressed to alleviate risk and proceed into this first phase of construction. Projects exceeded goals and objectives established for health and safety for all projects within design and construction. Projects also significantly improved reporting, reporting format, and is working to improve distribution and information flow even further by utilizing electronic means reducing the massive cost and time for handling this large volume of paper. Projects also provided consistent and timely support of a variety of external and internal reviews, assessments and briefings. Support was also provided for the Defense Nuclear Facilities Safety Board, the Government Accounting Office, the Office of Enforcement and Compliance Monitoring, congressional staffers, NNSA Headquarters, the Office of Cost Analysis, and the U.S. Department of Defense.

## **II. Operations**

“Operations” includes the areas of Operations; Engineering, Safety and Environment; and Safeguards and Security.

All areas in Operations were rated either Good, Very Good, or Excellent, resulting in an overall rating of Very Good. Within Facility and Site Management, B&W has maintained a facility availability level above 97% and achieved higher PrYde program ratings. All facility Operations Plans were completed for the production facilities this year and the effort is being expanded in FY 2012. Maintenance Effectiveness efforts in support of Federal facility energy mandates and Executive Order implementation have been excellent although program funding presents some difficult challenges for the future. In the last month of the fiscal year a positive trend was noted in Work Planning and Execution, as contractor actions to improve performance began to affect work performance. In response to performance declines during the first eight months of the year, an Operational PAUSE was conducted and resulted in three positive events which work was either stopped or equipment saved due to the extra attention paid to the work area. In training and qualification, B&W maintained management attention on both the programmatic and implementation elements which resulted in a reduction to an overall plant average to date of 0.70 % in training deficits, which is well below the site-wide target level of 2.5%. Within Engineering, Safety, and Environment, engineering performance for FY 2011 overall met expectations, but has not provided the extra margin of support needed to advance the Y-12 site productivity beyond meeting minimum FY 2011 production goals. Solid and continued progress in achieving the Nuclear Criticality Safety (NCS) Program Improvement Plan is noteworthy.

B&W Y-12 Emergency Services has many notable accomplishments this FY including the release of a new version of the Emergency Management Information System (EMInS). The B&W Y-12 RADCON program continues to be well implemented, in accordance with requirements. In Health and Safety, no significant deficiencies occurred which negatively impacted Y-12 operations or prevented the accomplishment of mission milestones. However, motor vehicle accidents continue to occur at an unacceptable rate although the severity of the MVAs has been low. The B&W Y-12 Environmental and Waste Management programs were, in general, implemented in accordance with requirements, with a focus on completing actions for long standing waste storage issues. Quality Assurance accomplishments included significant progress toward full implementation of NQA-1-2008 and NQA-1a-2009 and issuance of the consolidated Procurement Quality Manual. Within Safeguards and Security, YSO saw overall strong performance in key programmatic assessments such as security plans, deviations, self-assessments, lessons learned, and configuration management. B&W demonstrated strong leadership with NAP implementation and in the harmonization effort, which impacts the entire Nuclear Security Enterprise. However, a key significance this year was the recurring lock and key issues. Throughout FY 2011, the B&W Physical Security Program continued to demonstrate an overall strong level of performance in all sub-topical areas. Regarding Information Protection, the primary emphasis this FY was on implementation of the new NNSA NAP 70.4, *Information Security*. B&W did an outstanding job in planning for and executing a top to bottom review of the program and any impacts based on the new NAP. Additionally, of key significance, B&W obtained approval for the Risk Management Framework/Cyber Plan Hiatus document which represents the most significant change to cyber security in a decade. In addition, B&W reduced the number of Federal Information Security Management Act cyber systems from 86 to 47, a 45% change. Overall the Personnel Security program meets all DOE/NNSA requirements, is well managed, and continues to be pro-actively seeking opportunities to improve. NMC&A demonstrated high performance and a strong Contractor Assurance System (CAS), including performance testing, Comprehensive Analysis of Safeguards Strategies (COMPASS), management assessments, and surveillances. The NMC&A program continues to be recognized as a leader in the DOE Complex.

### **Facility and Site Management**

The overall rating for the Facility and Site Management functional area is “Excellent.”

B&W has maintained a facility availability level above 97% and achieved higher PrYde program ratings. Maintenance backlog has been reduced and preparation of facilities for seasonal impacts was improved to the point that the production facilities only had three freeze related events while Balance of Plant facilities had none. All facility Operations Plans were completed for the production facilities this year and the effort is being expanded in FY-2012. Significant effort was also expended to develop facility electrical drawings, reliability and sustainment planning and improve remote monitoring capabilities for the production facilities.

### **Maintenance Effectiveness**

The overall rating for Maintenance Effectiveness is “Very Good.”

Facilities, Infrastructure, and Service (FI&S) matured as an organization, is making improvements in facility management and has successfully made it through the winter months with minimal impact to the site. FI&S has also dealt with some difficult problems related to the new steam plant boilers and feed pumps. Efforts in support of Federal facility energy mandates and Executive Order implementation have been excellent although program funding presents some difficult challenges for the future. Progress still needs to be made in better integrating actual project funding with energy savings and sustainment initiatives although there has been a great deal of improvement. Facility sustainment planning is on track and lays out a clear vision for a path forward in support of long term site planning. There has been improvement in addressing Conduct of Operations within Utilities.

### **Work Planning and Execution**

The overall rating for Work Planning and Execution (WP&E) is “Good.”

Work Planning and Execution (WP&E) is rated Good for the year. At the beginning of the period, performance was in the lower portion of the Very Good range. Accumulated performance began a slow decline in the first quarter of FY 2011 and changed categories from Very Good to Good in June. In the last month of the fiscal year a positive trend was noted as contractor actions to improve performance began to affect work performance.

In response to performance declines during the first eight months of the year, the Vice Presidents of Production and FI&S conducted an Operational PAUSE for more than 1,100 workers, supervisors, and managers within the two organizations. The PAUSE briefing stressed the goals and renewed focus on safety and proper ConOps adherence. The briefing reviewed past safety events that occurred within the organizations and ConOps events that could have been prevented. This PAUSE resulted in three positive events (microwave review, 9204-2 tunnel work, and 9215 roof leak) in which work was either stopped or equipment saved due to the extra attention paid to the work area.

The cumulative number of technical safety requirement (TSR) violations was tracked and trended against a defined control, a statistically based limit derived from a history of the data. For the end of this fiscal year, that limit was between five and ten; there were four TSR violations, below the limit. However, the number of TSR violations for FY 2011 exceeded the number for FY 2010 by two violations.

Production led the preparation and issuance of a multi-division ConOps Improvement Plan in September 2011 that is aimed at abating declining performance that occurred during FY 2011. This plan outlines improvements to areas such as procedure writing, internal oversight, training, organizational realignments, benchmarking, standardization of placekeeping, and improved communication.

### **Training and Qualification**

The overall rating for the Training and Qualification Program is “Excellent.”

B&W maintained management attention on both the programmatic and implementation elements which resulted in a reduction to an overall plant average to date of 0.70 % in training deficits, which is well below the site-wide target level of 2.5%; a more rigorous self-assessment program; and overall performance improvement.

B&W Training, Management, & Delivery (TMD) Organization, Production Training and the Support Organization Training Managers/Analysts have repeatedly performed effective self-assessments and performance-based surveillances to identify issues and areas for improvement on or ahead of schedule. A consistent set of criteria was used in each assessment/surveillance with some issues appropriately identified and several resolved. B&W has made good progress in implementing training efficiencies in several areas.

In summary, B&W has a stable Training & Qualification program with highly organized and thorough self-assessment elements built in to identify implementation issues. There have been no significant training-related programmatic deficiencies that would have an impact on the safety, security, or operation of any Y-12 facility, personnel, or the environment. The overall performance in the programmatic and implementation elements has improved over the last three years as demonstrated by the fact that the B&W Training & Qualification program has maintained the program at a level that exceeds YSO expectations (Dark Blue) for an extended period. In addition, for the third and fourth quarters of FY 2011, YSO granted abeyance on the program rating due to consistent high performance. The combination of well-managed programmatic elements and consistent implementation of the program is the level of performance needed to maintain a dark blue rating. Based on YSO observations and evaluations this fiscal year, sustained excellent performance was demonstrated to warrant maintaining the dark blue rating.

### **Engineering and Nuclear Safety**

The overall rating for Engineering and Nuclear Safety is “Very Good.”

Engineering performance for FY 2011 overall met expectations, but has not provided the extra margin of support needed to advance the Y-12 site productivity beyond meeting minimum FY 2011 production goals. Solid and continued progress in achieving the Nuclear Criticality Safety (NCS) Program Improvement Plan is noteworthy, including the upgrade of nine Criticality Safety Evaluations that met award fee and stretch award fee goals.

However, several significant fissile material work control issues occurred during the year and continued focus on addressing these work control issues must be maintained and yield positive results. Noteworthy NCS engineering items beyond continued program management progress are the NCS Evaluation Upgrade Plan, which demonstrates a solid contractor commitment to improving the NCS evaluations, and the self assessment of other NCS process analyses of the issues surrounding the reduction pickling potential inadequacy of safety analysis (PISA) concerns. In the Safety Basis area, B&W Y-12 continued to manage and implement the safety basis program that meets requirements and supports Y-12 operations. However B&W Y-12 is continuing to suffer from quality of safety basis submittals that require revisions or Design Change Notices (DCNs) to incorporate changes prior to implementation resulting in delayed implementation. B&W Y-12 has instituted corrective actions to address the quality concerns, which will be evaluated in FY 2012 to assess effectiveness.

## **Emergency Services**

The overall rating for Emergency Services is “Excellent.”

Performance measures, metrics and assessments continue to show that the Emergency Services Program is well implemented in accordance with requirements and continuing to improve performance. B&W Y-12 Emergency Services has many notable accomplishments this FY. Emergency Services released a new version of the Emergency Management Information System (EMInS). The upgrades to EMInS, which included a better user interface for tag in/tag out for the Emergency Response Organization (ERO) Cadre, will eliminate the manual process that has been used in the past. This will provide a more reliable, less time consuming, notification process for the program and ERO Cadre members. A contract was issued for a new Y-12 notification system. The new notification system will be a hosted notification system and will improve the capability and efficiency of ERO notifications. The new system will allow the simultaneous notification of ERO members on multiple devices. This will provide a more reliable response to initiation of the ERO and allow members to carry less mobile devices and still be able to maintain communication if an emergency event occurs.

An operating plan was developed by B&W Y-12 Emergency Services that will provide the basis for making the program stronger by documenting areas of weaknesses and using a risk based approach to determine the priority of work based on consequence to provide the most benefit to the overall program and therefore reduces the risk in emergency management. The reduction in total fire patrols per month for unplanned impairments has gone from 57 in January 2010 to 10 in September 2011. The reduction in fire patrols has allowed for more effective use of fire department personnel and the new software tool will further develop a more efficient organization for completed inspections, testing and maintenance. A project was completed that replaced the outdated, and at times unreliable, fire alarm system to a new forward compatible system that has contributed to the reduction in fire patrols and provided a more reliable and robust alarm system. Emergency Services has begun incorporation of the Facilities Management Enterprise System (FMES) and it has been programmed for a fire systems/Fire Protection Organization (FPO) module that will manage an electronic plan of the day (POD). Data loading and initial testing has been completed with the system deployment to begin in early FY 2012. Other scheduling tools and equipment status reporting will deploy early in FY 2012 as well. This system, currently in use by production facilities, will further enhance cooperative work schedules between the organizations.

## **Radiation Protection**

The overall rating for Radiation Protection is “Excellent.”

The B&W Y-12 RADCON program continues to be well implemented, in accordance with requirements. Notable achievements included continued excellent performance and DOELAP accreditation for the Internal and External Dosimetry programs, initiatives to test the next generation of personnel contamination monitors, RADCON initiated productivity improvements which will result in ~\$0.5M in cost savings, support to the JORRB, improvements in the whole body counter software, and support to other initiatives such as RAP and site non-proliferation training organizations. Areas of continued concern include ensuring adherence to radiological controls by working with facility organizations to ensure that the proper controls are in place (and practiced) to minimize personnel contaminations, ensuring personnel contamination controls monitoring, ensuring adherence to RWP requirements, failure to act on Department of Transportation (DOT) limits when releasing materials, and ensuring that that

personnel on radiological restriction are prevented from entering radiological areas until restrictions are lifted B&W Y-12 should continue to develop initiatives that drive proactive performance.

## **Health and Safety**

The overall rating for Health and Safety is “Excellent.”

Performance measures, metrics and assessments continue to show the Health and Safety Program is well implemented in accordance with requirements and at a high level of performance. No significant deficiencies occurred which negatively impacted Y-12 operations or prevented the accomplishment of mission milestones. Notable accomplishments included: excellent and improving safety statistics, receipt of numerous National Safety Council awards, submittal of the application for the Voluntary Protection Program Star Status and actively participating in DOE-wide activities promoting improvements in Safety and Health. B&W Y-12 continued to perform commercial motor vehicle operations without a DOT recordable accident, which now stands at 18 years. Metrics show excellent performance in all areas except for Job Hazard Analysis (JHA). B&W Y-12 continues to take appropriate action when trends are identified such as JHA, and Lock Out/Tag Out. Motor vehicle accidents continue to occur at an unacceptable rate although the severity of the MVAs has been low.

## **Environmental and Waste Management**

The overall rating for Environmental and Waste Management is “Excellent.”

The B&W Y-12 Environmental and Waste Management programs were, in general, implemented in accordance with requirements, with a focus on completing actions for long standing waste storage issues. Noteworthy achievements include the disposition of the remaining legacy low level radioactive waste (LLW) inventory (initial inventory over 2600 containers); the disposition of the mixed waste inventory with compliance milestones from the Oak Ridge Reservation Site Treatment Plan (STP); the safe shipment of over 445,000 ft<sup>3</sup> of LLW to the Nevada Nuclear Security Site (NNSS); excellent results from external assessments (e.g., Resource Conservation and Recovery Act (RCRA), Clean Water Act, and Clean Air Compliance annual inspections); timely and high quality environmental compliance reports; and, the innovative clean up of the Just-in-Case Yard. The B&W Y-12 Sustainability and Stewardship programs performed very well in maintaining and receiving multiple environmental awards. For example, B&W Y-12 successfully maintained Performer Level status under the Tennessee Pollution Prevention Partnership (TP3) Program and won four of nine NNSA Pollution Prevention/Sustainability Best in Class Awards. B&W Y-12 made progress in identifying and correcting inflow and infiltration (I&I) problems in the Y-12 sanitary system. Concerns identified during the FY include repeated violations of the sanitary discharge permit for flow from I&I. There were also four violations of the Y-12 National Pollutant Discharge Elimination System (NPDES) permit – one of which was a likely contributor to a fish kill in East Fork Poplar Creek in July 2011.

## **Quality Assurance**

The overall rating for Quality Assurance is “Good.”

Quality Assurance (QA) performance overall met requirements for FY 2011. Accomplishments included significant progress toward full implementation of NQA-1-2008 and NQA-1a-2009 and issuance of the consolidated Procurement Quality Manual. Y60-101PD, *Quality Program Description*, was revised and approved by YSO. The planned consolidation of Y60-101PD with Y60-WP-001PD, *Weapons Quality Program Description*, has been delayed to FY 2012. The weapons quality metrics developed in FY 2010 continue to improve and have become a model for the rest of the Nuclear Weapons Enterprise as they include cost data and labor burden. Product quality deficiencies were resolved in a timely manner and did not impact execution of the Life Extension Program. Examples of product acceptance discrepancies include: quality records for a specific part serial number were not provided; product improperly submitted for acceptance; missing product certification records and product traceability system data; Design Agency requirements for reacceptance of the Bow Subassembly are not being met; incorporation of revised product definition unintentionally changed past production data in the database; unqualified auditor performed verification inspection; rejected product was not resubmitted as preliminary; and product removed from the Certificate of Inspection (COI) and re-worked. Six Quality Assurance Defect Reports (QADRs) were generated during FY 2011 for nonconforming product submitted for acceptance compared to a total of five QADRs in FY 2010. B&W Y-12 received four Incoming Material Reports (IMRs) from Pantex, an increase from last year's

total of three. Proper execution of procurement quality requirements has been an issue throughout the year as demonstrated by the numerous issues that have been identified in this area, including: improper development of procurement planning documents, inadequate supplier evaluations/surveys, bypassing required receipt inspections, bypassing the procurement process entirely, and inadequate receipt inspections.

### **Safeguards and Security (S&S) Program Management**

The overall rating in the area of S&S Program Management is “Excellent.”

Throughout FY 2011, the B&W Safeguards and Security Program Management program continued to demonstrate an exceptional level of performance in all sub-topical areas. Two-hundred and twenty (220) YSO assessments pertaining to S&S Program Management over the year verified that this program continues to function at a high level. Significant milestones for this fiscal year included the quality submission of the FY 2013-2017 Defense Nuclear Security budget; strong performance with regard to Graded Security Protection (GSP) commitments; maintaining an acceptable level of Protective Forces (PF) overtime; support for PF reconfiguration; timely submission of the Site Safeguards and Security Plan (SSSP) and the Area 5 and Highly Enriched Uranium Materials Facility (HEUMF) Vulnerability Assessment Reports (VARs); overall quality of the quarterly Management Systems Assurance Program (MSAP) and budget reports; maintaining acceptable budget variances; continued strong use of the Safeguards and Security Tracking and Analysis and Reporting Systems (SSTARS); strong performance with regard to metrics and the leadership associated with the Protection Program Management NAP policy development team; strong performance in the NA-70 budget “Deep Dive” activities and follow-up; elimination of unneeded explosive detection, saving \$250k per year; creation of the Insider Working group; and, strong performance with security policy transition activities. B&W also validated over \$8.39M in cost avoidance and efficiencies related to NAP implementation. YSO saw overall strong performance in key programmatic assessments such as security plans, deviations, self-assessments, lessons learned, and configuration management. B&W demonstrated strong leadership with NAP implementation and in the harmonization effort, which impacts the entire Nuclear Security Enterprise.

Of key significance this year, were the recurring lock and key issues (i.e., inventory, accountability, training, and self-assessment activities); eleven IMI-2 level incidents of security concern (IOSC); issues associated with improper implementation of the parts waiver; late PII reporting; three cases where YSO had to direct B&W to report events as an IMI; and lack of introspection with regard to the lock and key issues in the FY 2010 (received in FY 2011) self-assessment report and the third quarter MSAP report. YSO also noted B&W was not proactive regarding the implementation of the electronic device policy. Overall, the program is well managed with some areas warranting continued focus.

### **Physical Security**

The overall rating in the area of Physical Security is “Good.”

Throughout FY 2011, the B&W Physical Security Program continued to demonstrate an overall strong level of performance in all sub-topical areas. Physical Security activities during FY 2011 had noteworthy successes while also revealing a significant program weakness. Ninety-six (96) YSO assessments of the B&W Physical Security Program over the year verified that this program continues to function at a high level. The program met performance expectations integral to NNSA/YSO mission accomplishment such as the Special Nuclear Material (SNM) transfer associated with building 9720-5, Graded Security Protection (GSP) projects support; Security Systems lifecycle management - Physical Security Technology Management Plan (PSTMP), Infrastructure Modernization Implementation Plan (IMIP) and accomplishment of NNSA security reform initiatives (full implementation of a new Physical Protection policy for the Enterprise). Significant concerns remained as a result of YSO assessments and an independent assessment from the B&W Legal Division and general B&W performance specific to the recurring issues with the Lock and Key Program. A less notable issue with the Classified Parts Waiver was also identified throughout the year. The Physical Security program conducted aggressive actions during the Independent Assessment to address all concerns and the actions taken were favorable in appropriately correcting newly identified issues. SNM was not at risk. Still, inconsistent implementation of core foundational requirements continued to exist.

Overall, the aggregate results of Physical Security activities met performance objectives by self identifying issues, aggressively addressing concerns, transparency with greater communication and opportunities for YSO shadow activities, completion of strategic priorities, Security Systems consistent performance, and effective support of the YSO mission.

## **Information Protection**

The overall rating in the area of Information Protection is “Excellent.”

Throughout FY 2011, the B&W Information Security Program continued to demonstrate an exceptional level of performance in all sub-topical areas. Primary emphasis this FY was on implementation of the new NNSA NAP 70.4, *Information Security*. B&W did an outstanding job in planning for and executing a top to bottom review of the program and any impacts based on the new NAP. Solid pre-planning, timely communications, and flawless implementation are all hallmarks of this effort. Eighty-seven (87) YSO assessments of the B&W Information Program over the year verified that this program continues to function at a high level. Although involved in ensuring a significant program top to bottom change, the excellent working relationship continues to exist between the B&W Y-12 Classification Officer and the YSO Classification Officer. Of significant note for this reporting period regarding this area is the strong performance noted by NA-70 assessors during a review of UCNI and OOU guidance for the UPF Project. Additionally, thirty-eight (38) assessments conducted by YSO of the B&W Y-12 Classification Program over the year verified that this program continues to function at a high level. In addition, the in-depth trend analysis by the Classification Office of the past three years of DC activities demonstrates a commitment to continuous performance improvement. B&W continued their successful efforts from FY 2010 into FY 2011 to reduce legacy, classified holdings in support of the comprehensive operational site project plan, Classified Items Project Plan (CIPP), which also supports the headquarters desire to shrink the overall site security footprint (unfunded effort). Twelve (12) shipments of classified material have been completed to date and tie directly to CIPP. B&W Information Security has a mature self-assessment program. It continues to actively identify any incidents that have possible *10 CFR Part 824—Procedural Rules For The Assessment Of Civil Penalties For Classified Information Security Violations* implications through their self-assessment and metric process. Once a possible trend is identified, they provide that information to the Office of Security Enforcement with information describing how they are working to ensure the item does not become an 824 violation. This is tracked and trended in SSTARS and their metric program is addressing possible trends. YSO will continue to monitor this area. Most notable this FY was the reporting of ten (10) Impact Measurement Index (IMI) IMI-2 IOSCs, which are representative of compromised classified information, and two Personal Identifiable Information (PII) incidents. The contractor should continue their positive efforts and actions in this area for the new FY.

## **Cyber Security**

The overall rating in the area of Cyber Security is “Very Good.”

Throughout FY 2011, the B&W Cyber Security Program continued to demonstrate a strong level of performance in all sub-topical areas. Eighty-eight (88) YSO assessments of the B&W Cyber Security Program over the year verified that this program continues to function at a strong level. Positive program aspects seen this fiscal year included significant improvement in metrics; overall positive feedback from the National Nuclear Security Administration (NNSA) Headquarters Site Assistance Visit; improvements in elevating self-identified issues to the Designated Approving Authority; improved self-assessments/contractor assurance with strong technical assessments; timely budget submissions with strong justifications; overall positive results from YSO oversight; initial roll out of full network access controls to all user virtual local area networks; robust RSA risk assessment completed under a very short suspense; roll-out of key technical tools including the Security Content Automation Protocol (SCAP) and the Microsoft Systems Center Operations Manager (SCOM) for central audit logging tools on the classified network and continued refinement on the unclassified network; implementation of a Web Conferencing pilot to facilitate the secure access to Web conferencing capabilities; and, the completion of the Federal Desktop Core Configuration (FDCC) settings to workstations of both environments. Of key significance, B&W obtained approval for the Risk Management Framework/Cyber Plan Hiatus document which represents the most significant change to cyber security in a decade. In addition, B&W reduced the number of Federal Information Security Management Act cyber systems from 86 to 47, a 45% change.

During FY 2011, a combination of programmatic reviews and shadow assessments were conducted and resulted in overall positive performance. However, YSO did note issues regarding extent of conditions reviews; incorrect use of privileged accounts; problems with the initial FY13-17 budget submission; cyber plan noncompliances; issues with advising the DAA of security-significant changes; and a SAV-identified issue with management of mobile devices. A significant issue, which drove the trend earlier in the year, was noted with respect to an incorrect encryption algorithm being used with certain network devices, which was not within the YSO authorization basis for cyber security. Performance issues were also noted with respect to separation of duties; account management; failure to implement port controls; an unencrypted video link; and, a key issue with respect to the 24/7 monitoring capability. Also this FY, B&W suffered a successful attack on an externally facing application which was further exacerbated when B&W discovered the data, which was not authorized by B&W Management to be on this particular server, compromised was “real” rather than “test” data. The attack did not result in loss of classified or sensitive information and was limited to a pilot project. Overall, the program is well managed with some areas warranting continued focus in key areas.

### **Personnel Security**

The overall rating in the area of Personnel Security is “Very Good.”

Throughout FY 2011, the B&W Personnel Security Program continued to demonstrate a strong level of performance in all sub-topical areas. Seventy-one (71) YSO assessments of the B&W Personnel Security Program over the year verified that this program continues to function at a high level. Program positive aspects seen this FY include the participation and results of the HSS Review Team; timely and effective support to the South African Visit; responsiveness to NA-121 HRP Cost Data Call; transition of the Classified Visits program from Oak Ridge Operations; out-going classified visits with no errors; the implementation of the revised automated visit process; implementation of HRP West End Testing; timely submissions of CAP actions; FY 2011 Reinvestigations; the new pilot program to reduce Q clearances; and the implementation of the Personnel Security Gatekeeper (Microsoft Access Database). This FY, B&W had a 99% enrollment completion and 95% activation rate. However, the determination regarding the mandatory re-key requirement of the PIV (HSPD-12) badge/credential per FIPS 201-1 resulted in approximately 200 badges/credentials being listed and identified in the Federal badge/credential database as “terminated.” After preliminary discussions and a briefing to YSO, B&W resumed re-key actions and prioritized this activity based on the individuals work location, travel requirements and is working with YSO and NA-70 on an enterprise path forward. Based on a schedule to re-key 7,000 badges on a 36 month cycle, B&W’s goal is to complete 194 rekeys monthly; however, YSO noted that one month B&W did not meet their goal. In addition, B&W addressed concerns early in the FY regarding access control errors which resulted in an employee entering a Material Access Area (MAA) 102 times over 63 work days. The HSS Review Team assessed these access errors and concluded that all access errors were handled properly and did not lead to employees accessing or mishandling classified information. Overall the program meets all DOE/NNSA requirements, is well managed, and continues to be pro-actively seeking opportunities to improve.

### **Nuclear Materials Control and Accountability (NMC&A)**

The overall rating in the area of NMC&A is “Excellent.”

Throughout FY 2011, the B&W NMC&A program continued to demonstrate an exceptional level of performance in all sub-topical areas. Sixty-nine (69) YSO assessments of the B&W NMC&A Program over the year verified that this program continues to function at a high level. NMC&A demonstrated high performance and a strong Contractor Assurance System (CAS), including performance testing, Comprehensive Analysis of Safeguards Strategies (COMPASS), management assessments, and surveillances. YSO oversight results in conjunction with the CAS indicate that the combination of program administration and reliable materials accountability, integrated with effective materials control elements, provides assurance that special nuclear material is effectively accounted for and controlled. The program continues to be recognized as a leader in the DOE Complex. The rating is based on overall program performance, development and execution of an enhanced COMPASS process, continued progress toward reducing uncertainty associated control limits by identifying major contributors to the propagation of variance limits, continued work evaluating DYMCAS transformation alternatives, and support of NNSA NMC&A policy development. Large measurement uncertainties, associated with solution tanks located in Chemical Recovery, are being mitigated by process monitoring and POV Board evaluations. Though there is a plan to work off legacy

solution in static horizontal tanks, action to eliminate excess tanks which would directly address this issue while reducing operating costs, was not taken in FY 2011. YSO did issue three deficiencies this FY regarding improper access control to the accounting system; clocking errors; and an issue related to material surveillance. Each of these deficiencies had mitigating layers of protection in place. Overall, however, NMC&A exceeded expectations.

### **III. Institutional Management and Business**

The Institutional Management and Business Management Performance Objective included the following topical areas: General Administrative Management, Procurement Management, Information Technology, Modernization, Process and Productivity Improvement, and Contractor Assurance. The overall rating for General Administrative Management is “Excellent.” The rating incorporates FFMD in Fiscal Management and reflects effective funds management and outstanding day-to-day financial support. In FY 2011, Human Resources hiring for all EEO goals were at or above the set goals. In Property, Fleet & CWFO, Y-12 performed an excellent job in completing all the inventories and the results were outstanding. Additionally, Y-12 did a great job in focusing on developing and completing desktop guidance/procedures for property areas that did not have these procedures. Operating under the newly approved Fleet Pilot Study, fleet increased their utilization goals each quarter this fiscal year, reaching 93% in the 4<sup>th</sup> quarter. The CWFO measures demonstrate a continued strong relationship with its customers and show remarkable activity and expansion in both the depth and breath of activities during the FY. Public and Governmental Affairs operations saw continued improvement. B&W provided excellent sustained support for Y-12 modernization and complex wide transformation initiatives and was placed in oversight abeyance for the last six months of the FY. Each month’s Process and Productivity Improvement validation results continue to demonstrate what a strong commitment B&W Y-12 has towards its continuous improvement program. Regarding Contractor Assurance, Y-12 was the first NNSA site to go through the Affirmation process and was recommended for Affirmation based on May 2011 Review. Particularly, the Team determined the Y-12 LOCAS demonstrated a strong, integrated partnership between the YSO and B&W Y-12 leadership teams.

#### **General Administrative Management**

The overall rating for General Administrative Management is “Excellent.”

Fiscal Management. The rating incorporates input from FFMD and reflects effective funds management and outstanding day-to-day financial support including: timely input for monthly financial plan processing, impact analyses, and budget execution and formulation deliverables; accurate and timely financial reporting; and satisfactory progress against internal metrics. Automation progress, participation in complex-wide initiatives, and sharing of “best practices” are additional positive factors. The B&W initiative to save \$20 million through indirect rates is noteworthy; the achievement of those savings even more significant.

Issues noted by FFMD were relatively few and addressed in a timely manner. The premature release of information related to a potential reprogramming is considered an isolated incident.

Human Resources: FY 2011 hiring for all EEO goals were at or above those set goals. Critical Skills are at 97.9% filled. The overall cycle is at 47 days which is above the goal of 76 days.

Female utilization decreased in 1 job group and increased in 2 job groups. Minority utilization had changes in three job groups.

Internal Controls: The FY 2011 annual Internal Audit plan was met.

Property, Fleet, & CWFO: Y-12 Property Management is Dark Blue for FY 2011 for all areas covering the following measured topics: Sensitive Item Inventory, Equipment Inventory, Precious Metals Inventory, Stores Inventory, Excess Pick Up, Review of Desktop Guidance Documents, and Define the Number of Desktop Guidance Documents Needed. Y-12 performed an excellent job in completing all the inventories and the results were outstanding. There has been a huge improvement in the excess pick-up area for FY 2011 excess items and a reduction of 82% of pre-2011 excess items. Y-12 did a great job in focusing on developing and completing desktop guidance/procedures for property areas that did not have these procedures.

Fleet Management is a Light Blue for FY 2011. Operating under the newly approved Fleet Pilot Study, fleet increased their utilization goals each quarter this fiscal year, reaching 93% in the 4<sup>th</sup> quarter. Fleet Management completed several feasibility studies to find ways to provide a greener and leaner fleet, reduce maintenance cost and gas emissions. One of these initiatives was establishing the availability of shuttle service between JCC, Post 10, and the rest of the site. Eight vehicles assigned to JCC were used to replace eight older, more costly vehicles, avoiding \$60,077 in costs. Twenty-five vehicles and equipment each were sold at auctions this FY, with 33 additional vehicles or fleet equipment items ready for the next auction. New additions to Y-12's fleet of government vehicles include hybrid vehicles. These new vehicles help meet ongoing fleet requirements and lower maintenance costs.

The CWFO measures demonstrate a continued strong relationship with its customers and show remarkable activity and expansion in both the depth and breath of activities during the FY. Outstanding efforts were made by Y-12 in meeting their PBI base and stretch goals (\$38.6M). This is particularly impressive considering the six month Continuing Resolution and Federal Budget Cuts. A lot of time and effort went into developing the "Emerging Missions Strategic Vision and Implementation Plan" which aligns with Y-12 Strategic Plan, Y-12 Master Plan, Y-12 Ten-Year Site Plan and the Y-12 Technology Roadmap. B&W Y-12 received "satisfied" or "very satisfied" reviews and ratings from their CWFO customers. Y-12 met the additional performance target of developing an execution plan for the supply of materials between NNSA and the United Kingdom. The Technology Transfer Mid-Year and End-of-Year Reports were completed on time. Technology Transfer had an exemplary year with 48 new invention disclosures, two new Cooperative Research and Development Agreements, eight issued patents, one R&D 100 Award, partnerships with the University of Tennessee and the Enterprise Center, two licensing agreement with two start-up companies, and the creation of the Xpress Term License form.

Public Affairs: Public and Governmental Affairs operations saw continued improvement, with increased productivity in news release and community outreach, a high level of VIP visit performance, and high quality public relations products. B&W continues to build and grow social media related sites.

Legal: B&W Y-12 legal continues to provide information which is responsive, accurate, well-supported in a timely and complete manner. Legal organization also effectively implements and follows a Legal Management Plan that complies with 10 CFR 719.10 by submitting invoices from outside counsel which have been carefully reviewed against 10 CFR 719 criteria; retaining excellent outside counsel with success in a number of cases; and providing requests for settlement approval which are high quality documents.

### **Procurement Management**

The overall rating for Procurement Management is "Very Good."

B&W Y-12 is performing well in its administration of Impact Assessments, Implementation Plans, S/RIDs with no lagging goals. B&W Y-12 met 1 out of 6 Socioeconomic Subcontracting Goals for September including its overall Small Business goal, which lagged for most of the year. For the year, B&W is meeting 5 out of 6 Socioeconomic Subcontracting Goals. All SCMC goals have been met. An issue regarding sole source procurements has been identified and placed into the PIR (formerly referred to as MAR) for action.

### **Information Technology**

The overall rating for Information Technology (IT) is "Excellent."

B&W made positive improvements in the program by meeting IT metrics, responding in a timely manner to HQ data calls, continuing the IT refresh program, supporting "green" IT initiatives, and deploying an aggressive suite of IT projects. Other notable achievements for this period include improved operational awareness briefings for YSO, early deployment of Microsoft Lync to support UPF, deployment of an airport style Visitor Portal and Kiosks, recognition of MoMentum as one of the best practices in IT management for the entire federal government, and launch of the first ever "hotel wireless" network in the NHC. However, additional work is needed to fully transform the IT environment to support the NNSA Network Vision (2NV) and to position the Y-12 plant for future success as technology evolves. Overall, the B&W IT program is well-managed, develops and retains knowledgeable staff, implements pro-active solutions, and quickly addresses any identified issues.

## **Modernization**

The overall rating for Modernization is “Excellent.”

B&W provided excellent sustained support for Y-12 modernization and complex wide transformation initiatives and was placed in oversight abeyance for the last six months of the FY. B&W supported Transformation Site Champion activities that were focused on the preparation of the SSMP, TYSP, and CPIBP that were revised to reflect the latest modernization planning activities including the alternate UPF and PARP strategies. The Y-12 Master Plan was revised and continues to be an outstanding planning product. Submittal of project data sheets to the CWG resulted in the CMC, Lithium Production Facility, and the CCC (multi-site EOC) being placed in the top tier of NNSA project priorities in FY 2011 and the FY 2012 data sheets for the Fire Protection Operations Center and Production Utilities Upgrade Project received NA-17 program sponsorship. A significant effort was expended by Transformation planning staff in the development of the UPF 60 day study and the FRR to extend the life of 9212. B&W evaluated options for sustaining the emergency management function and the 9103 Data Center.

## **Process & Productivity Improvement**

The overall rating for Process & Productivity Improvement is “Excellent.”

B&W Y-12 achieved all PEP base and stretch performance objectives. Of the \$71.8M in savings obtained, 68% were characterized as efficiencies that reduced costs or were applied to additional scope accomplishment. Over \$18M of additional scope was added to the FY 2011 performance baseline. The Productivity Validation Team (PVT) continues to meet on a bi-weekly basis (shadowed by YSO) and presents details of efficiencies and cost avoidances for program validation. Each month’s validation results continue to demonstrate what a strong commitment B&W Y-12 has towards its continuous improvement program.

## **Contractor Assurance**

The overall rating for Contractor Assurance is “Very Good.”

Y-12 was the first NNSA site to go through the Affirmation process and was recommended for Affirmation based on May 2011 Review. Four of five elements were rated as fully meets expectations and one (operating experience) was rated as partially meets. The Team determined the Y-12 LOCAS demonstrated a strong, integrated partnership between the YSO and B&W Y-12 leadership teams; is built on strong systems, processes, and documentation that allow for effective implementation; is effective at supporting mission execution in a safe, secure, legally compliant and environmentally sound manner. Performance Track was revised to include business performance data during this FY. Performance Track provides a “one-stop-shop” for transparency on metrics, issues management, assessments, event reporting, facility availability, utilities availability, business performance data and other key information on Y-12 site performance and operations. Performance Track has been demonstrated for the NNSA Administrator and other senior members of his staff. Assessment schedules were uploaded to the Performance Track website in accordance with established goals to assist with YSO assessment planning and shadowing activities. Metrics were updated to the CAS website and all 27 functional areas have identified leading indicators and where the metric is PEP related, it is so noted. All of the performance targets were evaluated as being met with one exception. The performance target for issues management was evaluated as partially met. YSO recognizes that while B&W has an issues management system in place, established goals in the areas of CAP submission timeliness and CAP validation and were not met. B&W has demonstrated they are addressing the issue. They have discussed the issue at senior staff meetings with the President and General Manager, performed value stream mapping activities to address issues within the Issues Management System and the process, and completed a reorganization to centralize staff performing issues management functions.

## FY 2011 STRETCH AWARD FEE INCENTIVES

### I. PROGRAM

#### A. RTBF/FIRP/STA

**Performance Measure 1:** RTBF/FIRP programs are executed in accordance with Work Authorizations, Prioritized Project Lists, annual RTBF Execution Plan, and FIRP Program Execution Plans (PEP), and all other program requirements.

#### Performance Targets

##### 1.a RTBF

250 kgs of purified metal production

**Status:** This stretch goal was not achieved.

##### 1.b STA

1. Identify/implement improvements to reduce maintenance issues.

**Status:** Some 7S efforts to streamline shop operations at the VMF were completed but more needs to be done. The OST has raised concerns about control of parts inventory at the VMF although there was little specific wording in expectations under the TA for this year.

2. Perform scope of work below budget.

**Status:** Spending to date is below budget.

3. Provide value-added services without additional funding.

**Status:** The VMF receives recycling service support from B&W with no additional budget authorization being required. In addition, fleet security and off VMF maintenance and surveillance efforts are currently being managed within the tasking authority under this WBS. B&W Y-12 conducted a lighting survey to determine VMF lighting adequacy at no additional cost. Also conducted was a review of best lighting technology options and proposed solutions to OST for improving lighting. Recently B&W Y-12 responded to a field emergency on a trailer that was in transit. The trailer was not a routine maintenance action but B&W responded and mobilized personnel on a weekend to meet the trailer and correct the problem. Although funding was identified within the TA, B&W Y-12 mobilized personnel to retrieve broken down trailers from remote locations during off hours on two separate occasions.

2. Complete cleanout of the old steam plant (combustibles removed, elimination of electrical ignition sources, etc.) such that fire systems can be turned off and fire patrols eliminated by 9/30/2011 (cold and dark with YSO approval). Salvage any good equipment located therein.

**Status:** YSO validated by walk down that this project was complete and met all requirements on September 20, 2011.

**Performance Measure 2:** Dispose of all items in the Just in Case (JIC) yard by September 30, 2011.

**Performance Target:**

Identify a program to fund the entire JIC yard, identify funding above the \$2.6M in the Legacy Program that was established in the October 1, 2010 baseline plan for the JIC yard, develop a schedule to dispose of all of the items in the JIC yard by September 30, 2011, and execute the disposal of all items in the JIC yard by September 2011.

**Status:** YSO validated by walk down that this project was completed as required.

**Performance Measure 3:** B&W will continue to expedite the proper disposition of excess materials.

**Performance Target:**

- a. By 9/30/2011, clean up and disposition the following materials: 1) five Sealand containers (and contents) located outdoors on the south and east side of building 9720-18; 2) excess drums and assorted scrap metal located outdoors on the south side of 9204-2 near the Rubber Shop; 3) “Coop” containers located on the concrete pad east of building 9720-31 and west of the 81-22 concrete slab excluding the disposal of Copper and DU billets; 4) excess Sealand container (including contents) and metal components located on the west side of building 9401-5; 5) fifteen (15) forklifts on the main floor of 9204-4.

**Status:** YSO validated by walk down that all projects were completed as required.

**B. DSW/Campaigns/PDRD**

**Performance Measure 1:** Complete the first Electrorefining (ER) cell run to produce refined metal by March 26, 2011.

**Performance Target:**

- a. Using an operable ER cell, take existing uranium metal, run it through the cell, and collect refined metal on the cathode.

**Status:** Initial testing of the ER cell was completed, and for the first time at Y-12, purified uranium metal was produced using an operational ER cell on March 23, 2011. This is a significant milestone in the maturation of this technology and it completes this stretch award fee incentive.

**Performance Measure 2:** Maximize throughput of the B83 dismantlement process.

**Performance Target:**

- a. During FY 2011, safely and securely maximize the throughput of the B83 dismantlement process and achieve demonstrable progress toward the projected 10X increase in the FY 2012 baseline dismantlement rate.

**Status:** B&W Y-12 has recognized significant improvements in the dismantlement of B83 units that began early in the FY. The initial B83 unit required 36 working days to dismantle while the last unit dismantled in FY 2011 only required about 4-5 working days to complete. This represents about an 85% decrease in cycle time for this labor intensive process. Engineers and operators worked aggressively to improve the process through the design and deployment of new tooling and the modification of procedures to incorporate lesson learned. B&W Y-12 was able to safely and securely complete 120% of the required units and was able to demonstrate an increased throughput rate by the end of FY 2011 as required by this incentive.

**II. OPERATIONS**

**A. Facility and Site Management**

**Performance Measure 1:** B&W Y-12 will enhance habitability and cleanliness for production and Balance of Plant facilities by defining and implementing appropriate standards based on accepted industry standards.

**Performance Targets:**

- a. Define, risk rank/weight, and include in facility Operations Plans sustainment projects to support implementation of habitability standards for enduring production facilities by 3/31/2011.
- b. Provide and implement a plan to continue the facility cleanup program in order to remove excess equipment and material from the operating facilities. Incorporate lessons learned from facility cleanups to promote sustainable waste streams and disposal locations in facilities that prevent accumulation of recyclable materials and universal wastes by 12/31/2010.
- c. Obtain Green PrYde rating for 9215.

**Performance Measure 2:** B&W Y-12 will build on successes obtained with the exterior restoration and preservation efforts associated with Building 9201-3 in FY 2010 and preserve and restore areas of enduring production facilities to improve their physical condition and appearance.

**Performance Targets:**

- a. Prepare a plan and schedule for painting and repairing the interior and exterior painted surfaces of Buildings 9204-2, 9215, and 9212 by 3/31/2011.
- b. Complete painting and repair of building exterior by 9/15/2011, if additional funding beyond baseline can be obtained.

**Performance Measure 3:** B&W Y-12 will initiate development of a defined Operations plan for plant production buildings with an enduring mission that sustains the equipment function in support of those long term missions.

**Performance Targets:**

- a. Continue implementation of Y-12 Specific Facility Management Standards for remaining infrastructure systems in enduring facilities that defines a proactive maintenance program for renovation, repair, and preventative maintenance of equipment that is generally beyond its expected life cycle. These standards will consider industry experience, but will not be identical to industry standards, which are established for viable equipment that has not exceeded its expected life cycle. Completion of the standards set will be due by 3/31/2011.
- b. Create a facility Operations plan that expands on the work done in FY 2010 to preserve essential facility systems and support equipment by 3/31/2011.
- c. Complete sustainment cost curves for enduring production facilities by 6/30/2011.
- d. Develop and implement a pilot Sustainment Metric for production enduring facilities by 12/31/2010.

**Performance Measure 4:** B&W Y-12 will fully implement the plan developed in FY 2010 for a Single-Point Failure Program.

**Performance Targets:**

- a. By 11/1/2010, begin implementation of the plan developed for the DSW and RTBF pieces of equipment defined in the FY 2010 plan for single point failure.
- b. By 3/31/2011, identify milestones for expansion of the single point failure program to encompass other vulnerable pieces of equipment in the production facilities.
- c. By 9/30/2011, incorporate single point failure program results into facility Operations Plans for enduring production facilities.

**Performance Measure 5:** Continue ongoing improvements to electrical panels.

**Performance Targets:**

- a. Prepare and submit an updated and prioritized repair schedule for modernization of electrical distribution panels in the production facilities by 3/31/2011.
- b. Complete the repairs identified for five panels as priority dictates on the repair schedule by 9/15/2011.

**Performance Measure 6:** Continue progress to implement automated facility controls through implementation of additional modules of the Facility Management Enterprise System.

**Performance Target:**

- a. Implement two modules of the FMES to include Alerts (calibrations, inspections, surveillances, etc.) and Indices (LO/TO, Compensatory Measures, and Status Files).

**Status:** All Stretch performance measures were met, on or ahead of schedule.

**B. Maintenance Effectiveness**

**Performance Measure 1:** B&W Y-12 will continue to implement plans to repair or refurbish HVAC equipment in balance of plant (BOP) facilities including Buildings 9111, 9112 and 9103 and other BOP buildings with an enduring mission to include implementation of a proactive maintenance program in those buildings that sustains the equipment function in support of their long term missions. Performance will be measured based on development of the plan along with completion of items scheduled in FY 2011.

**Performance Targets:**

- a. Fully implement actions set forth in the BOP Facilities Plan within the designated time schedule.
- b. Develop a detailed plan/schedule consistent with the BOP Facilities Plan to improve the HVAC operational availability and energy efficiency in the BOP facilities. Identify both corrective and preventive repairs for the HVAC equipment, prioritize by risk and necessity. Detailed plan/schedule shall be provided to YSO by 12/31/2010.
- c. Develop and implement specific acceptance criteria for buildings and areas of buildings that demonstrate successful implementation of the BOP enduring facility plan by 3/31/2011.
- d. Complete all actions for FY 2011 by 9/15/2011.

**Status:** All performance targets were met for this Stretch Award Measure. Full fee was awarded. Work continues in HVAC improvements throughout the Balance of Plant Facilities within budgetary constraints.

**Performance Measure 2:** Continue the actions set for the landscaping plan and finalize the Roads and Grounds Plan that addresses deficiencies in maintenance of deteriorated parking lot and road surfaces.

**Performance Target:**

- a. Finalize the Roads and Grounds Plan by December 31, 2010.
- b. Complete designated road and grounds improvement actions designated in the plan by 9/15/2011.
- c. Continue landscaping improvement initiatives to incorporate sustainability principles and with the goal of achieving LEED sustainability point goals.

**Status:** All Stretch performance measures were met, on or ahead of schedule.

**C. Work Planning and Execution**

**Performance Measure 1:** Maintain a continuous improvement posture consistent with FY 2010 productivity improvement and 7S initiatives.

**Performance Targets:**

- a. Perform two Rapid Improvements Events (RIE's) for productivity improvement in the Production Division; one by 3/31/2011 and the second by 9/15/2011.

**Status:** Material Management conducted an RIE on the special nuclear material vehicle (SNMV) operations, and a number of immediate changes were completed. The second RIE focused on the process waste regarding requests for access to controlled areas that Material Management oversees. The event focused on better use of employee time as they look to manage the work more efficiently.

- b. Complete a third RIE within the Production Division by 9/30/2011.

**Status:** The third RIE has 9212, 9215, and the plant laboratory working together to find a more efficient way to handle the processing of part samples. The sampling process moves through several facilities, and the team looked to streamline the flow. This RIE was completed on August 30, 2011.

- c. Perform an efficiency review of the Readiness process to identify and implement efficiency improvements using a process such as "value stream mapping."

**Status:** Due to scheduling challenges, the Readiness Value Stream Mapping (VSM) was completed on September 1, 2011 and identified several opportunities to further improve the Readiness Certification Accreditation Board (RCAB) process.

**Performance Measure 2:** The contractor shall provide an environment conducive to good conduct of operations, including a commitment to continual improvement and a reduction in reliance on system workarounds.

**Performance Targets:**

- a. Install/modify equipment for transferring material from the denitrator to the loading glove box, significantly reducing the need to manually collect the material in a respirator area by 8/30/2011.

**Status:** This stretch target was not completed.

- b. Complete equipment modifications for placing the C-Wing tanks in service for receipt of process condensate by 8/31/2011.

**Status:** This stretch target was not completed.

- c. By the end of FY 2011, the excess fissile material containers (i.e. bird cages, chip dollies, etc.) currently in 9215 will be characterized sufficiently to identify a disposition pathway and develop an execution plan with cost estimates that can be executed in FY 2012.

**Status:** The sampling and cost estimates for all containers were completed.

- d. Complete a redesign of the existing web based ConOps training and convert it to a non-web-based class. This will include a complete restructuring of the class content to update the material and increase the hands-on elements of the class. This will be completed by August 17, 2011.

**Status:** The Web-based ConOps training was revised and used to develop a Continuing Training format. This target was completed on time and also included the performance of a pilot training class.

- e. Conduct two benchmarking trips with the primary focus to gain lessons learned on Con Ops. A trip report will be issued for each benchmarking activity and any actions resulting from the trips will be captured in the Production internal tracking system. The trips, resulting reports, and an action plan will be written by September 20, 2011.

**Status:** In an effort to provide additional insight from industry examples, three benchmarking visits were planned, and completed. The first visit was to Pantex and is part of an ongoing exchange of information as one site visits the other. Areas reviewed included machining areas with a focus on procedure structure and use, floor work cells, training areas, and the shipping and receiving area. Improvement information was disseminated to the appropriate organizations. The second visit was to the Denso Company, which is a non-nuclear production facility that builds automotive parts. This visit focused on the use of work reference documents and Lean implementation. Craft people were involved in this visit and will be helpful in implementation of the examples shared. An additional visit occurred to benchmark the Sequoyah Tennessee Valley Authority (TVA) facility; two Y-12 teams reviewed plant health programs (aging equipment issues) and shadow their management observation activities. All visits were followed by trip reports to divisions or departments for implementation, as appropriate. Based on the shared findings, plans are in different stages of implementation.

- f. The Production Division will undertake a new effort to examine procedure place keeping techniques in all Production procedures categorized as continuous use. This effort will assess the effectiveness of different Con Ops procedure place keeping techniques, as executed in Y50 series procedures. The results of this review will establish a set of standards/instructions for Production procedures. These standards/instructions will be developed, piloted, and the implementation initiated via Standing Order or change to controlling documents by July 27, 2011.

**Status:** This issue was assessed, and a formal change to Y14-001, Conduct of Operations Manual, Chapter 16, Procedure Use, was submitted. This change will require the application of a place-keeping method for all procedures categorized as Continuous Use.

**Performance Measure 3:** B&W Y-12 will initiate development and institutionalize a High Reliability Organization (HRO) Program. Coupled with other B&W Y-12 initiatives, HRO concepts will be used in an overarching methodology to help reduce the likelihood of experiencing those unwanted high consequence events.

**Performance Targets:**

- a. Continue monthly collaborative sessions with Pantex HRO personnel to coordinate efforts and facilitate lessons learned. 10/31/2010

**Status:** Collaborations involved development of a charter for an HRO-Integrated Safety Management (HRO-ISM) Energy Facility Contractor Group (EFCOG) task group. The charter was presented at the September 2011 ISM conference at Kennewick, Washington.

- b. Develop a “Perfect Day” concept derived from lessons learned from the United Kingdom AWE complex. 11/30/2010

**Status:** Based on the example seen in the United Kingdom, a Y-12 specific list of HRO metrics was implemented and will be refined on an “as needed” basis.

- c. Develop and implement a comprehensive HRO training plan for management, staff and craft. 9/15/2011

**Status:** The HRO Training Plan was completed and implemented on September 15, 2011.

- d. Develop a plant wide communications plan to assist in HRO education. 11/30/2010

**Status:** This target was completed November 30, 2010.

- e. Coordinate and combine Y-12 Perfect Day concepts into Y-12 HRO metrics. 11/30/2010

**Status:** This target was completed November 30, 2010, and Y-12 Perfect Day metrics were incorporated into Y-12 metrics. The initial definition of HRO metrics was completed and will continue to be refined as necessary. A Perfect Day is defined as a day at Y-12 with no recordable work-related injuries, no occurrence reports, no environmental violations, no technical safety requirement (TSR) violations, no incidents of security concerns, and no “urgent” ConOps events.

f. Deploy refined HRO CAS Metrics for optimum management utilization. 12/31/2010

**Status:** This target was completed December 31, 2010.

g. Develop Y-12 HRO reference guide for mid level managers. 12/31/2010

**Status:** This target was completed December 31, 2010.

h. Develop and continue deployment of a Human Performance Improvement (HPI) Implementation plan. 1/31/2011

**Status:** This target was completed January 31, 2011. An HPI plan was rolled into a comprehensive Environment, Safety, and Health (ES&H) Plan.

i. Coordinate or host a DOE complex-wide meeting of HRO program managers to foster improved complex collaboration and initiate a strategy to integrate the HRO program in the EFCOG working group structure. 4/30/2011

**Status:** This target was completed March 31, 2011, through April 1, 2011.

j. Develop methods to determine HRO training effectiveness. 4/30/2011

**Status:** This target was completed April 28, 2011. Three methods were developed to use in determining HRO training effectiveness.

k. Coordinate and conduct an HRO workshop with Y-12 and YSO. 6/30/2011

**Status:** An HRO workshop was conducted with YSO Facility representatives on July 21, 2011, as part of the YSO Continuing Training Program.

l. Conduct an assessment of HRO transition implementation and validate remaining actions to full implementation. 9/30/2011

**Status:** An assessment of the HRO process implementation was completed.

**Performance Measure 4:** Production Training will implement a new drill program by September 1, 2011 in response to the FY 2010 internal training self-assessment and management direction.

**Performance Targets:**

a. Production management for certified areas will develop an operational drill schedule, such that outside groups are included in operational drills by October 31, 2010. Examples include: RadCon, Crit Safety, Industrial Safety, Security and Fire Protection.

**Status:** This target was completed October 2010, and an operational drill schedule was issued.

b. Production Training will revise the current Training Document and Administrative Guide (TDAG) to include parameters, forms and metrics for operational drills by December 31, 2010.

**Status:** The TDAG was revised and approved on March 23, 2011.

- c. Facility Drill Coordinators (FDCs) will be checked and assigned drill coordinator requirements profiles by January 31, 2011.

**Status:** This target was completed October 2010.

- d. Current Production Drill codes used in SAP will be streamlined, with a minimum of 20 Q-numbers delimited from service by March 31, 2011.

**Status:** Production delimited 68 Production Drill SAP Course (Q) numbers on April 7, 2011.

- e. No personnel with drills presently assigned as part of their training requirements will be deficient on their drill training, as reported on the monthly Training Requalification Reports put forth by the Training Management and Delivery Organization by July 31, 2011.

**Status:** This target was completed per monthly SAP reports.

#### **D. Training and Qualifications**

**Performance Measure 1:** B&W Y-12 will conduct DOE O 426.2 based management assessments beyond those included on the FY 2011 Management Assessment Schedule.

**Performance Target:**

- a. Conduct three or more additional management assessments.

**Status:** B&W has completed 7 additional Management Self Assessments. These assessments included one unplanned additional management assessment in UPF training; an assessment on collateral duties was completed by Environmental Management; and an assessment on baseline training requirements was completed by Environmental Compliance. Reports were provided to YSO; a review was performed and no YSO concerns were noted. B&W exceeded YSO expectations for this target.

**Performance Measure 2:** Production Training will develop a prototype tracking mechanism integrating the qualification requirements system and time recording system to track certified operator and supervisor proficiency by September 1, 2011.

**Performance Targets:**

- a. Develop a reporting model for a least one Building 9212 certified group of operators and supervisor, reflecting proficiency requirements.
- b. Perform an assessment of the model to demonstrate compliance with the proficiency standards outlined in DOE O 426.2.

**Status:** The prototype was developed for Enriched Uranium Process (EUP) chemical operators. Data is now entered into A-Plus and generated on the proficiency report. Programming is ongoing to resolve the interface using SAP numbers with the Corporate Information Center. B&W conducted a review of the electronic proficiency tracking model involving a pilot group from Enriched Uranium Production. The Programmatic Surveillance found the link with the A-Plus Time tracking and Proficiency tracking reports was working correctly. Proficiency can be tracked using A-Plus. YSO reviewed the evidence and has no concerns. This target is met.

**Performance Measure 3:** Production Training will develop and incorporate an electronic storage system in Versatile for the purpose of housing/staging current, approved training materials by September 1, 2011.

**Performance Targets:**

- a. Establish file structure in Versatile.
- b. Programs will be easily auditable and will have access controls for training and audit personnel.
- c. At least one Production Organization will load training materials into the aforementioned structure.

**Status:** The file structure in the Versatile records management system for Enriched Uranium Special Process Production was completed and can be replicated for other departments. All of the training program files maintained in the Versatile system can now be easily retrieved by appropriate training users who have access to the system with Auditors given temporary access to view documents by training users. Production training will contact the Versatile programmer/lead to arrange "read-only" access to the Enriched Uranium Special Process Production (EUSPP) training files. The file structure and document storage for EUSPP is complete. This target was partially completed.

## **E. Engineering and Nuclear Safety**

**Performance Measure 1:** The B&W Y-12 Engineering Program shall be managed and implemented in accordance with DOE Order 420.1 B, other applicable DOE and NNSA directives, orders, and policies; applicable S/RIDs; YSO directives and policies; and B&W Y-12 policies and procedures.

### **Performance Target:**

- a. By the end of FY 2011, the B&W Engineering organization is to implement a work management process to be used to track work requests, collect effort expended against the work requests, and to generate reports of actual vs. estimated performance. This task excludes work performed for UPF.

**Status:** This award fee item is 100% complete.

**Performance Measure 2:** The Y-12 Criticality Safety Program is implemented in accordance with requirements, and no significant deficiencies occur which negatively impact Y-12 operations or prevent the accomplishment of mission milestones.

### **Performance Target:**

- a. In addition to the six Criticality Safety Evaluation (SCE) Upgrades identified in the October 2010 briefing to the DNFSB as Base Upgrade Targets, complete three additional CSE Upgrades. The three specific CSEs will be selected based on operational priority and NCS Grading Criteria. Completion of the CSE Upgrade means approved by SAE, and excludes implementation.

**Status:** This award fee item is 100% complete.

## **F. Emergency Management and Fire Protection**

**Performance Measure:** The Fire Protection Organization shall reduce the amount of needed fire patrols due to system outages.

### **Performance Targets:**

- a. Reduce monthly fire patrols by 50%, based on the average number reported during December 2009-June 2010.

**Status:** This award fee item is 100% complete.

- b. Reduce long term (fire patrols existing greater than 12 months) by 50%.

**Status:** This award fee item is 100% complete.

- c. Complete replacement of the Edwards System Technologies (EST) by September 30, 2011.

**Status:** This award fee item is 100% complete.

#### **G. Quality Assurance**

**Performance Measure 1:** The B&W Y-12 Quality Assurance (QA) Program shall be managed and implemented in accordance with 10 CFR 830; DOE Order 414.1C; QC-1; other applicable DOE/NNSA directives, orders, and policies; applicable S/RIDs; YSO directives and policies; and B&W Y-12 policies and procedures.

**Performance Targets:**

- a. Implement a SAP improvement to effectively manage and control Grade 1 and 2 SSC materials by June 30, 2011.

**Status:** This award fee item is 100% complete.

- b. Properly post and control Grade 1 and 2 material storage areas in accordance with Y60-503 with the supporting QA implementing procedures and relocate material in proper areas as required by September 30, 2011.

**Status:** This award fee item is 90% complete.

#### **H. Safeguards and Security**

**Performance Measure 1:** Implement Security reform to improve mission effectiveness and drive cost efficiency.

**Performance Target:**

- a. Security plans, policies, and procedures are to be updated and to reflect NNSA security policy and implemented by April 1, 2011.

**Status:** Y-12 implemented security reform initiatives (NAP Policies Physical Protection and Information Security) by April 1, 2011. This performance measure was met.

**Performance Measure 2:** Drive cost efficiencies through reducing the Security Footprint.

**Performance Target:**

- a. Execute efforts per the implementation plan (as funded) to reduce the amount of classified matter by exceeding the Footprint Reduction Plan's schedule by 20%.

**Status:** This stretch target was not met. Funding was not provided.

**Performance Measure 3:** Realize operation efficiencies through modernization or operational/process improvements.

**Performance Target:**

- a. Submit three percent of FY 2011 funding to YSO for submission to DNS by March 1, 2011, for potential reprogramming to another site or for DNS identified activity at the same site as approved by YSO.

**Status:** Baseline change proposals (BCPs) were submitted and approved for approximately one-half of the goal of 3% of FY 2011 B&W Y-12 FS-20 funding by March, 2011. Additional funding was identified

during the second half of the year that was submitted for reprogramming at the end of the year and exceeds the total of 3% of the B&W Y-12 FS-20 budget. These funds were identified for potential reprogramming by Defense Nuclear Security (DNS). Tentatively, these funds will be used to address DNS-validated unfunded security requirements at Y-12.

Specifically, B&W identified and submitted \$1.6M in GSP projects savings for reprogramming through YSO in the BCP process. Targeted savings are only applicable to GSP funding. FY 2011 GSP funding is ~\$26M. The savings was slightly over 6% of GSP funding. Due to the shortfall in GSP funding needed to reach compliance, it was recommended that it be reprogrammed to other GSP projects at Y-12 and was approved as such. The projects where the money was saved were: Airborne Deterrent- \$795K; C3I CAS project - \$20K; and Portal 8 Standoff - \$250K. These were also submitted through the plant process for additional work performed. This performance measure was met.

**Performance Measure 4:** Develop an implementation of a best practices and lessons learned (LL) process to certify actions to increase effectiveness and efficiency as approved by YSO.

**Performance Target:**

- a. Developed and implemented in the 1<sup>st</sup> quarter of FY 2011. Y-12 has a LL program in place and participates in the NNSA LL program. In addition, the LL program was reviewed as part of the Line Oversight/Contractor Assurance System (LO/CAS) affirmation review conducted earlier this FY. Safeguards and Security was specifically mentioned in the LO/CAS outbriefing as “doing it right.”

**Status:** This performance measure was met.

**Performance Measure 5:** Comply, meet approved milestones, or maintain compliance with the GSP.

**Performance Target:**

- a. Milestones are met ahead of schedule and 20% under budget.

**Status:** For the FY 2011, eight GSP projects were completed. All eight were completed ahead of schedule and seven were completed at less than the Contract Budget Baseline (CBB). These projects combined were completed at 23% of CBB which is below the 20% target.

### III. INSTITUTIONAL MANAGEMENT AND BUSINESS

#### A. Property and Fleet Management

**Performance Measure 1:** Conduct validation of 12 desktop guidance documents across all property functions (i.e., Business Services, FIS, WM, QA)

**Performance Target:**

Three validations completed per quarter.

**Status:** The Property Department conducted a validation of 20 separate desktop guidance documents, exceeding the three validations per quarter goal.

**Performance Measure 2:** Define the number of desktop Guidance Documents needed and implement in Stores, Receiving/Shipping, Delivery and Property.

**Performance Targets:**

- a. Complete Desktop Guidance Documents for Receiving/Shipping by February 1, 2011 (FI&S)
- b. Complete Desktop Guidance Documents for Stores by June 1, 2011 (FI&S)
- c. Complete Desktop Guidance Documents for Delivery by August 1, 2011 (FI&S)
- d. Complete Desktop Guidance Documents for Property by August 1, 2011 (FI&S)

**Status:** All desktop guidance documents for Receiving/Shipping, Stores, Delivery and Property were completed by their due dates.

**Performance Measure 3:** Develop a metric to better measure Excess Pickup performance and define mutually agreed upon criteria for dark blue, light blue, green, yellow, and red by 12/21/10.

**Performance Target:**

- a. Contractor will be measured against the criteria on a monthly basis beginning in January 2011.

**Status:** A metric was developed to track the number of truckloads rather than individual items as the performance criteria to better measure excess pickup. A running average of 8 truckloads of excess materials to be picked up each month was used as a baseline, with the measure beginning in January 2011. A defined criteria for Dark Blue, Light Blue, Green, Yellow and Red were established by the scheduled due date of 12/21/10. The average number of truckloads per month beginning in January 2011 through September 30, 2011 was 14 truckloads. In addition, pre-2011 open excess notifications were tracked and a reduction of 82% was reached from January to September (158 items down to 28 items).

**B. Process and Productivity Improvement**

**Performance Measure 1:** Manage and execute productivity improvement through implementation of initiatives to improve site performance against budget and schedule targets.

**Performance Targets:**

- a. Attain an additional \$5M in efficiencies and cost avoidance realized from productivity initiatives and Y-12 Site- Wide productivity improvement efforts.

**Performance Measure 2:** Manage and execute productivity improvement through implementation of initiatives to improve site performance against budget and schedule targets.

**Performance Target:**

- a. Attain an additional \$5M in efficiencies and cost avoidance over the \$40M essential and \$5M stretch in performance measure 1 above for a total of \$50M. (CR 11-27r1 \$200K)

**Performance Measure 3:** Manage and execute productivity improvement through implementation of initiatives to improve site performance against budget and schedule targets.

**Performance Target:**

- a. Attain an additional \$5M in efficiencies and cost avoidance over the \$50M already identified in essential and stretch for a total of \$55M. (CR 11-27r1 \$300K)

**Status:** A final total stretch of \$21.8M in efficiencies and cost avoidances was achieved in FY 2011. Given B&W's performance in achieving the base goal early in FY 2011 and the number of continuous ongoing initiatives thereafter, the stretch goal of \$15M was exceeded in a relatively impressive manner.

### C. Information Technology

**Performance Measure 1: Advance Y-12 classified wireless capabilities to support the MoMentum project.**

**Performance Targets:**

- a. Approve telecommunications proposal for Fortress Equipment (dependent on Fortress delivery of Suite B hardware and NSA approval of hardware) and wireless thin client devices. (6/30/11)

**Status:** Approval of the Telecommunications proposal was obtained on June 13; approximately two weeks ahead of schedule. Milestone completed successfully with no issues/concerns.

- b. Approve cyber security plan to allow testing of wireless access points and thin client devices in the unclassified environment. (8/15/11)

**Status:** Cyber security plan was approved on July 27, 2011 which allowed testing of the access points and thin client devices. Milestone completed successfully with no issues/concerns.

- c. Demonstrate feasibility of Fortress equipment with wireless thin client in the unclassified environment. (9/30/11)

**Status:** Testing demonstrated that the Fortress equipment was not feasible for Suite B use in the Y-12 environment due to immaturity of the technology and issues associated with Microsoft's support for emerging Suite B standards. This early testing/pilot will allow Y-12 to abandon Fortress investments and to pursue Aruba solutions in FY 2012. Milestone completed successfully with no issues/concerns.

**Performance Measure 2: Improve the Y-12 visitor experience and lower operational costs through automation and deployment of IT solutions.**

**Performance Targets:**

- a. Develop a Y-12 Visitor Portal in the DMZ for guests to register a visit. (9/30/11)

**Status:** Application went into production on September 6 and was verified by YSO during a walkthrough. Milestone completed successfully with no issues/concerns.

- b. Convert existing visitor forms to online forms in the Visitor Portal. (9/30/11)

**Status:** Multiple paper forms replaced through the online portal. Protective Force personnel demonstrated the large amount of paperwork no longer needed due to the new process. Milestone completed successfully with no issues/concerns.

- c. Automate workflows to allow electronic approvals of visits. (9/30/11)

**Status:** Watched demonstration of the workflow process along with the electronic signature capability. Milestone completed successfully with no issues/concerns.

- d. Allow visitors to take required online visitor training prior to arrival on-site. (9/30/11)

**Status:** Several sets of training are enabled through the web portal. Milestone completed successfully with no issues/concerns.

- e. Establish kiosks at NHC Visitor's Center to allow users to complete forms while on-site.

**Status:** Five new kiosks have been installed at the NHC that are powered by thin clients connected to a Digital Subscriber Line (DSL). This configuration allows visitors to securely check into Y-12. Milestone completed successfully with no issues/concerns.

- f. Develop plan and process to facilitate and streamline the provisioning of unclassified computing accounts from the Visitor Portal. This will include requesting the information, preliminary training, and approvals. Actual account creation and password distribution will take place at Y-12 once the visitor is verified onsite. (9/30/11)

**Status:** New process allows UCAMS to create an account earlier since the badge number is generated when the visitor registers online. This creates efficiencies by getting the account in the queue earlier and eliminating wait time when the visitor arrives. Milestone completed successfully with no issues/concerns.

- g. Deploy "hotel" segregated wireless access for Y-12 guests and employees in the NHC and select conference rooms in JCC (dependent on Enterprise Wireless pilot funding). (9/30/11)

**Status:** Verified deployment of the hotel network in NHC by walkthrough and was able to connect to the guest network from a variety of devices including a tablet and smart phone. Watched a B&W employee connect to the intra-net through a government furnished and configured laptop. Milestone completed successfully with no issues/concerns.

**Performance Measure 3:** Advance the Y-12 capabilities to facilitate communicating documents with the external stakeholders.

**Performance Targets:**

- a. Demonstrate basic capability for passing information between SAP and ePegasus (45 days after receipt of signed interconnect agreement and interface code from the NNSA SC).

**Status:** Complete. The interconnect agreement is completed and testing has demonstrated the ability to complete workflows and pass documents and data between the NNSA Service Center and Y-12 using the Application Programming Interface (API). YSO has not yet transitioned to ePegasus so this feature is not yet implemented in production. However, the milestone is met based on B&W's demonstration of the required capability.

- b. Enhance ePegasus and SAP interface to allow the passing of documents between systems (90 days after 1<sup>st</sup> deliverable).

**Status:** Complete. Demonstrated capability to easily pass documents electronically between systems. YSO has not yet transitioned to ePegasus so this feature is not yet implemented in production. However, the milestone is met based on B&W's demonstration of the required capability.

- c. Provide external document portal to support external project stakeholders for the Uranium Processing Facility (dependent on funding). (9/30/11)

**Status:** The External Project Collaboration System (EPCS) project was not successfully deployed in this FY. The milestone was not met.

#### **D. Nuclear Nonproliferation/Interagency Work**

**Performance Measure:** Develop a Y-12 NN/CW strategic vision and implementation plan that supports the NNSA goal of transformation to a Nuclear Security Enterprise that is an enduring national asset. The plan will be integrated with other Y-12 strategic planning efforts including the overall site vision as documented in the Master Site Plan. The plan should include an assessment/benchmarking of NN/CW customer needs and the strategic partnerships, Y-12 core competencies, technologies, facility and infrastructure, and personnel needs to implement the vision. Aggressive strategies, milestones, and communication plans should be developed for implementation of the vision.

**Performance Target:**

- a. Plan is due September 1st with progress briefings to YSO senior management in February and May (initial draft plan due).

**Status:** The Emerging Missions Strategic Vision and Implementation Plan (new name) was an excellent product that identified key milestones for expanding Y-12 work in this key National Security mission area.

#### **E. Procurement and Contract Management**

**Performance Measure:** Increase SCMC utilization

**Performance Target:**

- a. Increase the utilization of SCMC developed commodity agreements/contracts as a means to drive supply change cost savings.

**Baseline**

**Events (Sealed bid w/Rank) = 60**

**Sealed Bid (RFP) = 100**

**Combined spend = \$70M**

**Common Catalog usage 2000**

**Stretch Goals**

**Events (Sealed bid w/Rank) = 70**

**Sealed Bid (RFP) = 125**

**Combined spend = \$80M**

**Common Catalog usage = 2500**

**Status:** B&W Y-12 successfully met two out of the four parts. The fact that two were not met is indicative of setting thoughtful goals that really were a challenge to meet.

## ESSENTIAL PERFORMANCE BASED INCENTIVES

### I. Program

**A. HEUMF Transition (multi-year)** – The transition to HEUMF continued by moving containers from 9998 (H2 area). All SST-E qualified containers have now been moved from this area. In the second half of the FY, the program completed 9998 and started working in 9204-2E.

### B. UPF

1. Engineering Procurements of Security Doors, Elevator, Control System Specification, all awarded by 9/15/2011. The UPF Project successfully awarded the three subcontracts identified in this milestone.
2. Issue Revision 0 Process System Piping and Instrumentation Diagrams (P&ID's) by 5/31/2011. The UPF project successfully completed this milestone with the issuance of P&IDs and supporting documentation.
3. Issue Preliminary Safety Design Report (PSDR) full scope to YSO by 7/15/2011. Project delivered on time but full payment was not recommended
4. Submit CD-3A Site Readiness package by 9/19/2011. The fee board recommended nonpayment for this milestone based on technical and schedule inadequacies and an unacceptable level of cost and schedule risk with the package as submitted.

### C. Line Item Milestones

1. **Nuclear Facility Risk Reduction Project** – Submit to the YSO a final Critical Decision 3B (CD-3B) Package by August 31, 2011 for submittal to the Acquisition Executive for approval. The package was submitted in a timely manner on June 28, 2011. Revision was made in a timely manner in response to the IPR held in August 2011.
2. **Security Improvements Project** – Meet Level 2 milestone for completion of TAUS construction by the project baseline date of 5/11/2011. The Security Improvements Project met this Performance Based Incentive.
3. **Production Microwave (PMW)** – By September 6, 2011, submit a letter to the Acquisition Executive requesting start-up authority based upon the completion of a successful Readiness Assessment as outlined in the Project Execution Plan. This milestone was not met.

**D. W76 LEP** – This PBI included completing xxx each WR Boat Assembly units on at least a 90-day lead to the PCD (2010-B-PUB, 1/05/10); completing xxx unique shelf life assemblies; completing recertification of xxx sets of WR Case Parts on at least a 90-day lead to the PCD (2010-B-PUB), 1/05/10); and completing xxx each WR Boat Assembly units in addition to those defined above. Each performance measure was satisfactorily completed.

**E. Dismantlement and Disposition** – Performance measures were to complete the dismantlement of xxx W70 units; complete the dismantlement of xx B61 units; complete the dismantlement of B53 unit; complete the dismantlement of additional B53 units by September 30, 2011; maintain readiness throughout FY 2011; complete the necessary preparations to ship 8,000 ft<sup>3</sup> of weapon components off-site; complete nondestructive evaluation on 4 W84 units and rapid teardown on 2 W84 units; complete the initial dismantlement of B83 unit within 40 working days of startup authorization; and complete the dismantlement of B83 units. Each performance measure was satisfactorily completed.

**F. Stockpile Systems** – The performance measures contained within this PBI were to complete W76-1 JTA-2 (1) unit; complete 3 each W78 (2) JTA-5 w/Mid Case; complete 3 each W88 JTA-1,2,3,4 Components (1) units; complete Quality Evaluation NDE on 11 total units; complete Quality Evaluation D&I on 11 total units; complete Quality Evaluation Component Testing on 12 total units; issue Quality Evaluation Reports on 14 total units; complete Non-Destructive Evaluation Screening on 32 total units; complete 16 evaluations per design agency specification; complete 28 evaluations per design agency specification; and

complete and submit B&W Y-12 input to the Weapon Design and Cost Report (WDCR). Each performance measure was satisfactorily completed.

## II. Operations

**A. Legacy Waste Completion** – YSO approved a change to the completion target based on unanticipated conditions. The new target was successfully completed. An additional six legacy containers will be addressed in FY2012.

**B. Disposition Excess Nuclear Material** – Three performance measures are included in the PBI II.B “Disposition of Excess Nuclear Materials,” with one of the Measures having 12 sub-measures. All of the measures were completed on schedule and within cost. The measures were challenging and resulted in a substantial amount of excess nuclear material being removed from the Y-12 site and supported the consolidation of nuclear material on the Y-12 Site.

**C. Unneeded Materials and Chemicals** – This PBI was successfully completed.

### D. Security Infrastructure Upgrades

Y-12 met all performance targets. All FY 2011PBIs were completed on time.

1. Red/Black Video Separation
  - a. Document functionality test report (software acceptance test).
  - b. Red system approved ISSP.
  - c. Black system approved IATO/IATT.
  - d. Approved project turnover notebook (signed by system owner).
2. Two person validation
  - a. Screen shot from the Software Application Management system showing completion of all SQA requirements (system moved from development to Maintenance mode).
  - b. Completed User Acceptance Plan.
  - c. Completed Configuration Management Plan.
  - d. Approved Cyber Security Plan.
3. Portal 24 Generator
  - a. Project Execution Plan (PEP) Addendum (including approved changes) for the Portal 24 Upgrade project.
  - b. CFC design package.
  - c. Procurement documentation.
  - d. Performance testing documentation.
  - e. Approved Project Turnover Notebook (signed by System Owner).
4. Alternate Biometric at PA Portals
  - a. Grading Work sheet, GWS-S&S-DACS, showing inclusion of new equipment.
  - b. Updated drawing E2E900024AOO7.
  - c. YAREA-SEC-004.

### E. GSP Implementation Upgrades

1. Area 5 Fort Engagement (Towers 2 & 3)
  - a. Completed construction.
  - b. Completed project turnover activities.
2. Airborne Deterrent System (Phase II)
  - a. Completed construction of bridge and stairs.
  - b. Completed construction in open area west of Building 9212.
  - c. Completed project turnover activities.
3. Portal 8 Stand-off (Hostile Intent Engagement)
  - a. Completed construction.

- b. Completed functional testing of VDS gates.
  - c. Completed project turnover activities.
- 4. Bear Creek Road Closure
  - a. Completed construction (includes closure of Bear Creek Road).
  - b. Completed performance testing of Fence 6 system alarm components.
  - c. Completed project turnover activities.
- 5. VTR Upgrades
  - a. Completed Title I & II design and issue CFC design package.
  - b. Completed procurement orders as defined in the Procurement work breakdown structure.
  - c. Completed construction/ installation of security panels and alarms in Building 9204-2E.
  - d. Completed performance testing of system alarm components in Building 9204-2E.
- 6. Portals 8 & 14 Barrier Upgrades
  - a. Completed Title I & II design and issue CFC design package.
  - b. Completed procurement orders as defined in the Procurement work breakdown structure.
  - c. Completed construction/ installation of west vehicle access gates (2 gates) (does not include electrical scope/tie-ins).
- 7. Corridor Access Control
  - a. Completed Title I & II design and issue CFC design package.
  - b. Completed procurement orders for materials.
  - c. Completed construction.
  - d. Completed project turnover activities.
- 8. Portal 8 Inspection Enhancements
  - a. Completed Title I & II design and issue CFC design package.
  - b. Completed procurement of canopy and installation subcontractor.
  - c. Completed installation of Modular Portal at Portal 14.
  - d. Completed performance testing of Modular Portal access control and system alarms and place portal into operation.
  - e. Completed demolition of a portion of the existing concrete pad at Portal 8 per the CFC design package.
- 9. Portal 11 Access Control
  - a. Completed Title I & II design (excludes Argus access control) and issue CFC design package.
  - b. Completed procurement orders as defined in the Procurement work breakdown structure.
  - c. Completed construction for the pedestrian access control portal (does not include access control system or alarm system or alarm system electrical scope/tie-ins.).
- 10. Blue Force Personnel Tracking
  - a. Completed evaluation and acceptance testing of prototype Mesh personnel Tracker (MPT) provided by Sandia National Laboratories/New Mexico (SNL/NM).
  - b. Completed procurement of 100 MPT units from SNL/NM.
  - c. Completed Software Quality Assurance (SQA) documentation.
  - d. Developed documentation to support the MotoMesh ISSP modifications and request for Interim Approval to Operate.
    - e. Modified MotoMesh ISSP for YSO review and obtained Interim Approval to Operate.
- 11. C3I Installation (SAS)
  - a. Completed construction for the command, control, and communication system located in SAS.
  - b. Completed project turnover activities.
- 12. NightStalkIR Deployment
  - a. Completed Title I & II design and issue CFC design package.
  - b. Completed procurement orders as defined in the Procurement work breakdown structure.
  - c. BearCat Installation completed.
    - 1. Installed encryption, net-working, vehicle tracking, and video components required for integrated controls in all BearCats.
    - 2. Modified MotoMesh ISSP for YSO review and obtain IATO to conduct performance testing of BearCat integrated network.
- 13. NightStalker Network
  - a. Completed the Project Execution Plan (PEP) Addendum for the NightStalkIR Network project and obtain project authorization.

14. "H" Road GSP Barrier
    - a. Submitted the "H" Road GSP Barrier Project Execution Plan (PEP) Addendum.
    - b. Completed the System Requirements Document.
    - c. Completed the Title I design package for the "H" Road GSP Barrier.
  15. Entry Equipment
    - a. Completed the Project Execution Plan (PEP) Addendum for the Entry Equipment project and obtain project authorization.
- F. 9212 Facility Improvements** (LGEA repairs, Steam Station 400 and 129, SF-142, SF-508, and SF-114) - All planned improvements were completed satisfactorily and ahead of schedule. Steam Station 400 was the last improvement executed and was completed in August.
- G. Facility System Diagram Development** (2E Electrical drawing tags/model, 2E steam and HVAC drawings/tags, 9996 electrical tags/model, 9215 electrical drawings/tags/model) - Over 100 drawings were generated or revised. This included electrical tag information for over 1200 component identifiers which were created and are now loaded as functional locations in SAP. HVAC and steam drawings are also nearly complete for 9215 (scheduled completion is early October). With the exception of 9998 in the 9215 complex, this effort constitutes a complete infrastructure technical baseline for EU facilities.
- 9204-2E completed a significant milestone to better document the technical basis for HVAC, Steam, Kathabar, and Electrical Distribution systems. After nearly two years of field effort, 52 drawings were created for these systems to show the system layout of approximately 1,500 components. As part of the configuration managed technical basis, these drawings will be maintained to reflect the current system configuration from this point forward. This represents the first time since their original construction that these infrastructure systems have had technical baselines.
- H. Equipment Reliability Program** (Pilot program for PPtF, HEUMF, and 9204-2E to include three infrastructure systems and single point failure production equipment.) - Training has been completed for facility personnel on how to indicate breakdown information for High and Medium risk equipment. All A&B equipment is now flagged in SAP for B2E, PPtF and HEUMF (Production and Facility Equipment). There are 3158 Functional Locations and 434 Equipment Numbers in the A or B category (High or Medium Risk respectively), or 3592 total.
- I. Energy Reduction Initiatives for Enduring Facilities** - All performance measures were met on schedule for this PBI. Recommended fee was awarded.
- J. HVAC Improvements in BOP Facilities** – A Preventative Maintenance (PM) Program for HVAC systems in Buildings 9737, 9115, 9116, and 9710-3 was developed and implemented. The PM program includes inspection/replacement filter schedules, semi-annual PM schedules, annual PM schedules, equipment lists, and detailed work instructions.

### III. Institutional Management and Business

- A. Complementary Work for Others** - Receive a total of \$34 million in new Budget Authority for Complementary Work for Others mission areas by September 30, 2011. The base incentive was met.
- B. Equivalent Test Spheres** - Complete the fabrication and ship six spheres by July 31, 2011. - All of the components associated with the six radiological signature training devices (four enriched uranium and two depleted uranium) were shipped on July 28, 2011.
- C. Modernization – East End Parking - "East End Parking Phase 2"** – Construct parking for a minimum 250 additional spaces by July 28, 2011. Complete. Parking spaces (293) were added at 9235-3 and the 9766 pad. In addition, the Central Portal Parking area and JCC North were reconfigured to add 40 and 24 parking spaces, respectively.

### STRETCH PERFORMANCE BASED INCENTIVES

## I. Program

- A(S) **HEUMF Transition** – The evidence files were reviewed and discussed with B&W Y-12. The evidence showed that during FY 2011, 150 parts were transferred from the interim storage location to the processing area and consolidated by size reduction (breaking or melting) for reuse by programs or long term storage. The work scope was fully satisfied, ahead of schedule, within cost, and without incident.
- B(S) **Cold Rolling Mill** - Complete the installation, readiness review, and first use of a Cold Rolling Mill by September 30, 2011. Successful first use will be the production of a U-Mo foil that meets dimensional requirements. This performance target was cancelled due to changes in the program requirements.
- C(S) **U-Mo Foil Production** - Fabrication and packaging for shipment of 8 coupons for INL and 8 coupons for LANL; and fabrication of 8 coupons and co-roll into 8 foils for Y-12 by July 20, 2011. This performance target was not met as a result of significant production problems.
- D(S) **UPF** - Submit the Systems Requirements Document (SRD) to YSO by 2/2/2011. Submit revised design criteria to YSO 21 working days following YSO approval of the SRD. The SRD was submitted on schedule and met quality expectations. The design criteria incorporated all requirements from the SRD.

## II. Operations

- A (S) **East End Parking Mercury Contaminated Soil** – This PBI was successfully completed.
- B(S) **GSP Implementation Upgrades** – This PBI was deleted.
- C(S) **F&IS Storage Areas** – Identify, segregate and complete setup and organization of Grade 1 and 2 spares in 9212 and maintain in a ready to issue condition. This PBI was successfully completed.

## III. Institutional Management and Business

- A(S) **Complementary Work for Others** - Receive a total of \$40 million in new Budget Authority in the Complementary Work for Others mission areas by September 30, 2011. The stretch incentive was reduced from \$40M to \$38M and available fee was reduced by \$100K. This reduction was due to the six-month delay in Congressional approval of the Continuing Resolution and federal budget cuts to Other federal agency customers.
- B(S) **Support to Defense NN** - Significantly increase the use of Y-12 expertise and facilities in support of the Defense Nuclear Nonproliferation mission areas. Receive a total of \$3.5 million over the final FY 2010 funding level (available Budget Authority, excluding the HEU Material Disposition program funded by NA-26) by September 30, 2011. This performance objective was cancelled due to unanticipated changes in expected funding levels.

- IV. **CMRR and UPF Multi-site** - Performance mostly meets expectations. Recommended fee payments less than 100%.